53-1003615-01 31 March 2015

# Brocade FastIron SX, FCX, and ICX

# Web Management Interface User Guide

Supporting FastIron Software Release 08.0.30



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# **Document conventions**

The document conventions describe text formatting conventions, command syntax conventions, and important notice formats used in Brocade technical documentation.

### **Text formatting conventions**

Text formatting conventions such as boldface, italic, or Courier font may be used in the flow of the text to highlight specific words or phrases.

Format	Description
bold text	Identifies command names
	Identifies keywords and operands
	Identifies the names of user-manipulated GUI elements
	Identifies text to enter at the GUI
<i>italic</i> text	Identifies emphasis Identifies variables Identifies document titles
Courier font	Identifies CLI output Identifies command syntax examples

### **Command syntax conventions**

Bold and italic text identify command syntax components. Delimiters and operators define groupings of parameters and their logical relationships.

Convention	Description
bold text	Identifies command names, keywords, and command options.
italic text	Identifies a variable.
value	In Fibre Channel products, a fixed value provided as input to a command option is printed in plain text, for example, <b>show</b> WWN.

Convention	Description
[]	Syntax components displayed within square brackets are optional.
	Default responses to system prompts are enclosed in square brackets.
{ <b>x</b>   <b>y</b>   <b>z</b> }	A choice of required parameters is enclosed in curly brackets separated by vertical bars. You must select one of the options.
	In Fibre Channel products, square brackets may be used instead for this purpose.
х   у	A vertical bar separates mutually exclusive elements.
<>	Nonprinting characters, for example, passwords, are enclosed in angle brackets.
	Repeat the previous element, for example, member[member].
١	Indicates a "soft" line break in command examples. If a backslash separates two lines of a command input, enter the entire command at the prompt without the backslash.

### Notes, cautions, and warnings

Notes, cautions, and warning statements may be used in this document. They are listed in the order of increasing severity of potential hazards.

#### NOTE

A Note provides a tip, guidance, or advice, emphasizes important information, or provides a reference to related information.

#### ATTENTION

An Attention statement indicates a stronger note, for example, to alert you when traffic might be interrupted or the device might reboot.



#### CAUTION

A Caution statement alerts you to situations that can be potentially hazardous to you or cause damage to hardware, firmware, software, or data.



#### DANGER

A Danger statement indicates conditions or situations that can be potentially lethal or extremely hazardous to you. Safety labels are also attached directly to products to warn of these conditions or situations.

### **Brocade resources**

Visit the Brocade website to locate related documentation for your product and additional Brocade resources.

You can download additional publications supporting your product at www.brocade.com. Select the Brocade Products tab to locate your product, then click the Brocade product name or image to open the individual product page. The user manuals are available in the resources module at the bottom of the page under the Documentation category.

To get up-to-the-minute information on Brocade products and resources, go to MyBrocade. You can register at no cost to obtain a user ID and password.

Release notes are available on MyBrocade under Product Downloads.

White papers, online demonstrations, and data sheets are available through the Brocade website.

# **Contacting Brocade Technical Support**

As a Brocade customer, you can contact Brocade Technical Support 24x7 online, by telephone, or by email. Brocade OEM customers contact their OEM/Solutions provider.

#### **Brocade customers**

For product support information and the latest information on contacting the Technical Assistance Center, go to http://www.brocade.com/services-support/index.html.

If you have purchased Brocade product support directly from Brocade, use one of the following methods to contact the Brocade Technical Assistance Center 24x7.

Online	Telephone	E-mail
Preferred method of contact for non- urgent issues:	Required for Sev 1-Critical and Sev 2-High issues:	support@brocade.com Please include:
<ul> <li>My Cases through MyBrocade</li> <li>Software downloads and licensing tools</li> <li>Knowledge Base</li> </ul>	<ul> <li>Continental US: 1-800-752-8061</li> <li>Europe, Middle East, Africa, and Asia Pacific: +800-AT FIBREE (+800 28 34 27 33)</li> <li>For areas unable to access toll free number: +1-408-333-6061</li> <li>Toll-free numbers are available in many countries.</li> </ul>	<ul> <li>Problem summary</li> <li>Serial number</li> <li>Installation details</li> <li>Environment description</li> </ul>

### **Brocade OEM customers**

If you have purchased Brocade product support from a Brocade OEM/Solution Provider, contact your OEM/Solution Provider for all of your product support needs.

- OEM/Solution Providers are trained and certified by Brocade to support Brocade<sup>®</sup> products.
- Brocade provides backline support for issues that cannot be resolved by the OEM/Solution Provider.

- Brocade Supplemental Support augments your existing OEM support contract, providing direct access to Brocade expertise. For more information, contact Brocade or your OEM.
- For questions regarding service levels and response times, contact your OEM/Solution Provider.

# **Document feedback**

To send feedback and report errors in the documentation you can use the feedback form posted with the document or you can e-mail the documentation team.

Quality is our first concern at Brocade and 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. You can provide feedback in two ways:

- Through the online feedback form in the HTML documents posted on www.brocade.com.
- By sending your feedback to documentation@brocade.com.

Provide the publication title, part number, and as much detail as possible, including the topic heading and page number if applicable, as well as your suggestions for improvement.

# **About This Document**

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# **Supported hardware**

This guide supports the web management interface for the following hardware platforms:

- · FCX Series
- FastIron X Series (FSX 800 and FSX 1600)
- ICX 6610 Series
- ICX 6430 Series (ICX 6430, ICX 6430-C12)
- ICX 6450 Series (ICX 6450, ICX 6450-C12-PD)
- ICX 6650 Series
- ICX 7750 Series
- ICX 7450 Series
- ICX 7250 Series

#### NOTE

The Brocade ICX 6430-C switch supports the same feature set as the Brocade ICX 6430 switch unless otherwise noted.

#### NOTE

The Brocade ICX 6450-C12-PD switch supports the same feature set as the Brocade ICX 6450 switch unless otherwise noted.

For information about the specific models and modules supported in a product family, refer to the hardware installation guide for that product family.

# What's new in this document

The Web Management Interface support is added for Brocade ICX 7250.

What's new in this document

# **Getting Started with the GUI**

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### Access requirements

The Web Management Interface is a browser-based interface that allows administrators to manage and monitor a single Brocade device or a group of Brocade devices connected together. For many of the features on a Brocade device, the Web Management Interface can be used as an alternate to the CLI for creating new configurations, modifying existing ones, and monitoring the traffic on a device.

The Web Management Interface can be accessed from a management station using a web browser through an HTTP connection. The management options can be accessed from a menu tree or a list. The menu tree view is available when you use the Web Management Interface with the following web browsers:

- · Netscape 4.0 or higher
- · Internet Explorer 4.0 or higher
- Safari 3.1
- Google Chrome
- Mozilla Firefox
- · Opera

For all the other older browsers, the Web Management Interface displays only the list view.

The following requirements must be met for accessing the Web Management Interface:

- A management station, such as a PC, with a web browser, that is either connected directly to the Brocade device or is on the network of the device to be managed.
- The device must have an IP address. The IP address can be assigned using the CLI. For more information on IP addresses for a device, refer to the respective *FastIron Ethernet Switch Layer 3 Routing Configuration Guide*
- · The device must be powered on before you begin management activities.

# Logging in to the Web Management Interface

To log in to the Web Management Interface, perform the following steps.

1. Open a web browser and enter the IP address of the Brocade device in the Location or Address field.

The web browser contacts the Brocade device and displays the login page, as shown in the figure below.

FIGURE 1 Web Management Interface login page



#### NOTE

If you are unable to connect with the device through a web browser due to a proxy problem, it may be necessary to set your web browser for direct Internet access instead of using a proxy. For information on how to change a proxy setting, refer to the online help provided with your web browser.

2. Click Login. The dialog box as shown in the figure below is displayed.

#### FIGURE 2 User name and password dialog box

Promp	
į	Enter username and password for "Web Admin" at http://10.44.9.64 User Name:
	Password:
	Use Password Manager to remember this password.

- 3. Perform one of the following procedures:
  - For read-only access, enter the user name as **get** and a read-only community string for the password. The community string **public** is the default read-only community string.
  - For read-write access, enter the user name as **set** and a read-write community string for the password. There is no default read-write community string.

#### NOTE

If you have configured the device to secure the Web Management Interface using local user accounts, you must enter the user name and password of one of the user accounts.

The figure below displays the home page of the Web Management Interface for a Layer 2 switch.

#### **General System Configuration** Identification 📾 Device IP Address 🗉 🧰 Monitor DNS Policy Based VLANs 🔽 Port 🖲 🧰 Configure DHCP Gateway Spanning Tree O Disable 💿 Enable 🗖 Single 🗷 Fast 🗄 🛄 Command Clock QOS C Strict @ Weighted NTP ACL Per Port Per VLAN O Disable @ Enable IP Multicast Disable Enable MAC Filter IGMP C Passive C Active Config Module Advance... Apply Reset Max-Parameter RADIUS TACACS Management [Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]

#### FIGURE 3 Home page for Layer 2 switch features

The figure below displays the home page of the Web Management Interface for a Layer 3 switch.

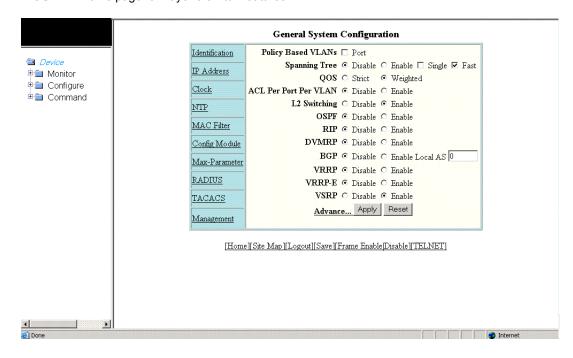


FIGURE 4 Home page for Layer 3 switch features

#### NOTE

If you are using Internet Explorer 6.0 to view the Web Management Interface, make sure the version you are running includes the latest service packs. Otherwise, the navigation tree (the left-most pane

in the two figures above) will not display properly. For information on how to load the latest service packs, refer to the online help provided with your web browser.

# Logging out of the Web Management Interface

You can log out of the Web Management Interface in two ways:

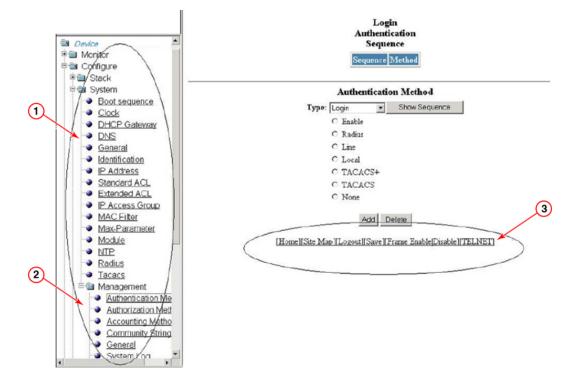
- Click Logout on the window.
- Click Command in the left pane and select Logout.

# Using the Web Management Interface

The following procedure explains in detail about using the Web Management Interface.

- 1. Click the plus sign (+) next to **Configure** in the tree view to expand the list of configuration options.
- 2. Click the plus sign (+) next to **System** in the tree view to expand the list of system configuration links.
- Click the plus sign (+) next to Management in the tree view to expand the list of system management links.
- 4. Click Authentication Methods to display the Authentication Method panel.
- 5. Enable or disable elements on the Web Management Interface by clicking the appropriate options on the panel. The figure below identifies the elements you can change.

FIGURE 5 Web Management Interface elements



- 1. Menu Type (Tree view)
- 2. Menu Frame
- 3. Shortcut links

#### NOTE

The tree view is available when you use the Web Management Interface with Netscape 4.0 or higher or Internet Explorer 4.0 or higher. If you use the Web Management Interface with an older browser, the Web Management Interface displays the list view only, and the Web Management Preferences panel does not include an option to display the tree view.

- 6. When you have finished, click **Add** on the panel to add the authentication types. Click **Delete** to remove authentication types.
- 7. To save the configuration, click the plus sign (+) next to the **Command** folder, and then click **Save to Flash**.

#### NOTE

The only changes that become permanent are the settings to the Menu Type and the Panel Frame. Any other elements you enable or disable will go back to their default settings the next time you start the Web Management Interface.

### Web Management Interface areas

The following sections describe the Web Management Interface areas and how to use them.

#### Menu tree or list

The left panel shows the menu tree or list of options. The interface can be set up to display a menu tree or a list of options. You can enable or disable the menu tree view in two ways:

- · Click Frame Enable|Disable on the bottom of the window.
- Click Command and select Disable Frame
- •

#### Configuration panel

The configuration panel consists of the tables with the field elements that display information or the input fields for which the values have to be entered. The input fields can be of four types:

- Fields into which data must be entered using the keyboard.
- · Lists from which one of several options can be chosen.
- · Options allow you to select only one of the settings or features of a set of options.
- Check boxes allow you to turn on or off a parameter and you can also make multiple selections.

After entering the values, you must click the appropriate button to configure the values.

#### Shortcuts to functions and other panels

All the pages in the Web Management Interface provide shortcut links to the functions that are specific to that page and to other panels. All of the Web Management Interface panels have the following links:

- [Home] --Returns you to the home page of the Web Management Interface.
- [Site Map] -- Lists all options available from the Web Management Interface with links to the panels for those options. Use the **Site Map** link to move through the interface if the menu is not displayed.
- [Logout] -- Logs you out of the Web Management Interface.
- [Save] -- Saves the changes you entered on the panels.
- [TELNET] -- Opens a Telnet session to the device.
- [Frame Enable|Disable] --Enables or disables the bookmark options available in the left panel. If
  frames are disabled, you will not be able to choose any of the options on the web preference panel
  that use frames.

# **Monitoring Basic Device Information**

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# **Displaying the ARP cache**

The Address Resolution Protocol (ARP) cache table contains entries that map IP addresses to Media Access Control (MAC) addresses. There are two types of ARP entries: static (user-configured) and dynamic (learned).

To display the **ARP cache** information, click **Monitor** on the left pane and select **ARP Cache**.

The **ARP Cache** window is displayed as shown in the figure below.

**ARP** Cache Node MAC Address Type Age Port VLAN ID Device 172.31.0.1 02-00-00-00-01 Dynamic 0 1/1/15 1 🖻 🖻 Monitor Node MAC Address Type Age Port VLAN ID Arp Cache Device [Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET] I Flash Memory Front Panel MAC Address System Log 🗉 🗎 Stack 🗉 🗐 Port • <u>STP</u> INTERNA ÷ 🍅 IР 🗄 🛅 RMON 🖲 🧰 Configure 🗄 🛄 Command •

FIGURE 6 Monitoring the ARP cache

es the IP address of the device. es the MAC address of the device. es the type of ARP entry, which can be one of the following: amicThe Layer 3 switch learned the entry from an incoming packet. icThe Layer 3 switch loaded the entry from the static ARP table when the device for the ey was connected to the Layer 3 switch. es the number of minutes the entry has remained unused. If this value reaches the ARP period, the entry is removed from the cache.				
rs the type of ARP entry, which can be one of the following: amicThe Layer 3 switch learned the entry from an incoming packet. icThe Layer 3 switch loaded the entry from the static ARP table when the device for the y was connected to the Layer 3 switch.				
amicThe Layer 3 switch learned the entry from an incoming packet. icThe Layer 3 switch loaded the entry from the static ARP table when the device for the y was connected to the Layer 3 switch.				
<i>ic</i> The Layer 3 switch loaded the entry from the static ARP table when the device for the y was connected to the Layer 3 switch.				
entries do not age out.				
s the port attached to the device for which the entry was made. For dynamic entries, this ort on which the entry was learned.				
rt number varies based on the product:				
Brocade FCX and Brocade ICX devices - stack-unit/slotnum/portnum Brocade FastIron SX devices - slotnum/portnum				
Displays the VLAN Identifier of the port, which learned the entry.				

#### TABLE 1 Description of the fields in the ARP Cache window

**Displaying the device information** 

To display the device information, perform the following steps.

- 1. Click Monitor on the left pane and select Device.
- 2. For the Brocade FCX and Brocade ICX devices, select a stack Identifier from the **Stack Unit ID** list and click **Display** to view the information for any device in an IronStack.

#### NOTE

The **Stack Unit ID** list is not available in the **Device Information** window for the Brocade FastIron SX devices.

The **Device Information** window for the Brocade FCX and Brocade ICX devices is displayed as shown in the figure below.

#### FIGURE 7 Monitoring the device information

BROCADE	Device Information		
	Stack Unit ID: 1 🚽 Display	3355	
SICA	Role: member		
🖻 📾 Monitor	System Up Time: 1 hours 26 minutes 56 seconds		
Arp Cache	System Started At: 00:15:31 Pacific Fri Jan 30 2015		
l	System Clock: Jan 30 01:42:03		
<ul> <li>✓ <u>Hash</u></li> <li>✓ <u>Memory</u></li> <li>✓ Front Panel</li> </ul>	Running Image Version: SW: Version 08.0 30q068T213 Compiled on Jan 28 2015 at 12:13:01 labeled as SPR08030q068		
MAC Address	Flash Primary Image Version: 08.0.30T213, size=31539396		
System Log	Flash Secondary Image Version: 08.0.30T213, size=31539396		
B Stack	Boot Image Version: 10.1.04T215, size=786944		
🖷 Port	Temperature: 63.5 C		
STP .	Warning temperature: 75.0 C		
BSTP	Shutdown temperature: 105.0 C		
🕸 💼 IP	CPU Utilization 1 sec avg: 1 % busy		
🖻 🎰 RMON	CPU Utilization 5 secs avg: 1 % busy		
🖲 🎯 Configure	CPU Utilization 60 secs avg: 1 % busy		
🖲 🎯 Command	CPU Utilization 300 secs avg: 1 % busy		
	Serial Number: DU03245K00A	1999	
	License: ICX7250_L3_SOFT_PACKAGE (LID: fwqIHJKmFFc)	1.1	
	Power Supply 1: Power supply 1 (NA - AC - PoE) present, status ok Fan Air Flow Direction: Front	to Bar	
	Power Supply 2: Power supply 2 not present		
	Fan 1: Fan 1 ok, speed (auto): [[1]]<>2	0000	
	Fan 2 ; Fan 2 ok, speed (auto): [[1]]<>2		
	[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]		

 TABLE 2
 Description of the fields in the Device Information window

Field	Description
Stack Unit ID	Displays the number of the unit within a stack.
	<b>NOTE</b> This field is not available in the <b>Device Information</b> window for the Brocade FastIron SX devices.
Role	Displays the role of the device, which can be <i>Active</i> , <i>Standby</i> , <i>Member</i> , or <i>alone</i> . If the role is <i>alone</i> , the device is operating as a standalone device.
	<b>NOTE</b> This field is not available in the <b>Device Information</b> window for the Brocade FastIron SX devices.
System Up Time	Displays the quantity of time the system has been running since the last restart.
System Started At	Displays the time when the system started.
System Clock	Displays the time configured in the system.
Running Image Version	Displays the software version currently running and some details on the version.
Flash Primary Image Version	Displays the release number and size of the software loaded on the primary flash.
Flash Secondary Image Version	Displays the release number and size of the software loaded on the secondary flash.
Boot Image Version	Displays the release number and size of the boot image.

Field	Description		
Temperature	For the Brocade FCX and Brocade ICX devices, this field displays the actual temperature. The color of the degrees provides a visual indicator for the device:		
	<ul> <li>Green—The temperature is within the normal operating range.</li> <li>Orange—The temperature has reached the warning level.</li> <li>Red—The temperature has reached the shutdown level.</li> </ul>		
	For the Brocade FastIron SX devices, click <b>Temperature</b> in the right pane to displa the <b>Chassis Temperature Information</b> window, which shows the temperature of each slot (from 1 through 10) and the switch fabric modules SF 1 and SF 2. Figure 8 shows the <b>Chassis Temperature Information</b> window.		
Warning temperature	Displays the warning level temperature.		
	<b>NOTE</b> This field is not available in the <b>Device Information</b> window for the Brocade FastIron SX devices.		
Shutdown temperature	Displays the shutdown level temperature.		
	<b>NOTE</b> This field is not available in the <b>Device Information</b> window for the Brocade FastIron SX devices.		
CPU Utilization	Displays the percentage of CPU being used by the device at 1-second, 5-second, 1 minute, and 5-minute intervals.		
Serial Number	Displays the serial number of the device.		
License	Displays the software license and License ID (LID) of the device.		
	<b>NOTE</b> This field is not available in the <b>Device Information</b> window for the Brocade FastIron SX devices.		
Power Supply 1	Displays the status of the primary power supply.		
Power Supply 2	Displays the status of the secondary power supply, if present.		
Fan 1	Displays the status of the primary cooling fan.		
Fan 2	Displays the status of the secondary cooling fan, if present.		
	NOTE There is an entry for each fan in the device.		

#### TABLE 2 Description of the fields in the Device Information window (Continued)

The figure below shows the **Chassis Temperature Information** window for the Brocade FastIron SX devices.

FIGURE 8 Monitoring the chassis temperature

Chassis	Temperature
Infe	ormation

Slot 1 Temperature: 25.5 deg-C
Slot 2 Temperature: empty
Slot 3 Temperature: empty
Slot 4 Temperature: empty
Slot 5 Temperature: empty
Slot 6 Temperature: empty
Slot 7 Temperature: empty
Slot 8 Temperature: empty
Slot 9 Temperature: empty
Slot 10 Temperature: 25.5 deg-C
SF 1 Temperature: empty
SF 2 Temperature: empty

#### [Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]

# **Displaying flash information**

#### NOTE

This feature is applicable only for the Brocade FCX and Brocade ICX devices.

To display the flash information, click Monitor on the left pane and select Flash.

The Flash Information window is displayed as shown in the figure below.

#### FIGURE 9 Monitoring the flash information

		Flash Information			
Unit ID	Compressed Pri Code	Compressed Sec Code	Compres	sed BootROM Code	Code Flash Free Space
30-48 Switch	Size Version	Size Version	Size	Version	Code riash rree Space
	8272492 (ICX64S08020q033.bin)	8295076 (ICX64S08020q042.bin)	786944	10.1.03T310	4587520
	8272492 (ICX64S08020q033.bin)	8295076 (ICX64S08020q042.bin)	786944	10.1.03T310	6963200
evice 4	8272492 08.0.20qT311(ICX64S08020q033.bin)	8295076 08.0.20qT311(ICX64S08020q042.bin)	786944	10.1.03T310	6881280
ash emory 5	8272492 08.0.20qT311 (ICX64S08020q033.bin)	8295076 08.0.20qT311 (ICX64S08020q042.bin)	786944	10.1.03T310	6918144
tack ort					

The table below describes the fields in the Flash Information window.

#### TABLE 3 Description of the fields in the Flash Information window

Field	Description
Unit ID	Displays the number of the unit within a stack.
Compressed Pri Code	Displays the compressed size and version for the primary code.
Compressed Sec Code	Displays the compressed size and version for the secondary code.
Compressed BootROM Code	Displays the compressed size and version for the BootROM code.
Code Flash Free Space	Displays the amount of free space available on the flash memory.

# **Displaying memory information**

#### NOTE

This feature is applicable only for the Brocade FCX and Brocade ICX devices.

To display the memory information of the device, click Monitor on the left pane and select Memory.

The Memory Information window is displayed as shown in the figure below.

#### FIGURE 10 Monitoring the memory information

Devi 🔤	
1	lonitor
	Arp Cache
1	<u>Device</u>
1	<u>Flash</u>
- 0	Memory
1	Front Panel
1	MAC Address
- 🥥	<u>System Log</u>
÷ 🕀 🎒	Stack
±•	Port
· · · 🥥	<u>STP</u>
	RSTP
. ± 🌰	IP
÷ 🕀 🌰	RMON
• 🖻 🧰 . C	onfigure
: 🗄 💼 , C	ommand

Unit ID		Dynamic Memory			
	Total DRAM	Total(bytes)	Free(bytes)	Used(%)	
1	0	536870912	536870912	0	

[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]

 TABLE 4
 Description of the fields in the Memory Information window

Field	Description	
Unit ID	Displays the number of the unit within a stack.	
Total DRAM	Displays the size (in bytes) of dynamic random access memory (DRAM).	
Dynamic Memory	Displays the total number of bytes in dynamic memory, including the number of bytes that are available (free or unused), and the percentage of memory used.	

# **Displaying the front panel**

The front panel of the device allows you to view the modules in each device and the ports within each module.

The front panel shows the status of devices using colors. Green ports are connected, and gray ports are not connected. Ports of the same color on two units are connected with cables. A gray uplink port is not connected to a device. Ports with amber LEDs linked up have downgraded speeds from their default speeds.

### **Status LED display**

The status LEDs that appear on the front panel provide information about system activity. The figure below shows the LEDs that appear on the front panel of ICX 7750 device.

FIGURE 11 Front panel LEDs



For more information about the LED labels and status indicators in Brocade devices, refer respective Hardware Installation Guides.

### **Displaying the front panel for the Brocade FCX devices**

To display the front panel, click Monitor on the left pane and select Front Panel.

The figure below shows the front panel for the Brocade FCX 648 device.

−1F¬ −2F¬ −3F¬ −4F¬ ja==s lja==s lja==s eto PS1= Disg = Link = [ =1 =2 =3 =4 =5 PS2= AS = Down = [ =6 =7 =8 =9 =10 ]- Stack ID Device ••••• 🖻 🖼 Monitor 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 Arp Cache Device 흘흫 Flash 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 Memory 4 6 Front Panel MAC Address System Log Back Panel 🖲 🧰 Stack 🗉 🧰 Port STP RSTP 🗉 🧰 IP 🗉 🛄 RMON 🗉 🚞 Configure 🖻 🛄 Command > < < 😜 Internet 100% Done

FIGURE 12 Brocade FCX 648 front panel

Click any port to display the real-time port information for that port. The figure below shows the **Port Realtime Information** window. Clicking elsewhere on the panel opens the **Device Information** window. For more information, refer to Displaying the device information on page 22.

#### FIGURE 13 Monitoring the real-time port information

<ul> <li>Device</li> <li>Monitor</li> <li>Arp Cache</li> <li>Device</li> <li>Elash</li> <li>Memory</li> <li>Front Panel</li> <li>MAC Address</li> <li>System Log</li> <li>Stack</li> <li>Port</li> <li>SIP</li> <li>RSTP</li> <li>IP</li> <li>RMON</li> <li>Configure</li> <li>Command</li> </ul>	

	Port 1/1/13 Rea	ltime Information	
Status:	Disable	MAC Address:	00-e0-52-00-01-0c
Actual Speed/Mode:	None	Monitor:	None
Mirror:	None	Lock Adddress:	Disable
QOS:	0	Flow Control:	Enable
Tag:		Gig Port Default:	Default(Neg-Full-Au
Trunk:		State:	
Connector:	Copper	VLAN:	
DHCP:	A DESCRIPTION OF THE OWNER	STP/RSTP:	Enable
Fast Port STP:	1872 - 240 (	Fast Uplink STP:	-UR-1555,000
1000101000111		Statistic	Dibuoio
InOctets:	1	OutOctets:	Ω
InPkts:	P	OutPkts:	
InBroadcastPkts:	Contraction and the second second second	OutBroadcastPkts:	Lannananananan
InMulticastPkts:		OutMulticastPkts:	
InUnicastPkts:		OutUnicastPkts:	
InUnicastricts: InBadPkts:			
	<u>.</u>	InFragments:	
InDiscards:		OutErrors:	
CRC:	<u> </u>	Collisions:	L
InErrors:		LateCollisions:	
InGiantPkts:	Generalization	InShortPkts:	C
InJabber:		InFlowCtrlPkts:	0
OutFlowCtrlPkts:			
	Port Utilization Ave	rage Over 5 Minute:	<u>.</u>
Rx (bits/sec):	0	Tx (bits/sec):	0
Rx (pkts/sec):	0	Tx (pkts/sec):	0
Rx Utilization:	0.00%	Tx Utilization:	0.00%
	Port Utilizatio	on In 5 Seconds	
Rx (bits/sec):	0	Tx (bits/sec):	0
Rx Peak (bits/sec):	0	Tx Peak (bits/sec):	0
Rx (pkts/sec):	0	Tx (pkts/sec):	0
Rx Peak (pkts/sec):	0	Tx Peak (pkts/sec):	0
Rx Utilization:	0.00%	Tx Utilization:	0.00%
Rx Peak Utilization:	0.00%	Tx Peak Utilization:	0.00%
	Por	t STP	
Priority:	32	Path Cost:	0
	Disabled	Transition:	0
Root:	000000000000000000000000000000000000000	Cost:	0
Bridge:	000000000000000000		
<b>.</b>	RMON	Statistic	
Drop Events:		Octets:	0
Packets:		Broadcast:	
Multicast:		CRC Align:	1
Under Size:	<u> </u>	Over Size:	
Fragments:		Jabbers:	
Collision:		Jappers:	U
		65 105 O	0
64 Octets:		65-127 Octets:	
128-255 Octets:		256-511 Octets:	
512-1023 Octets:	U	1024-1518 Octets:	U

**>** 

< ا

The Port Realtime Information window provides links to configure and monitor port parameters:

- To configure an Ethernet port, click Ethernet Port Configuration. For more information, refer to Configuring an Ethernet port on page 143.
- To view the total number of packets, number of collisions, and number of errors that have occurred on a port, click Ethernet Port Statistic. For more information, refer to Displaying Ethernet port statistics on page 51.
- To view the traffic that is received and transmitted on a port, click **Ethernet Port Utilization**. For more information, refer to Displaying Ethernet port utilization on page 55.

### Displaying the front panel for the Brocade ICX 6610 device

To display the front panel, click Monitor on the left panel and select Front Panel.

The figure below shows the front panel of the Brocade ICX 6610 device.

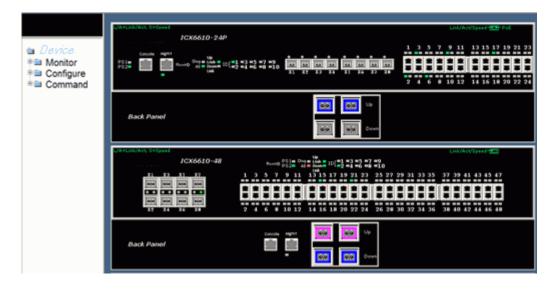
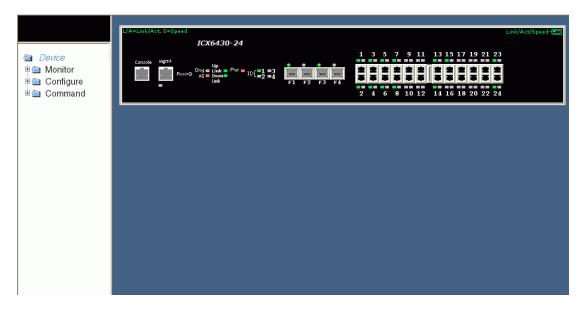


FIGURE 14 Brocade ICX 6610 front panel

### Displaying the front panel for the Brocade ICX 6430 device

To display the front panel, click **Monitor** on the left panel and select **Front Panel**. The figure below shows the front panel of the Brocade ICX 6430-24 device.



#### FIGURE 15 Brocade ICX 6430 front panel

### Displaying the front panel for the Brocade ICX 6450 device

To display the front panel, click Monitor on the left panel and select Front Panel.

The figure below shows the front panel of the Brocade ICX 6450-48P device.

FIGURE 16 Brocade ICX 6450 front panel

BROCADE	L/A=Link/Act, S=Speed Link/Act/Speed EPS1 = 0xg tp. Link/Act/Speed EPS1 = 0xg tp. Link/Act/Speed EPS1 = 0xg tp. Link = Pirt = 10[=1 = 3 = 5] = 7 BROCADE ST ICX6450-48P Receive EPS2 = 4 a5 Down= 10[=2 = 4 = 5] = 7
<ul> <li>STK</li> <li>Monitor</li> <li>Arp Cache</li> <li>Oevice</li> </ul>	X1         X3         1         3         5         7         9         11         13         15         17         19         21         23         23         27         29         31         33         35         37         39         41         43         45         47           Image: Mage:
<ul> <li>Flash</li> <li>Memory</li> <li>Front Panel</li> </ul>	X2         X4         2         4         6         8         10         12         14         16         18         20         22         24         26         28         30         32         34         36         38         40         42         44         46         48
→     MAC Address       →     System Log       ⊕     Stack       ⊕     Port	
STP     BSTP     B     IP     D     D	
<ul> <li>Image: Book of the two series of the two series of the two series of two</li></ul>	

### Displaying the front panel for the Brocade ICX 6650 device

To display the front panel, click **Monitor** on the left panel and select **Front Panel**.

The figure below shows the front panel of the Brocade ICX 6650 device.

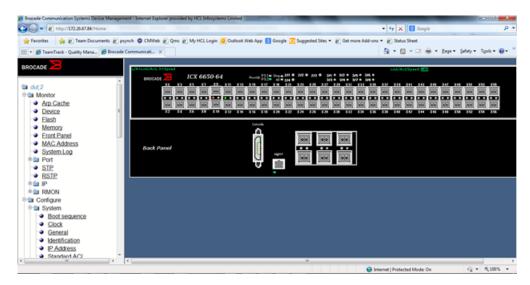


FIGURE 17 Brocade ICX 6650 device front panel

### Displaying the front panel for the Brocade FastIron SX devices

To display the front panel, click Monitor on the left panel and select Front Panel.

The figure below shows the front panel for the Brocade FastIron SX device.

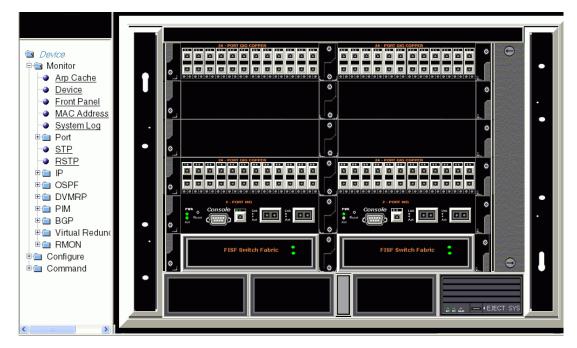


FIGURE 18 Brocade FastIron SX device front panel

You can perform the following tasks in the panel:

- Click the Console port to display the Device Information window. For more information, refer to Displaying the device information on page 22.
- Click management port to display the current management port real-time information. The figure below shows the **mgmt1 Port Realtime Information** window. For more information, refer to Displaying the management port information on page 56.
- Click any port to display the real-time port information for that port. Figure 13 on page 29 shows the **Port Realtime Information** window.
- · Click elsewhere on the panel to display the **Device Information** window.

FIGURE 19 Monitoring the real-time port information of the management port

BROCADE	[Ethernet Port Configuration][Ethernet Port Statistic][Ethernet Port Utilization]
	Slot: 13 Mgmt1 Port Realtime Information
ICX6430-48 Switch	Status: Up MAC Address: 74-8e-f8-bc-e3-10
🕫 🧰 Monitor	Actual Speed/Mode: 1G-full Connector: Copper
🖻 🛳 Configure	
🖲 💼 Stack	[Ethernet Port Configuration][Ethernet Port Statistic][Ethernet Port Utilization]
🖲 🗎 System	[Home][Site Map][Logout][Save][Frame Enable Disable][TELNET]
🖻 📾 Port	[rione]]Site Map[[Logout][Save][riane Enable[Disable]] [ELIVE1]
Ethernet	
Inline Power	
Management	
Monitor and Mirror	
🖲 QOS	
🖻 🧰 VLAN	
-• <u>STP</u>	
······································	
IAG	
Static Station	
🗉 🧰 Command	
전문 한 것이 아파가 다 다 한 것이 같이 가 있는 것이 같이 했다.	

### Displaying the front panel for the Brocade ICX 7750 device

To display the front panel, click Monitor on the left panel and select Front Panel.

The figure below shows the front panel of the Brocade ICX 7750 device.

BROCADE ICX 7750 - 481 MS B Diag HA B RDNT 📾 ICX7750-48F R è 📾 Monitor Arp Cache Device •• •• •• e ee ee ee ee Flash 12 14 16 18 20 22 24 26 28 30 32 10 34 Memory Front Panel MAC Addres System Log 🗟 Stack Details Module Neighbors 🗟 Stack-Port Status Statistic: Interface Resource

FIGURE 20 Brocade ICX 7750 device front panel

### Displaying the front panel for the Brocade ICX 7450 device

To display the front panel, click Monitor on the left panel and select Front Panel.

The figure below shows the front panel of the Brocade ICX 7450 device.

FIGURE 21 Brocade ICX 7450 device front panel

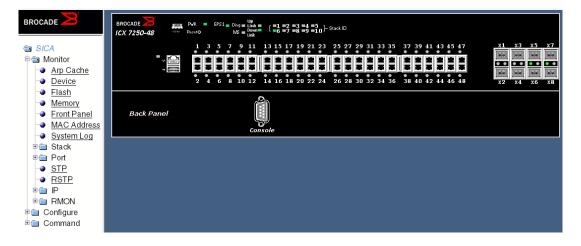
BROCADE	L/A=Link/Act, S=Speed	Link/Act/Speed-🔁 PoE+
	BROCADE ICX 7450-48P	P Rest0 PSU1 Ding MS ID[ 1 =3 =5 =7 =9 PSU2 Ding MS ID[ 2 =4 =6 =8 =10+
SPA-STK		1 3 5 7 9 11 13 15 17 19 21 23 25 27 29 31 33 35 37 39 41 43 45 47
🖻 📾 Monitor	Console Wgmt	
<ul> <li>Arp Cache</li> <li>Device</li> </ul>	x1 x2 x3 x4	
<ul> <li>Device</li> <li>Flash</li> </ul>		2 4 6 8 10 12 14 16 18 20 22 24 26 28 30 32 34 36 38 40 42 44 46 48
Memory		
Front Panel	Back Panel	
MAC Address		
System Log		
🗉 💼 Stack		
Port     STP		
- RSTP		
⊕		
🗉 💼 RMON		
🖻 🛅 Configure		
E Command		

### Displaying the front panel for the Brocade ICX 7250 device

To display the front panel, click Monitor on the left panel and select Front Panel.

The figure below shows the front panel of the Brocade ICX 7250-48 device.

FIGURE 22 Brocade ICX 7250 device front panel



# **Displaying MAC addresses**

To display the list of MAC addresses that have been learned by the device, click **Monitor** on the left pane and select **MAC Address**.

The MAC Address window is displayed as shown in the figure below.

#### FIGURE 23 Monitoring the MAC address

BROCADE	MAC Address	
	MAC Address Port Type Ind	lex VLAN
ICX6430-48 Switch	74-8e-f8-40-fc-8f 5/1/15 Dynamic 172	1 1
🖻 🛳 Monitor	cc-4e-24-07-b0-d3 5/1/24 Dynamic 609	068 1
Arp Cache	74-8e-f8-ea-05-ab 5/1/4 Dynamic 435	573 1
Device	74-8e-f8-ed-8e-f1 5/1/15 Dynamic 355	542 1
<ul> <li>Flash</li> <li>Memory</li> </ul>	MAC Address Port Type Inc	lex VLAN
	[Home][Site Map][Logout][Save][Frame Enable	Disable][T]

The table below describes the fields in the MAC Address window.

TABLE 5	Description of the fields in the MAC Address window	w
---------	---	---

	•
Field	Description
MAC Address	Displays the MAC address of the device.
Port	Displays the port attached to the device for which the entry was made. For dynamic entries, this is the port on which the entry was learned.
	The port number varies based on the product:
	<ul> <li>For Brocade FCX and Brocade ICX devices - stack-unit/slotnum/portnum</li> <li>For Brocade FastIron SX devices - slotnum/portnum</li> </ul>
Туре	Displays the type of the entry, which can be one of the following:
	<ul> <li><i>Dynamic</i>—The MAC address changes if the Active Controller changes.</li> <li><i>Static</i>—The MAC address will not change if the Active Controller changes.</li> </ul>
Index	Displays the index of the entry in the MAC address table.
VLAN	Displays the port-based VLAN that contains this (instance of) spanning tree. VLAN 1 is the default VLAN. If you have not configured port-based VLANs on this device, all STP information is for VLAN 1.

# **Displaying the system log**

The software provides two types of system log buffers:

Static—Logs power supply failures, fan failures, and temperature warning or shutdown messages.
Dynamic—Logs all other message types.

To display the current information of the system log buffer, click **Monitor** on the left pane and select **System Log**.

	Time Stamp	Severity	Message
ice			Security: Web login by set from src IP 172.31.0.1 src MAC 0200.0000.0001
onitor	Contract Contract of the second second		STP: VLAN 1 Port 1/2/2 STP State -> FORWARDING (FwdDlyExpiry)
Arp Cache			STP: VLAN 1 Port 1/2/1 STP State -> FORWARDING (FwdDlyExpiry)
Device	A.A. 96.7 3 26500 A.A.O. 20.05		STP: VLAN 1 Port 1/1/24 STP State -> FORWARDING (FwdDlyExpiry)
Flash Memory			STP: VLAN 1 Port 1/1/15 STP State -> FORWARDING (FwdDlyExpiry)
ront Panel			STP: VLAN 1 Port 1/2/2 STP State -> LEARNING (FwdDlyExpiry)
AC Address	22 days 16h:03m:14s	infomational	STP: VLAN 1 Port 1/2/1 STP State -> LEARNING (FwdDlyExpiry)
stem Log	22 days 16h:03m:13s	infomational	STP: VLAN 1 Port 1/1/24 STP State -> LEARNING (FwdDlyExpiry)
ack	22 days 16h:03m:13s	infomational	STP: VLAN 1 Port 1/1/15 STP State -> LEARNING (FwdDlyExpiry)
t	22 days 16h:03m:09s	infomational	System: Interface ethernet 1/2/2, state up
P TP	22 days 16h:03m:09s	infomational	STP: VLAN 1 Port 1/2/2 STP State -> LISTENING (MakeFwding)
	22 days 16h:03m:09s	infomational	System: Interface ethernet 1/2/1, state up
10Ň	22 days 16h:03m:09s	infomational	STP: VLAN 1 Port 1/2/1 STP State -> LISTENING (MakeFwding)
gure	22 days 16h:03m:09s	infomational	System: Interface ethernet 1/1/24, state up
nand	22 days 16h:03m:09s	infomational	STP: VLAN 1 Port 1/1/24 STP State -> LISTENING (MakeFwding)
	Time Stamp	Severity	Message
			NextPage [Show Static System Log Buffer]
		[Home][Site	Map][Logout][Save][Frame Enable]Disable][TELNET]
			S Internet

#### The Dynamic System Log Buffer window is displayed as shown in the figure below.

The table below describes the fields in the Dynamic System Log Buffer window.

TABLE & Description of the neusan file Dynamic Cystem Log Duner window	
Field	Description
Time Stamp	Displays the system uptime in DD:HH:MM:SS or the actual time if the date and time was set.
Severity	Displays the severity of the event.
Message	Displays the description of the event.

TABLE 6 Description of the fields in the Dynamic System Log Buffer window

To view the next set of the **Dynamic System Log Buffer** entries, click **Next Page**. To display the static system log buffer information, click **Show Static System Log Buffer**.

The Static System Log Buffer window is displayed as shown in the figure below.

		Static S	System Log Buffer
	Time Stamp	Severity	Message
evice	00 days 00h:00m:21s	alert	System: Fan 1 (bottom row, leftmost), failed
Monitor	00 days 00h:00m:21s	alert	System: Fan 2 (bottom row, middle), failed
Arp Cache Device	00 days 00h:00m:21s	alert	System: Fan 3 (bottom row, rightmost), faile
anel	00 days 00h:00m:21s	alert	System: Fan 4 (top row, leftmost), failed
	00 days 00h:00m:21s	alert	System: Fan 5 (top row, middle), failed
<u>35</u>	00 days 00h:00m:21s	alert	System: Fan 6 (top row, rightmost), failed
2	Time Stamp	Severity	Message
RMON.	[ II O HO     O HO I II A		[Save][Frame Enable Disable][TELNET]
figure			
Configure Command			

For information on the Static System Log Buffer fields, refer to the table above.

Displaying the system log

# **Monitoring Stacks**

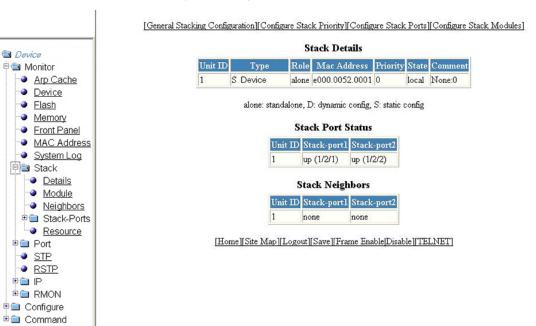
Displaying the stack details	
Displaying a stack module	
Displaying stack neighbors.	
Displaying stack ports information	
Displaying stack port statistics.	
Monitoring peri-ports	
Monitoring peri-trunks	
Displaying stack port interfaces.	
Displaying stack resources.	

## **Displaying the stack details**

To display current stack details, stack port status, and stack neighbors information, perform the following steps.

- 1. Click Monitor on the left pane and select Stack.
- 2. Click Details.

The Stack Details window is displayed in the figure below.



Field	Description
Stack Details p	parameters
Unit ID	Displays the number of the unit within a stack.
Туре	Displays the type of configuration and the device model. The types of configuration are as follows:
	<ul> <li>aloneIndicates that the device is operating as a standalone device.</li> <li>SIndicates that the configuration for this unit is static.</li> <li>DIndicates that the configuration for this unit is dynamic and may be overwritten by a new stack unit.</li> </ul>
Role	Displays the role of this unit within the stack: Active, Standby, Member, or alone.
Mac Address	Displays the MAC address of the device.
Priority	Displays the priority assigned to this unit.
State	Displays the operational state of this unit: local or remote.
Comment	Displays additional information about this unit.
Stack Port Sta	tus parameters
Unit ID	Displays the number of the unit within a stack.
Stack-port1	<ul> <li>Displays the port state and the port number for stack-port1. The port states are as follows:</li> <li><i>up</i>Each end is connected.</li> <li><i>down</i>Port is configured as a stacking port, but not connected.</li> <li><i>none</i>Port is not configured as a stacking port.</li> </ul>
Stack-port2	<ul> <li>Displays the port state and the port number for stack-port2. The port states are as follows:</li> <li><i>up</i>Each end is connected.</li> <li><i>down</i>Port is configured as a stacking port, but not connected.</li> <li><i>none</i>Port is not configured as a stacking port.</li> </ul>
Stack Neighbo	rs parameters
Unit ID	Displays the number of the unit within a stack.
Stack-port1	Displays the neighbor stack unit for stack-port1 for this unit ID.
Stack-port2	Displays the neighbor stack unit for stack-port2 for this unit ID.

#### TABLE 7 Description of the fields in the Stack Details window

The Stack Details window provides links to configure the stack components:

- To change the stack settings, click **General Stacking Configuration**. For more information, refer to Configuring the general settings for a traditional stack on page 95.
- To configure the priority of units within a stack, click **Configure Stack Priority**. For more information, refer to the "Modifying stack priority" section.

- To configure a stack port, click **Configure Stack Ports**. For more information, refer to the "Modifying stack ports" section.
- To configure a stack module, click Configure Stack Modules. For more information, refer to the "Configuring a stack module" section.

## **Displaying a stack module**

To display current information about the stack unit modules, perform the following steps.

- 1. Click Monitor on the left pane and select Stack.
- 2. Click Module.

The Stack Modules window is displayed as shown in the figure below.

Device		Stack Modules			
Monitor	Stack Unit: Slot	Module	Status	Ports	Starting MAC
Arp Cache	S1:M1	Device 24-port Management Module	OK	24	00e0.5200.0100
Device	S1:M2	Device 2-port 16G Module (2-CX4)	OK	2	00e0.5200.0119
Elash	Stack Unit:Slot	Module	Status	Ports	Starting MAC
Memory					
MAC Address		ome   Site Map   Logout   Save   Frame Ena			
System Log					
<ul> <li>System Log</li> <li>Stack</li> </ul>					
Stack Details Module					
Stack  Details  Module Neighbors					
Stack  Details  Module  Neighbors  Stack-Ports					
Stack  Details  Module  Neighbors  Stack-Ports  Resource					
Stack					
Stack Details Module Neighbors Stack-Ports Resource Port STP					
Stack Details Details Module Neighbors EStack-Ports Resource STP STP RSTP					
Stack Details Module Neighbors Stack-Ports Resource Port STP					

es window
l

Field	Description
Stack Unit: Slot	Displays the number of the unit within the stack and the slot number.
Module	Displays the device information, such as module number and module type.
Status	<ul> <li>Displays the status, which can be one of the following:</li> <li>OK The module came up and is operating normally.</li> <li>CFG The module is configured, but does not physically exist within the units of the stack.</li> </ul>
Ports	Displays the number of ports on the module.
Starting MAC	Displays the starting MAC address for this module.

The Stack Modules window provides links to configure the stack components:

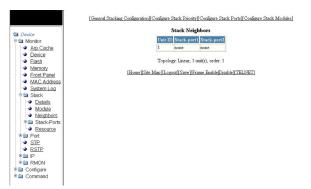
- To change the stack settings, click General Stacking Configuration. For more information, refer to Configuring the general settings for a traditional stack on page 95.
- To configure the priority of units within a stack, click Configure Stack Priority. For more information, refer to the "Modifying a stack priority" section.
- To configure a stack port, click **Configure Stack Ports**. For more information, refer to the "Modifying stack ports" section.
- To configure a stack module, click **Configure Stack Modules**. For more information, refer to the "Configuring Stack Components" section.

## **Displaying stack neighbors**

To display information of the stack member neighbors, perform the following steps.

- 1. Click Monitor on the left pane and select Stack.
- 2. Click Neighbors.

The Stack Neighbors window is displayed as shown in the figure below.



#### TABLE 9 Description of the fields in the Stack Neighbors window

Field	Description
Unit ID	Displays the number of the unit within the stack.
Stack-port1	Displays the neighbor stack unit for stack-port1 for this unit ID.
Stack-port2	Displays the neighbor stack unit for stack-port2 for this unit ID.
Topology	Displays either Linear or Ring stack topology of the connected devices.
unit(s)	Displays the number of units within the stack.
order	Displays the order of the unit IDs within the stack.

The Stack Neighbors window provides links to configure the stack components:

- To change the stack settings, click General Stacking Configuration. For more information, refer to Configuring the general settings for a traditional stack on page 95.
- To configure the priority of units within a stack, click **Configure Stack Priority**. For more information, refer to the "Modifying a stack priority" section.
- To configure a stack port, click Configure Stack Ports. For more information, refer to the "Modifying stack ports" section.
- To configure a stack module, click **Configure Stack Modules**. For more information, refer to "Configuring a stack module" section.

## **Displaying stack ports information**

To display the information of the stack ports, perform the following steps.

- 1. Click Monitor on the left pane and select Stack .
- 2. Click Stack-Ports and then select Status .

The Stack Port Status window is displayed as shown in the figure below.

FIGURE 24 Monitoring stack port status

and the second second second	Stack Port Status
Device	Unit ID Stack-port1 Stack-port2
Monitor	1 up (1/2/1) up (1/2/2)
<ul> <li>Arp Cache</li> <li>Device</li> </ul>	1 up (1/2/1) up (1/2/2)
	[Home][Site Map][Logout][Save][Frame Enable[Disable][TELNET]
Flash	Tome   one wap   Logou   oave   Frame Enable   Sable   TELIANT
Memory	
Front Panel	
MAC Address	
System Log	
Stack	
Details	
Module	
Neighbors	
Carl Stack-Ports	
Status	
Statistics	
Interface	
Resource	
Dort Port	
SIP	
<u>RSTP</u>	
e P	
RMON	
Configure	
Command	

TABLE 10	Description of the fields in the Stack Port Status window
----------	---

Field	Description
Unit ID	Displays the number of the unit within the stack.
Stack-port1	Displays the port state and the port number for stack-port1 for this unit ID.
	The port states are as follows:
	<ul> <li><i>up</i>Each end is connected.</li> <li><i>down</i>Port is configured as a stacking port, but not connected.</li> <li><i>none</i>Port is not configured as a stacking port.</li> </ul>
	The port number varies based on the product:
	<ul> <li>For Brocade FCX and Brocade ICX devices - stack-unit/slotnum/portnum</li> <li>For Brocade FastIron SX devices - slotnum/portnum</li> </ul>
Stack-port2	Displays the port state and the port number for stack-port2 for this unit ID.
	The port states are:
	<ul> <li><i>up</i>Each end is connected.</li> <li><i>down</i>Port is configured as a stacking port, but not connected.</li> <li><i>none</i>Port is not configured as a stacking port.</li> </ul>
	The port number varies based on the product:
	<ul> <li>For Brocade FCX and Brocade ICX devices - stack-unit/slotnum/portnum</li> <li>For Brocade FastIron SX devices - slotnum/portnum</li> </ul>

The Stack Port Status window provides links to configure the stack components:

- To change the stack settings, click **General Stacking Configuration**. For more information, refer to Configuring the general settings for a traditional stack on page 95.
- To configure the priority of units within a stack, click **Configure Stack Priority**. For more information, refer to Modifying stack priority on page 96.

- To configure a stack port, click **Configure Stack Ports**. For more information, refer to Modifying stack ports on page 98.
- To configure a stack module, click Configure Stack Modules. For more information, refer to Configuring a stack module on page 99.

## **Displaying stack port statistics**

To display stack port information for all ports in an IronStack topology, perform the following steps.

- 1. Click Monitor on the left pane and select Stack .
- 2. Click Stack-Ports and then select Statistics .

The Stack Port Statistics window is displayed as shown in the figure below.

#### FIGURE 25 Monitoring stack port statistics

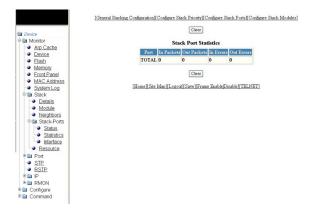


TABLE 11 Description of the fields in the Stack Port Statistics window

Field	Description
Port	Displays the stack identification number for this port.
In Packets	Displays the number of incoming packets on this port.
Out Packets	Displays the number of outgoing packets on this port.
In Errors	Displays the number of errors on the incoming packets on this port.
Out Errors	Displays the number of errors on the outgoing packets on this port.

To clear the information and begin a new monitoring cycle, click **Clear**. The **Stack Port Statistics** window provides links to configure the stack components:

- To change the stack settings, click General Stacking Configuration. For more information, refer to Configuring the general settings for a traditional stack on page 95.
- To configure the priority of units within a stack, click **Configure Stack Priority**. For more information, refer to Modifying stack priority on page 96.

- To configure a stack port, click Configure Stack Ports. For more information, refer to Modifying stack ports on page 98.
- To configure a stack module, click Configure Stack Modules. For more information, refer to Configuring a stack module on page 99.

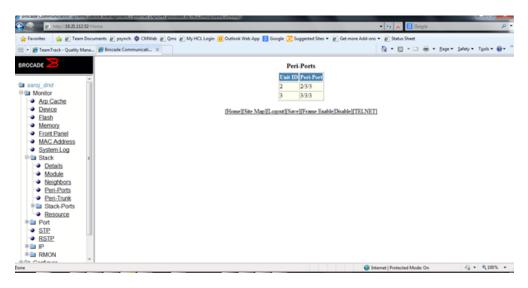
## **Monitoring peri-ports**

To display peri-port information, perform the following steps.

- 1. Click Monitor on the left pane and select Stack.
- 2. Click Peri-Ports.

The Peri-Ports window is displayed.

#### FIGURE 26 Peri-ports



## **Monitoring peri-trunks**

To display peri-trunk information, perform the following steps.

- 1. Click Monitor on the left pane and select Stack.
- 2. Click Peri-Trunks.

The Peri-trunks window is displayed.

#### FIGURE 27 Peri-trunks

Brocade Communication Systems Device Management - Internet Explorer	provided by HCL intosystems canaled		
• • • http://20.21.112.52/Home		• 4 🗙 🔂 Google	P
🌪 Favorites 🛛 🙀 🔊 Team Documents 👔 psynch 🏶 CMWeb 🔊	Qms 👔 My HCL Login 🧕 Outlook Web App 🔝 Google 😇 Suggested	Sites 💌 👔 Get more Add-ons 💌 👔 Status Sheet	
🔹 🏉 TeamTrack - Quality Mana 🏉 Brocade Communicati 🗴		💁 = 🔯 - 🖾 🖶 = Expr	Safety • Tgols • 🔞 •
	E		
	There are no Peri-Trunk(s) Configured in the Syst	em. <u>Click Here</u> to Configure Peri-Trunk	
saroj_dnd	[Home]]Site Map][Logout][Save][Fram	e Enable[Disable][TELNET]	
Monitor			
Arp Cache			
Device     Elash			
Memory			
Front Panel			
MAC Address			
System Log			
B 🖼 Stack 🛛 🔹			
Details			
Module			
Neighbors			
Peri-Ports			
Peri-Trunk			
Stack-Ports			
Resource			
* Port			
RSTP			
* Rair 8 in IP			
8 RMON			
Candinan ·			
		Internet   Protected Mode: On	

# **Displaying stack port interfaces**

To display information about stack port interfaces, perform the following steps.

- 1. Click Monitor on the left pane and select Stack .
- 2. Click Stack-Ports and then select Interface .

The Stack Port Interface window is displayed as shown in the figure below.

FIGURE 28 Monitoring stack port interfaces

	[General Stacking Configuration][Configure Stack Priority][Configure Stack Ports][Configure Stack
	Stack Port Interface
ia Device ia Monitor	Port Link State Duplex Speed Trunk Tag Pvid Priority MAC Name
Arp Cache	1/2/1 Down None None None None No N/A 0 748e.f834.2539
Device	1/2/2 Down None None None None No N/A 0 748e.f834.253a
I Flash	1/2/3 Down None None None None No N/A 0 748e.f834.253a
Memory	1/2/4 Down None None None None No N/A 0 748e.f834.253a
Front Panel	1/2/5 Down None None None None No N/A 0 748e.f834.253a
MAC Address	1/2/6 Down None None None None No N/A 0 748e.f834.253b
System Log	1/2/7 Down None None None None None No N/A 0 748e.f834.253c
🖻 📾 Stack	1/2/8         Down None         None         None         None         No         748e.f834.253c
Details     Module	1/2/9 Down None None None None No N/A 0 748e.f834.253c
<ul> <li>Neighbors</li> </ul>	
Status	Port Link State Duplex Speed Trunk Tag Pvid Priority MAC Name
Statistics	[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]
Interface	
Resource	
🗉 🧰 Port	
STP	
RSTP	
₽ © ►	

Field	Description
Port	Displays the stack identification number for this port.
Link	Displays whether the link is up or down.
State	Displays the state of the stack unit.
Duplex	Displays whether the port is configured as half or full duplex.
Speed	Displays the port speed as 10 Mbps, 100 Mbps, or 1000 Mbps.
Trunk	Displays the trunk group number, if the port is a member of a trunk group.
Тад	Displays whether the port is tagged or untagged.
Priority	Displays the port priority.
MAC	Displays the MAC address of the port.
Name	Displays the name assigned to the port.

 TABLE 12
 Description of the fields in the Stack Port Interface window

The Stack Port Interface window provides links to configure the stack components:

- To change the stack settings, click General Stacking Configuration. For more information, refer to Configuring the general settings for a traditional stack on page 95.
- To configure the priority of units within a stack, click **Configure Stack Priority**. For more information, refer to Modifying stack priority on page 96.
- To configure a stack port, click Configure Stack Ports. For more information, refer to Modifying stack ports on page 98.
- To configure a stack module, click **Configure Stack Modules**. For more information, refer to Configuring a stack module on page 99.

## **Displaying stack resources**

To display information about stack resources, perform the following steps.

- 1. Click Monitor on the left pane and select Stack.
- 2. Click Resource.

The Stack Resource window is displayed as shown in the figure below.

#### FIGURE 29 Monitoring stack resources



[General Stacking Configuration][Configure Stack Priority][Configure Stack Ports][Configure Stack Modules]

Stack Resource

Resource Type	Allocated	In-use	Available	Get-fail	Limit	Get-mem	Size	Init
Register-attribute	4096	2225	1871	0	475136	2957	150	2048
General 12B data	32	1	31	0	7424	1	12	32
RB-tree node	4096	2225	1871	0	237568	2579	18	1024

[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]

TABLE 13	Description of the fields in the <b>Stack Resource</b> window
----------	---

Field	Description
Resource Type	Displays the resource type as Register-attributes, General 12B data, or RB-tree node.
Allocated	Displays the amount of memory allocated for the stack.
In-use	Displays the amount of memory used by the stack.
Available	Displays the amount of free memory available.
Get-fail	Displays the number of get requests that have failed.
Limit	Displays the maximum amount of memory the system could allocate for a stack.
Get-mem	Displays the number of get-memory requests.
Size	Displays the size (bytes) for each stack resource.
Init	Displays the number of requests initiated.

The Stack Resource window provides links to configure the stack components:

- To change the stack settings, click **General Stacking Configuration**. For more information, refer to Configuring the general settings for a traditional stack on page 95.
- To configure the priority of units within a stack, click **Configure Stack Priority**. For more information, refer to the "Modifying stack priority" section.

- To configure a stack port, click **Configure Stack Ports**. For more information, refer to the "Modifying stack ports" section.
- To configure a stack module, click **Configure Stack Modules**. For more information, refer to the "Configuring a stack module" section.

Displaying stack resources

# **Monitoring Ports**

Displaying Ethernet port statistics	51
Displaying Ethernet port attributes.	53
Displaying Ethernet port utilization	55
Displaying the management port information	56
• Displaying port inline power for the Brocade FCX and Brocade ICX devices	
• Displaying port inline power for the Brocade FastIron SX devices	64

## **Displaying Ethernet port statistics**

The **ETHERNET Port Statistic** window lists the total number of packets, number of collisions, and number of errors that have occurred on a port. To display the Ethernet port statistics, perform the following steps.

- 1. Click Monitor on the left pane and select Port.
- 2. Click Statistic and then select Ethernet.

The **ETHERNET Port Statistic** window for the Brocade FCX and Brocade ICX devices is displayed as shown in the figure below.

3. For the Brocade FCX and Brocade ICX devices, select a unit ID in the **Select Stack Unit ID** list and click **Display** to view information about a specific stack unit.

#### NOTE

The **Select Stack Unit ID** list is not available on the **ETHERNET Port Statistic** window for the Brocade FastIron SX devices.

						or Histo			Utilization][RMON ETHE	
<i>ice</i> Ionitor		Sele	ect Sta	ck Un	it ID:	1 🗸	Disp	olay		
Arp Cache	G	Clear	Ste	p Poll	ing	~	and the c	₩.d	à	
Device	ETHEI							ng Interva		
Flash									50 SEC	
Memory	Port		Pkts			-		Error		
Front Panel		Rx						Giant		
MAC Address			0	0	0	0	0	0	0	
<u>System Log</u> Stack	BRANCH AND A		0	0	0	0	0	0	0	
Port	and the second sec		0	0	0	0	0	0	0	
Statistic	1/1/4	0	0	0	0	0	0	0	0	
Ethernet		0	0	0	0	0	0	0	0	
Itilization		0	0	0	0	0	0	0	0	
Ethernet	1/1/7	0	0	0	0	0	0	0	0	
anagement	1/1/8	0	0	0	0	0	0	0	0	
ne Power	1/1/9	0	0	0	0	0	0	0	0	
	1/1/10	0	0	0	0	0	0	0	0	
	1/1/11	0	0	0	0	0	0	0	0	
	1/1/12	0	0	0	0	0	0	0	0	
	1/1/13	0	0	0	0	0	0	0	0	
	1/1/14	0	0	0	0	0	0	0	0	
	1/1/15	368	595	0	0	0	0	0	0	
	1/1/16	0	0	0	0	0	0	0	0	
	1/1/17	0	0	0	0	0	0	0	0	
	1/1/18	0	0	0	0	0	0	0	0	
	1/1/19	0	0	0	0	0	0	0	0	
	1/1/20	0	0	0	0	0	0	0	0	
	1/1/21	0	0	0	0	0	0	0	0	
	1/1/22	0	0	0	0	0	0	0	0	
	1/1/23	0	0	0	0	0	0	0	0	
	1/1/24	0	2779	0	0	0	0	0	0	
	1/2/1	) )	0	0	0	0	0	0	0	
	1/2/2	0	0	0	0	0	0	0	0	
	D. A	Total	Pkts	Coll	ision		I	lrror		
	Port	Rx	Tx	Rx	Tx	Align	FCS	Giant	Short	
	Up Time=22	days	17h 22	m 37«	Last	Clear T	ime=2	2 davs 1	6h:03m:09s	
		Clear		p Polli				ig Interva		
(ETHERNE	T Port Configuration][	ETHE	RNET	Port.	Attribu	ute][ET	HERN	ET Port	Utilization][RMON ETHE]	RNE?
	Statistics[Error]History]									

Field	Description	
Port	Displays the port number for which the statistics were collected.	
Total Packets	Displays the total number of packets received ( <b>Rx</b> ) and transmitted ( <b>Tx</b> ) on the port.	
Collision	Shows the number of received (Rx) and transmitted (Tx) collisions on the port.	
Error	<ul> <li>Displays the number of errors on the port for the following types:</li> <li>AlignmentPackets with frame alignment errors.</li> <li>FCSPackets with frame check sequence errors.</li> <li>GiantPackets that were longer than the configured MTU.</li> <li>Short Packets that were shorter than the minimum valid length.</li> </ul>	

To remove the current data and restart the monitoring process, click **Clear**. To stop the polling process, click **Stop Polling.** You can also change the current polling interval by clicking **Change Polling Interval**.

The ETHERNET Port Statistic window provides links to configure the port parameters:

- To configure an Ethernet port, click **ETHERNET Port Configuration**. For more information on how to configure an Ethernet port, refer to the "Configuring an Ethernet port" section.
- To monitor the Ethernet port attributes, click **ETHERNET Port Attribute**. For more information, refer to the "Displaying Ethernet port attributes" section.
- To monitor the Ethernet port utilization, click ETHERNET Port Utilization. For more information, refer to the "Displaying Ethernet port utilization" section.
- To monitor Remote Monitoring (RMON) Ethernet statistics, click RMON ETHERNET Statistics Error. For more information, refer to the "Displaying RMON Ethernet statistics" section.
- To monitor RMON history, click RMON ETHERNET Statistics History. For more information, refer to the "Displaying RMON history" section.

## **Displaying Ethernet port attributes**

The **Port Attributes** window lists the number, state, media, connector, and MAC address of the port. To display the Ethernet port attribute information, perform the following steps.

- 1. Click Monitor on the left pane and select Port .
- 2. Click Statistic and then select Ethernet .
- 3. Click ETHERNET Port Attribute on the ETHERNET Port Statistic window.
- 4. For the Brocade FCX and Brocade ICX devices, select a unit ID in the **Select Stack Unit ID** list and click **Display** to view information about a specific stack unit.

#### NOTE

The **Select Stack Unit ID** list is not available on the **Port Attributes** window for the Brocade FastIron SX devices.

The **Port Attributes** window for the Brocade FCX and Brocade ICX devices is displayed as shown in the figure below.

	Select	tool. The	ID: 1 💽	Display
Device	Deletin	Mack, Olim		
Monitor		Port	Attribute	S
<ul> <li>Arp Cache</li> <li>Device</li> </ul>	Port State	Media	Connector	MAC Address
<ul> <li><u>Device</u></li> <li>Flash</li> </ul>	1/1/1 None	1000SX	Fiber	00-e0-52-00-01-00
Memory	None None	1000SX	Fiber	00-e0-52-00-01-01
Front Panel	1/1/3 None	1000SX	Fiber	00-e0-52-00-01-02
MAC Address	1/1/4 None	1000SX	Provide and the second se	00-e0-52-00-01-03
System Log	1/1/2 None	1000TX	New York Commence	00-e0-52-00-01-04
Stack	None None	1000TX		00-e0-52-00-01-05
Port	1/1/7 None		Copper	00-e0-52-00-01-06
⊟ 📾 Statistic └⊉ Ethernet	V18 None	1000TX		00-e0-52-00-01-07
	1/1/9 None	1000TX		00-e0-52-00-01-08
Ethernet	1/D10 None	1000TX		00-e0-52-00-01-09
Management	1/1/11 None	1000TX	And a second second second	00-e0-52-00-01-0a
Inline Power	None None	1000TX		00-e0-52-00-01-0b
STP	1471 S None	1000TX	Martin Martin and	00-e0-52-00-01-0c
RSTP	1/1/14 None	1000TX		00-e0-52-00-01-0d
IP TRMON	101.15 Forward	CONTRACTOR OF THE OWNER		00-e0-52-00-01-0e
Configure	1/1/16 None	1000TX		00-e0-52-00-01-0f
Command	1/1/17 None	1000TX		00-e0-52-00-01-10
	1/1/18 None	1000TX	and the second se	00-e0-52-00-01-11
	1/1/12 None	1000TX	And the second second second second	00-e0-52-00-01-12
	1/1/20 None	1000TX		00-e0-52-00-01-13
	1/1/21 None	1000TX	And a second second second	00-e0-52-00-01-14
	1/1/22 None	1000TX		00-e0-52-00-01-15
	MA23 None	1000TX		00-e0-52-00-01-16
	1/1/24 Forward	1000TX	Copper	00-e0-52-00-01-17
	1/2/1 Forward	Other	Copper	00-e0-52-00-01-19
	1/2/2 Forward	Other	Copper	00-e0-52-00-01-1a
	Port State	Media	Connector	MAC Address
		ment of a constant of the second second		

## FIGURE 30 Monitoring Ethernet port attributes

TABLE 15 Description of the fields in the Port Attributes window

Field	Description	
Port	Displays the port number.	
State	Displays the status of the port.	
Media	Displays the type of the Ethernet cable used.	
Connector	Displays the physical type of connector.	
MAC Address	Displays the Media Access Control (MAC) address of the port.	

The Port Attributes window provides links to configure the port parameters:

- To configure an Ethernet port, click **ETHERNET Port Configuration**. For more information on how to configure an Ethernet port, refer to Configuring an Ethernet port on page 143.
- To monitor the Ethernet port statistics, click **ETHERNET Port Statistic**. For more information, refer to Displaying Ethernet port statistics on page 51.
- To monitor the Ethernet port utilization, click **ETHERNET Port Utilization**. For more information, refer to Displaying Ethernet port utilization on page 55.

## **Displaying Ethernet port utilization**

The **ETHERNET Port Utilization** window lists the traffic that is received and transmitted on a port. To display the Ethernet port utilization information, perform the following steps.

- 1. Click Monitor on the left pane and select Port.
- 2. Click Utilization and then select Ethernet.

The **ETHERNET Port Utilization** window for the Brocade FCX and Brocade ICX devices is displayed as shown in the figure below.

3. For the Brocade FCX and Brocade ICX devices, select a unit ID in the **Select Stack Unit ID** list and click **Display** to view information about a specific stack unit.

#### NOTE

The **Select Stack Unit ID** list is not available on the **ETHERNET Port Utilization** window for the Brocade FastIron SX devices.

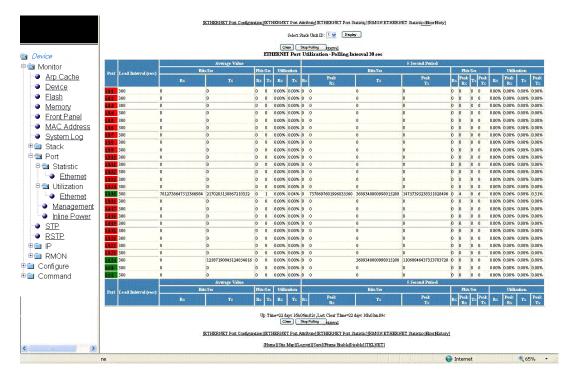


FIGURE 31 Ethernet port utilization

Field	Description
Port	Displays the port number. Each entry has a link to detailed information about the port.
Load Interval (secs)	Displays the number of seconds for which average port utilization should be calculated. This object can have a value from 30 through 300, in 30-second increments. The default value is 300 seconds.
Average Value	<ul> <li>Displays the following information:</li> <li><i>Bits/Sec</i>The average number of bits per second received and transmitted on the port.</li> <li><i>Pkts/Sec</i>The average number of packets per second received and transmitted on the port.</li> <li><i>Utilization</i> The average percent utilization received and transmitted on the port.</li> </ul>
5 Second Period	This set of columns show the number of bits per second ( <b>Bits/Sec</b> ), number of packets per second ( <b>Pkts/Sec</b> ), and utilization percentages ( <b>Utilization</b> ) received and transmitted on a port at each 5-second interval. Peak activities for each category are also provided.

### TABLE 16 Description of the fields in the ETHERNET Port Utilization window

To remove the current data and restart the monitoring process, click **Clear**. To stop the statistics polling process, click **Stop Polling**. You can also change the current polling interval by clicking **Change Polling Interval**.

The ETHERNET Port Utilization window provides links to configure the port parameters:

- To configure an Ethernet port, click **ETHERNET Port Configuration**. For more information on how to configure an Ethernet port, refer to Configuring an Ethernet port on page 143.
- To monitor the Ethernet port attributes, click **ETHERNET Port Attribute**. For more information, refer to the "Displaying Ethernet port attributes" section.
- To monitor the Ethernet port statistics, click **ETHERNET Port Statistic**. For more information, refer to the "Displaying Ethernet port statistics" section.
- To monitor Remote Monitoring (RMON) statistics, click RMON ETHERNET Statistics Error. For more information, refer to the "Displaying RMON Ethernet statistics" section.
- To monitor RMON history, click RMON ETHERNET Statistics History. For more information, refer to the "Displaying RMON history" section.

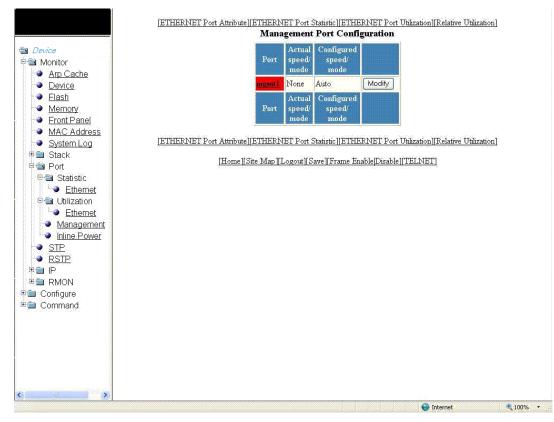
## **Displaying the management port information**

To display the current management port configuration information, perform the following steps.

- 1. Click Monitor on the left pane and select Port.
- 2. Click Management.

The Management Port Configuration window is displayed as shown in the figure below.

#### FIGURE 32 Management port configuration





Field	Description
Port	Displays the name of the management port. Each entry has a link to detailed real- time information about the port. Refer to the "Displaying the management port real- time information" section.
Actual speed/mode	Shows whether the actual speed matches the configured speed. If the configured speed is set to <i>Auto</i> , then the speed is set by the software.
Configured anod/mode	The append dupley act for the part

Configured speed/mode The speed duplex set for the port.

To configure a management port or change the configuration of a current management port, click **Modify**. For more information, refer to the "Configuring a management port" section.

The Management Port Configuration window provides links to configure the port parameters:

- To monitor the Ethernet port attributes, click ETHERNET Port Attribute. For more information, refer to the "Displaying Ethernet port attributes" section.
- To monitor the Ethernet port statistics, click **ETHERNET Port Statistic**. For more information, refer to the "Displaying Ethernet port statistics" section.
- To monitor the Ethernet port utilization, click **ETHERNET Port Utilization**. For more information, refer to the "Displaying Ethernet port utilization" section.
- To configure the port uplink utilization list, click Relative Utilization. For more information, refer to the "Configuring the port uplink relative utilization" section.

## Displaying the management port real-time information

To display the real-time information of a port, click on the management port (for example, **mgmt1**). The **Port Realtime Information** window is displayed as shown in the figure below.

FIGURE 33 Monitoring management port real-time information

	[Ethernet Port Configuration][Ethernet Port Statistic][Ethernet Port Utilization]	
	Slot: 1 Mgmt1 Port Realtime Information	
📾 Device	Status: Disable MAC Address: 00-e0-52-00-01-18	
🖻 📾 Monitor	Actual Speed/Mode: None Connector: Copper	
Monitor Arp Cache Device Flash Memory Front Panel MAC Address System Log Stack System Log Stack System Log Stack System Log Stack Stack Stack Ethernet Management Mine Power SIP RSTP RSTP RSTP RSTP Configure Command	Actual Speed/Mode:     None     Connector:     Copper         [Ethernet Port Configuration]     [Ethernet Port Statistic ]     [Ethernet Port Utilization]         [Home]     [Site Map]     [Logout]     [Save]     [Frame Enable]     Disable]     [TELNET]	
	😜 Internet	💐 100% 🔹

#### TABLE 18 Description of the fields in the Port Realtime Information window

Field	Description
Status	Displays the status of the port.
MAC Address	Displays the MAC address of the port.
Actual Speed/Mode	Shows whether the actual speed matches the configured speed. If the configured speed is set to Auto, then the speed is set by the software.
Connector	Displays the physical type of connector.

The Port Realtime Information window provides links to configure the port parameters:

- To configure an Ethernet port, click **ETHERNET Port Configuration**. For more information on how to configure an Ethernet port, refer to the "Configuring an Ethernet port" section.
- To monitor the Ethernet port statistics, click **ETHERNET Port Statistic**. For more information, refer to the "Displaying Ethernet port statistics" section.
- To monitor the Ethernet port utilization, click **ETHERNET Port Utilization**. For more information, refer to the "Displaying Ethernet port utilization" section .

# Displaying port inline power for the Brocade FCX and Brocade ICX devices

The port inline power statistics allow you to monitor Power over Ethernet (PoE), the ability to transfer electrical power and data to remote devices over standard twisted-pair cable in an Ethernet network. To display the inline power statistics for a PoE stack device, perform the following steps.

- 1. Click Monitor on the left pane and select Port.
- 2. Click Inline Power.

The port inline power window is displayed.

3. Select a unit ID in the Select Stack POE Unit ID list and click either Inline Power Statistics or Inline Power Details.

FIGURE 34 Monitoring inline power

	[Configure Inline Power]	
Device	Select Stack POE Unit ID: 1 🖌 Inline Power Statistics Inline Power Details	
Device  Arp Cache Device Devic	Select Stack POE Unit ID:	
	Sector Se	💐 100% 🔹

#### NOTE

Only PoE-capable units are displayed in the Select Stack POE Unit ID list. If there are no PoE units, you will receive No units with POE modules as an error message.

## **Displaying inline power statistics**

To display the inline power statistics, select the unit ID in the **Select Stack POE Unit ID** list and click **Inline Power Statistics**.

The Inline Power Statistics window is displayed as shown in the figure below.

FIGURE 35 Monitoring inline power statistics

nitor	Select Stack POI	Unit I	D: 1		e Power Sta	tistics		Inline	Power Details
Arp Cache				Inline P	ower Stat	istics	ŀ		
lash	Power Supply total capacity	is O o	f which	0 is current	ly availabl	e. Pov	ver has	s been su	ccessfully allocated 0 tim
<u>lemory</u> ront Panel		a colo de de de de							
AC Address		7		nline Pow					
System Log	Port		tate	Power (1			PD	Priority	Fault
Stack		12.2.2	- Andrews	Consumed			1		Error
Port	1/1/1	Off	Off	0	0	n/a	n/a	Lowest	
<ul> <li>Statistic</li> <li>Ethernet</li> </ul>	1/1/2	Off	Off	0	0	n/a	n/a	Lowest	
Utilization	1/1/3	Off	Off	0	0	n/a	n/a	Lowest	- Staffanning
Ethernet	1/1/4	Off	Off	0	0	n/a	n/a	Lowest	beccon and a second sec
Management	1/1/5 1/1/6	Off Off	Off Off	0	0	n/a	n/a	Lowest	
Inline Power	1/1/7	Off	Off	0	0	n/a n/a	n/a n/a	Lowest Lowest	
<u>STP</u> STP	1/1/8	Off	Off	0	0	n/a	n/a	Lowest	
	1/1/9	Off	Off	0	0	n/a	n/a	Lowest	(Constructed)
MON	1/1/10		Off	ů O	0	n/a	n/a	Lowest	and the second se
nfigure	1/1/1	1912	Off	ů O	0	n/a	n/a	Lowest	
mmand	1/1/12	a plantin and	Off	0	0	n/a	n/a	Lowest	
	1/1/13		Off	0	0	n/a	n/a	Lowest	
	10/14	Off	Off	0	0	n/a	n/a	Lowest	n/a
	10.05	Off	Off	0	0	n/a	n/a	Lowest	n/a
	1/1/16	Off	Off	0	0	n/a	n/a	Lowest	n/a
	1/1/17	Off	Off	0	0	n/a	n/a	Lowest	n/a
	1/1/18	Off	Off	0	0	n/a	n/a	Lowest	n/a
	1/1/15	Off	Off	0	0	n/a	n/a	Lowest	n/a
	1/1/20	Off	Off	0	0	n/a	n/a	Lowest	n/a
	1/1/21	Off	Off	0	0	n/a	n/a	Lowest	n/a
	1/1/22	Off	Off	0	0	n/a	n/a	Lowest	n/a
	1/1/23	Off	Off	0	0	n/a	n/a	Lowest	n/a
	1/1/24	Off	Off	0	0	n/a	n/a	Lowest	n/a
	Port		tate	Power (i			PD	Priority	Fault
		Adm	in Oper	r Consumed	Allocated	Тур	e Clas	5	Error

Field	Description							
Port	Displays the stack port identification of the port as stack#/slot#/port#.							
State: Admin	Specifies whether PoE has been enabled on the port, using one of the following values:							
	<ul> <li>ONThe inline power command was issued on the port.</li> <li>OFFThe inline power command has not been issued on the port.</li> </ul>							
State: Oper	Displays the status of inline power on the port, using one of the following values:							
	<ul> <li>ONThe PoE power supply is delivering inline power to the powered device.</li> <li>OFFThe PoE power supply is not delivering inline power to the powered device.</li> <li>DENIEDThe port is in standby mode waiting for power because currently there is not enough available power for the port.</li> </ul>							
Power (mWatts) Consumed	Displays the amount of current (milliwatts) the powered device is consuming.							
Power (mWatts) Allocated	Displays the amount of current (milliwatts) allocated to the port. This value is either the default or configured maximum power level, or the power class that was automatically detected.							
PD Type	Displays the type of powered device connected to the port. This value can be one of the following:							
	<ul> <li>802.3atThe PD connected to this port is 802.3at-compliant.</li> <li>802.3afThe PD connected to this port is 802.3af-compliant.</li> </ul>							
	<ul> <li><i>LEGACY</i>The powered device connected to this port is a legacy product (not 802.3af-compliant).</li> <li><i>n/a</i> One of the following is true:</li> </ul>							
	- The device connected to this port is a non-powered device.							
	<ul> <li>No device is connected to this port.</li> <li>The port is in standby or denied mode (waiting for power).</li> </ul>							
PD Class	Displays the maximum amount of power received by a powered device. This value can be one of the following:							
	Class1Receives 4 watts maximum.							
	<ul> <li>Class2Receives 7 watts maximum.</li> <li>Class3Receives 15.4 watts maximum.</li> </ul>							
	<ul> <li>ClassReceives 15.4 walls maximum.</li> <li>Class 4Receives 30 watts maximum.</li> </ul>							
	• <i>n/a</i> The device attached to the port cannot advertise its class.							
Priority	Displays the inline power priority of the port, which determines the order in which the port receives power while in standby mode (waiting for power). Ports with a higher priority receive power before ports with a low priority. The value of priority can be one of the following:							
	<ul> <li>1Critical priority</li> </ul>							
	• 2High priority							
	3Low priority							

## TABLE 19 Description of the fields in the Inline Power Statistics window

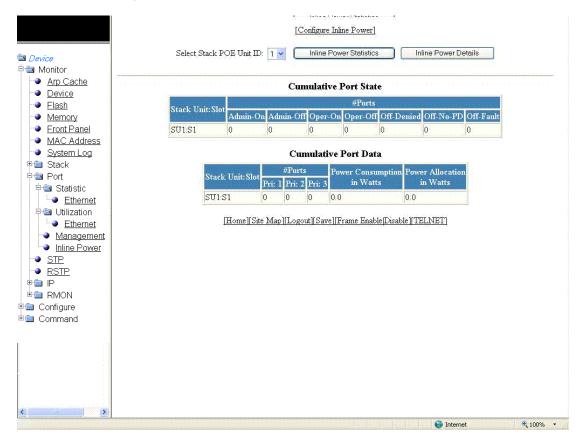
Field	Description
Fault Error	Displays the fault or error that occurred on the port, if applicable. Otherwise, <i>n/a</i> is displayed. The value can be one of the following:
	<ul> <li>critical temperature The PoE chip temperature limit rose above the safe operating level, thereby powering down the port.</li> </ul>
	<ul> <li>detection failedThe port failed capacitor detection (legacy PD detection) because of a discharged capacitor. This can occur when connecting a non-PD on the port.</li> </ul>
	<ul> <li>detection failedThe port failed capacitor detection (legacy PD detection) because of an out-of-range capacitor value. This can occur when connecting a non-PD on the port.</li> </ul>
	<ul> <li>internal h/w fault A hardware problem has hindered port operation.</li> </ul>
	<ul> <li>lack of power The port has shut down due to lack of power.</li> </ul>
	<ul> <li>main supply voltage highThe voltage was higher than the maximum voltage limit, thereby tripping the port.</li> </ul>
	<ul> <li>main supply voltage lowThe voltage was lower than the minimum voltage limit, thereby tripping the port.</li> </ul>
	<ul> <li>overload stateThe PD consumed more power than the maximum limit configured on the port, based on the default configuration, user configuration, or CDP configuration.</li> </ul>
	<ul> <li>over temperatureThe port temperature rose above the temperature limit, thereby powerin down the port.</li> </ul>
	<ul> <li>PD DC faultA succession of underload and overload states, or a PDDC/DC fault, caused the port to shutdown.</li> </ul>
	<ul> <li>short circuit A short circuit was detected on the port delivering power.</li> </ul>
	<ul> <li>underload state The PD consumes less power than the minimum limit specified in the 802.3af standard.</li> </ul>
	<ul> <li>voltage applied from ext srcThe port failed capacitor detection (legacy PD detection) because the voltage applied to the port was from an external source.</li> </ul>

### TABLE 19 Description of the fields in the Inline Power Statistics window (Continued)

## **Displaying inline power details**

To display the inline power details, select the unit ID in the **Select Stack POE Unit ID** list and click **Inline Power Details** .

The Inline Power Details window is displayed as shown in the figure below.



#### FIGURE 36 Monitoring inline power details

TABLE 20	Description	of the fields	in the Inline	Power Details window	
----------	-------------	---------------	---------------	----------------------	--

Field	Description					
Cumulative Port State parameters						
Stack Unit: Slot	Displays the stack ID and slot ID (1 or 2).					
	The PoE-capable slots are available on PoE stack units.					
# Ports Admin-On	Displays the number of ports on the interface module on which the inline power was configured.					
# Ports Admin-Off	Displays the number of ports on the interface module on which the inline power was not configured.					
# Port Oper-On	Displays the number of ports on the interface module that are receiving inline power from the PoE power supply.					
# Port Oper-Off	Displays the number of ports on the interface module that are not receiving inline power from the PoE power supply.					
# Ports Off-Denied	Displays the number of ports on the interface module that were denied power because of insufficient power.					

Field	Description						
# Ports Off No-PD	Displays the number of ports on the interface module to which no powered devices (PDs) are connected.						
# Ports Off-Fault	Displays the number of ports on the interface module that are not receiving power because of a subscription overload.						
Cumulative Port Data parameter	rs						
Stack Unit: Slot	Displays the stack ID and slot ID (1 or 2). The PoE-capable slots are available on PoE stack units.						
# Ports	Displays the total number of available ports in each level of priority.						
Power Consumption in Watts	Displays the total number of watts consumed by both PoE power-consuming devices and the PoE module (daughter card) attached to the interface module.						
Power Allocation in Watts	Displays the number of watts allocated to the interface module PoE ports. This value is the sum of port default or configured maximum power levels, or power classes automatically detected by the PoE device.						

#### TABLE 20 Description of the fields in the Inline Power Details window (Continued)

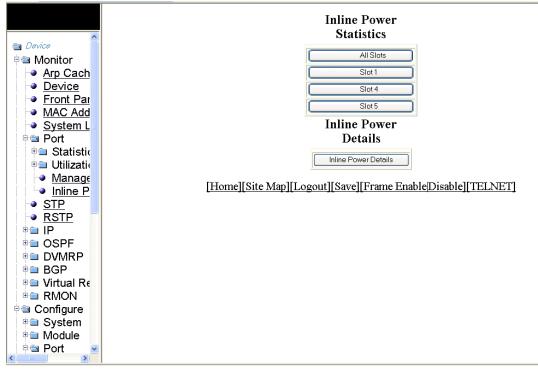
## **Displaying port inline power for the Brocade FastIron SX devices**

To display the inline power statistics for a Brocade FastIron SX device, perform the following steps.

- 1. Click Monitor on the left pane and select Port.
- 2. Click Inline Power.

The port inline power window is displayed.

#### FIGURE 37 Monitoring inline power



- 3. Click All Slots to display the inline power statistics of all the slots.
- 4. Click **Slot 1**, **Slot 4**, or **Slot 5** to display the inline power statistics for the individual slot.
- 5. Click Inline Power Details to display detailed operational information about the PoE power supplies.

Displaying port inline power for the Brocade FastIron SX devices

# **Monitoring STP**

## **Displaying STP information**

Brocade Layer 2 switches and Layer 3 switches support standard Spanning Tree Protocol (STP) as described in the IEEE 802.1D specification. By default, STP is enabled on Layer 2 switches and disabled on Layer 3 switches. To display the STP information, perform the following steps.

1. Click Monitor on the left pane and select STP .

By default, STP is disabled on Layer 3 switches and therefore the message STP is disabled. Go to system to enable STP is displayed.

2. For the Brocade FCX and Brocade ICX devices, select a unit ID in the **Select Stack Unit ID** list and click **Display** to view information about a specific stack unit.

#### NOTE

The **Select Stack Unit ID** list is not available in the STP window for the Brocade FastIron SX devices.

The STP window for the Brocade FCX and Brocade ICX devices is displayed as shown in the figure below.

					Select Stac	k Unit ID: 1	<b>~</b>	Display	
Device						STP Bri	dge		
Monitor		1	Ro	ot	M	ax Hello H	ald B	wd Topology	Bridge
Arp Cache	VLAN	1	D	Cost	Priority				
Device	1	008000e0	52000	100 0	root 32768 20	2 1	15	191867410 0	00e05200010
<u>Flash</u>	. <u>Historistons</u>	Lannanan			lana di sana di sana di sana	and here we also here			
mory nt Panel						STP Po	ort		
C Address	VLAN	Port P	riority	Path Cost	State	Fwd Tran	s Cost	Design Root	Design Bridge
n Log	1	1/1/1 1:	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
	1	1/1/2 1:	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
	1	1/1/3 1:	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
istic	1	1/1/4 1:	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
Ethernet	1	1/1/5 1:	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
lization	1	1/1/6 1	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
<u>thernet</u> nagement	1	1/1/7 1:	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
ne Power	1	1/1/8 1:	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
0.1.0//01	1	1/1/9 1	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
	1	1/1/10 1:	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
	1	1/1/11 1:	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
e e e e e e e e e e e e e e e e e e e	1	1/1/12 1:	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
	1	1/1/13 1:	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
	1	1/1/14 1:	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
	1	1/1/15 1:	28	100	FORWARDING	3 1	0	008000e052000100	008000e052000100
	1	1/1/16 1:	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
	1	1/1/17 1:	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
	1	1/1/18 1:	28	0	DISABLED	0	0	000000000000000000000000000000000000000	0000000000000000
	1	1/1/19 1:	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
	1	1/1/20 1	28	0	DISABLED	0	0	000000000000000000000000000000000000000	000000000000000000000000000000000000000
	1	1/1/21 1	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
	1	1/1/22 1	28	0	DISABLED	0	0	000000000000000000000000000000000000000	00000000000000000
	1	1/1/23 1	28	0	DISABLED	0	0	000000000000000000000000000000000000000	000000000000000000000000000000000000000
	1	1/1/24 1	28	100	FORWARDING	3 1	0	008000e052000100	008000e05200010
	1	1/2/1 1	28	2	FORWARDING	3 1	0	008000e052000100	008000e05200010
	1	1/2/2 1	28	2	FORWARDING	3 1	0	008000e052000100	008000e05200010
	VLAN	Port P	riority	Path Cost	t State	Fwd Tran	s Cos	Design Root	Design Bridge

## FIGURE 38 Monitoring the STP bridge and port

**TABLE 21** Description of the fields in the STP window

Field	Description
STP Bridge para	ameters (global parameters)
VLAN	Displays the port-based virtual local area network (VLAN) that contains this spanning tree (instance of STP). VLAN 1 is the default VLAN. If you have not configured port- based VLANs on this device, all STP information is for VLAN 1.
Root ID	Displays the ID assigned by STP to the root bridge for this spanning tree.
Root Cost	Displays the cumulative cost from this bridge to the root bridge. If this device is the root bridge, then the root cost is 0.
Root Port	Displays the port on this device that connects to the root bridge. If this device is the root bridge, then the value is <i>root</i> instead of a port number.

Field	Description								
Priority	Displays the STP priority of this device or VLAN. The value is shown in hexadecimal format.								
Max Age	Displays the number of seconds this device or VLAN waits for a Hello message from the root bridge before deciding that the root has become unavailable and performing a reconvergence.								
Hello Time	Displays the interval between each configuration Bridge Packet Data Unit (BPDU) sent by the root bridge.								
Hold Time	Displays the minimum number of seconds that must elapse between transmissions of consecutive configuration BPDUs on a port.								
Fwd Delay	Displays the number of seconds this device or VLAN waits following a topology change and consequent reconvergence.								
Topology Last Chng	Displays the number of seconds since the last time a topology change occurred.								
Topology Chg Cntr	Displays the number of times the topology has changed since the device was reloaded.								
Bridge Address	Displays the STP address of this device or VLAN.								
STP Port paramete	ers								
VLAN	Displays the VLAN that the port is in. This field displays only when port VLAN is enabled								
Port	Displays the port number. The port number varies based on the product:								
	<ul> <li>For Brocade FCX and Brocade ICX devices - stack-unit/slotnum/portnum</li> <li>For Brocade FastIron SX devices - slotnum/portnum</li> </ul>								
Priority	Displays the STP priority of the port in hexadecimal format.								
Path Cost	Displays the STP path cost of the port.								
State	Displays the STP state of the port. The state can be one of the following:								
	<ul> <li>BLOCKINGSTP has blocked Layer 2 traffic on this port to prevent a loop. The device or VLAN can reach the root bridge using another port, whose state is FORWARDING. When a port is in the BLOCKING state, the port does not transmit o receive user frames, but the port does continue to receive STP BPDUs.</li> <li>DISABLEDThe port is not participating in STP. This can occur when the port is disconnected or STP is disabled on the port.</li> <li>FORWARDINGSTP is allowing the port to send and receive frames.</li> <li>LISTENINGSTP is responding to a topology change and this port is listening for a BPDU from neighboring bridges in order to determine the new topology. No frames are transmitted or received during this state.</li> <li>LEARNINGThe port has passed through the LISTENING state and will change to the BLOCKING or FORWARDING state depending on the results of STP's reconvergence. The port does not transmit or receive frames during this state. However, the device can learn the MAC addresses of frames that the port receives during this state and make corresponding entries in the MAC table.</li> </ul>								

TABLE 21	Description of the fields in	n the STP window	(Continued)
----------	------------------------------	------------------	-------------

Field	Description
Fwd Trans	Displays the number of times STP has changed the state of this port between BLOCKING and FORWARDING.
Cost	Displays the cost to the root bridge as advertised by the designated bridge that is connected to this port. If the designated bridge is the root bridge itself, then the cost is 0.
Design Root	Displays the root bridge as recognized on this port. The value is the same as the root bridge ID listed in the <b>Root ID</b> field.
Design Bridge	Displays the designated bridge to which this port is connected. The designated bridge is the device that connects the network segment on the port to the root bridge.

## TABLE 21 Description of the fields in the STP window (Continued)

# **Monitoring RSTP**

## **Displaying RSTP information**

To view current Rapid Spanning Tree Protocol (RSTP) information for a device, you must configure RSTP. For more information on how to configure RSTP, refer to Monitoring RSTP on page 71. By default, RSTP is enabled on Layer 2 switches and disabled on Layer 3 switches.

To display RSTP bridge and port information, click Monitor on the left pane and select RSTP.

The RSTP window is displayed as shown in the figure below.

FIGURE 39 Monitoring the RSTP bridge and port

							RSTP I	Bridge				
			RootBi	idge	Desig	natedBridg	e Ma	x Fwd Hello		Bridge	Force	
Nice VL Monitor	AN		D	PathC	ost	D	RootPort	e Delay Time	D	Max Age Hello	Fwd Versio Delay	n
Configure	80	000006	052000	100 0	800000	De05200010	0 Root 20	15 2 8	00000e0520	00100 20 2	15 Default	
Stack		×				F	STP Port	*******				
	LAN	Port	Priority	Path Cost	P2P Mac	Edge Port	Role	State	Designated Cost	Designated Bridge		
QOS VLAN		14/1	128	0	F	F	DISABLED	DISABLED	0	0000000000000000	D	
Port 1		1/1/2	128	0	F	F	DISABLED	DISABLED	0	00000000000000000	5	
Protocol		1/1/3	128	0	F	F	DISABLED	DISABLED	0	0000000000000000	5	
STP 1		1/1/4	128	0	F	F	DISABLED	DISABLED	0	0000000000000000	0	
RSTP 1		1/1/5	128	0	F	F	DISABLED	DISABLED	0	0000000000000000	5	
Trunk 1		1/1/6	128	0	F	F	DISABLED	DISABLED	0	00000000000000000	5	
Static Station		1/1/7	128	0	F	F	DISABLED	DISABLED	0	00000000000000000	5	
Command 1		1/18	128	0	F	F	DISABLED	DISABLED	0	0000000000000000	5	
1		1/1.9	128	0	F	F	DISABLED	DISABLED	0	0000000000000000	5	
1		1/1/10	128	0	F	F	DISABLED	DISABLED	0	0000000000000000	0	
1		1/1/11	128	0	F	F	DISABLED	DISABLED	0	00000000000000000	5	
1		1/1/12	128	0	F	F	DISABLED	DISABLED	0	0000000000000000	5	
1		1/1/13	128	0	F	F	DISABLED	DISABLED	0	0000000000000000	5	
1		1/1/14	128	0	F	F	DISABLED	DISABLED	0	00000000000000000	0	
1		1/1/15	128	2000000	F	F	DESIGNATED	FORWARDING	0	800000e05200010		
1		1/1/23	128	0	F	F	DISABLED	DISABLED	0	00000000000000000	D	
1		1/1/24	128	2000000	F	F	DESIGNATED	FORWARDING	0	800000e052000100	D	
1		1/2/1	128	2000	F	F	DESIGNATED	FORWARDING	0	800000e052000100	5	
1		1/2/2	128	2000	F	F	DESIGNATED	FORWARDING	0	800000e052000100		
v	LAN	Port	Priority	Path Cost	P2P Mac	Edge Port	Role	State	Designated Cost	Designated Bridge		

TABLE 22 Description of the fields in the RSTP window

Field	Description
RSTP Bridge paramete	ers

Field	Description
VLAN	Displays the port-based VLAN that owns the STP instance. VLAN 1 is the default VLAN. I you have not configured port-based VLANs on this device, all RSTP information is for VLAN 1.
RootBridge ID	Displays the ID of the root bridge that is associated with this bridge.
RootBridge PathCost	Displays the cumulative cost from this bridge to the root bridge. If this device is the root bridge, then the root cost is 0.
DesignateBridge ID	Displays the bridge from where the root information was received. It can be from the root bridge itself or from another bridge.
RootPort	Displays the port on this device that connects to the root bridge. If this device is the root bridge, then the value is <i>root</i> instead of a port number.
Max.Age	Displays the number of seconds this device or VLAN waits for a Hello message from the root bridge before deciding the root has become unavailable and performing a reconvergence.
Fwd Delay	Displays the number of seconds a non-edge designated port waits until it can apply any o the following transitions, if the received RST BPDU does not have an agreed flag:
	<ul><li>Discarding state to learning state</li><li>Learning state to forwarding state</li></ul>
	When a non-edge port receives the RST BPDU, it goes into forwarding state within 4 seconds or after two hello timers expire on the port.
	Forward delay is also the number of seconds that a root port waits for an RST BPDU with a proposal flag before it applies the state transitions listed above.
	If the port is operating in 802.1D-compatible mode, then forward delay functionality is the same as in 802.1D (STP).
Hello Time	Displays the duration (secs) between two Hello packets.
Bridge ID	Displays the ID of the bridge.
Bridge Max Age	Displays the configured maximum age for this bridge. The default is 20.
Bridge Hello	Displays the configured hello time for this bridge. The default is 2.
Bridge Fwd Delay	Displays the configured forward delay time for this bridge. The default is 15.
Force Version	Displays the configured force version value, which can be one of the following:
	<ul> <li>0The bridge has been forced to operate in an STP compatibility mode.</li> <li>2The bridge has been forced to operate in an RSTP mode. This is the default.</li> </ul>
Tx Hold Count	Displays the number of BPDUs that can be transmitted per Hello interval. The default is 3.
RSTP Port parameters	

## **TABLE 22** Description of the fields in the RSTP window (Continued)

Field	Description
VLAN	Displays the port-based VLAN that owns the STP instance. VLAN 1 is the default
	VLAN. If you have not configured port-based VLANs on this device, all RSTP information is for VLAN 1.
Port	Displays the port number. The port number varies based on the product:
	<ul> <li>For Brocade FCX and Brocade ICX devices - stack-unit/slotnum/portnum</li> <li>For Brocade FastIron SX devices - slotnum/portnum</li> </ul>
Priority	Displays the configured priority of the port. The default is 128 or 0x80.
Path Cost	Displays the configured path cost on a link connected to this port.
P2P Mac	Displays whether the point-to-point-MAC parameter is configured to be a point-to-point link:
	• <i>T</i> The link is configured as a point-to-point link.
	• <i>F</i> The link is not configured as a point-to-point link. This is the default.
Edge Port	Displays whether the port is configured as an operational edge port:
	<ul> <li><i>T</i>The port is configured as an edge port.</li> <li><i>F</i>The port is not configured as an edge port. This is the default.</li> </ul>
Role	Displays the current role of the port, which can be one of the following:
	<ul> <li>ROOTProvides the lowest cost path to the root bridge from a specific bridge.</li> <li>DESIGNATEDProvides the lowest cost path to the root bridge from a LAN to which it is connected.</li> <li>ALTERNATEProvides an alternate path to the root bridge when the root port goes down.</li> <li>BACKUPProvides a backup to the LAN when the Designated port goes down.</li> <li>DISABLEDHas no role in the topology.</li> </ul>
	For more information, refer to "Bridges and bridge port roles" of the appropriate FastIron Ethernet Switch Platform and Layer 2 Switching Configuration Guide.
State	Displays the RSTP state of the port, which can be one of the following:
	<ul> <li>DISCARDING RSTP has blocked data traffic on this port to prevent a loop. The device or VLAN can reach the root bridge using another port, whose state is FORWARDING. When a port is in this state, the port does not transmit or receive user frames, but the port does continue to receive STP BPDUs. This state corresponds to the listening and blocking states of 802.1D.</li> <li>DISABLED The port is not participating in RSTP. This can occur when the port is disconnected or STP is disabled on the port.</li> <li>FORWARDINGRSTP is allowing the port to send and receive frames.</li> <li>LEARNINGRSTP is allowing MAC entries to be added to the filtering database but does not permit forwarding of data frames. The device can learn the MAC addresses of frames that the port receives during this state and make corresponding entries in the</li> </ul>
	MAC table.
Designated Cost	Displays the best root path cost that this port received, including the best root path cost that it can transmit.

TABLE 22	Description of	of the fields in	the RSTP	window (	(Continued)	ļ
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sent the best RST BPDU that was received on
;

TABLE 22	Description	of the fields	in the I	RSTP	window (	Continued)

### **Monitoring IP**

•	Dis	pla	ying	IP	са	che	e		 		 	7	5						
								-		-	 			-					

### **Displaying IP cache**

#### NOTE

The IP cache is specific to the Brocade FCX-ADV, Brocade ICX, and Brocade FastIron SX devices running Layer 3 code.

To display the IP forwarding cache information, perform the following steps.

- 1. Click Monitor on the left pane and select IP .
- 2. Click Cache .

The IP Cache window is displayed as shown in the figure below.

FIGURE 40 Monitoring the IP cache

	IP Address	Next Hop	MAC	Туре	Action	Flag Check	Snap	Port	Vlan	Priorit
Device	255.255.255.255	0.0.0.0	0000.0000.0000	Permanent	For Us	Disabled	Disabled	None		0
🗎 📾 Monitor	172.31.0.200	0.0.0.0	0000.0000.0000	Permanent	For Us	Disabled	Disabled	None		0
Arp Cache	172.31.0.255	0.0.0.0	0000.0000.0000	Permanent	For Us	Disabled	Disabled	None		0
Device     Front Donol	172.31.255.255	0.0.0.0	0000.0000.0000	Permanent	For Us	Disabled	Disabled	None		0
<ul> <li>Front Panel</li> <li>MAC Addres</li> </ul>	IP Address	Next Hop	MAC	Туре	Action	Flag Check	Snap	Port	Vlan	Priorit
Port SIP RSIP Cache Iraffic Routing I: Cache Iraffic Routing I: BGP F Command Configure Command Command Cache	of the fields ir	Abo ID	<b>O</b> l							
Field Description										

IP Cache

Brocade FastIron SX, FCX, and ICX Web Management Interface User Guide 53-1003615-01

Field	Description
Next Hop	Displays the IP address of the next hop router to the destination. This field contains either an IP address or the value DIRECT. DIRECT means the destination is either directly attached or the destination is an address on this Brocade device.
MAC	Displays the MAC address of the destination.
	<b>NOTE</b> If the entry is type Us (indicating that the destination is this Brocade device), the address consists of zeroes.
Туре	Displays the type of host entry, which can be one of the following:
	<ul> <li>Dynamic</li> <li>Permanent</li> <li>Forward</li> <li>Us</li> <li>Complex Filter</li> <li>Wait ARP</li> <li>ICMP Deny</li> <li>Drop</li> <li>Fragment</li> <li>Snap Encap</li> </ul>
Action	Displays the action the router takes for the packet.
Flag Check	Displays whether the flag check has been enabled or disabled.
Snap	Displays whether the snap encapsulation has been enabled or disabled.
Port	Displays the port through which this device reaches the destination. For destinations that are located on this device, the port number is shown as "n/a".
Vlan	Displays the VLAN the port is in.
Priority	Displays the Quality of Service (QoS) priority of the port or the VLAN.

#### TABLE 23 Description of the fields in the IP Cache window (Continued)

### **Displaying IP traffic information for devices running Layer 2 code**

To display the IP traffic statistics for the Brocade FCX, Brocade ICX, and Brocade FastIron SX devices running Layer 2 code, perform the following steps.

- 1. Click Monitor on the left pane and select IP.
- 2. Click Traffic.

The IP Traffic window is displayed as shown in the figure below.

	IP S	Stati	stics	
	Packets Received:	167	Packets Sent:	23
	Fragmented:	0	Reassembled:	0
2	Bad Header:	0	No Route:	0
U	nknown Protocols:	0	No Buffer:	0
	Other Errors:	0		
	ICMI	? Sta	tistics	
	Total Received:	0	Total Sent:	0
	Received Errors:	0	Sent Errors:	0
Rece	ived Unreachable:	0	Sent Unreachable:	0
Recei	ved Time Exceed:	0	Sent Time Exceed:	0
Re	ceived Parameter:	0	Sent Parameter:	0
Receive	d Source Quench:	0	Sent Source Quench:	0
B	eceived Redirect:	0	Sent Redirect:	0
	Received Echo:	0	Sent Echo:	0
Rec	eived Echo Reply:	0	Sent Echo Reply:	¢
Rec	eived Timestamp:	0	Sent Timestamp:	0
Received	Timestamp Reply:	0	Sent Timestamp Reply:	0
Receive	d Address Mask:	0	Sent Address Mask:	0
Received Add	ress Mask Reply:	0	Sent Address Mask Reply:	0
Received IR	DP Advertisment:	0	Sent IRDP Advertisment:	0
Received	IRDP Solicitation:	0	Sent IRDP Solicitation:	0
	UDP	Stat	istics	
	Received:	0	Sent:	C
	No Port:	0	Input Errors:	0
	TCP	Stat	istics	
	Active Opens:	0	Passive Opens:	0
	Failed Attempts:	0	Active Resets:	0
	Passive Resets:	0	Input Errors:	0
	In Segments:	167	Out Segments:	2
	Retransmission:	0		
Cur	rent Active TCBs:	1	TCBs Allocated:	1
	TCBs Freed:	3		
	Class Connections	0	Keepalive Failure Callback:	0
Keepalive	close connection.			

#### FIGURE 41 Monitoring the IP traffic for devices running Layer 2 code

**TABLE 24** Description of the fields in the IP Traffic window

Field	Description
IP Statistics parameters	
Packets Received	Displays the number of IP packets received by the device.
Packets Sent	Displays the number of IP packets originated and sent by the device.
Fragmented	Displays the number of IP packets fragmented by this device before sending or forwarding them.
Reassembled	Displays the number of fragmented IP packets received and re-assembled by the device.
Bad Header	Displays the number of IP packets dropped because they had a bad header.

Field	Description
No Route	Displays the number of packets dropped by the device because they had no route information.
Unknown Protocols	Displays the number of packets dropped by the device because the value in the protocol field of the packet header is unrecognized by this device.
No Buffer	Displays the number of packets dropped because the device ran out of buffe space.
Other Errors	Displays the number of packets dropped due to errors other than the ones already indicated in the <b>IP Statistics</b> parameters.
ICMP Statistics parameters	
Total Received	Displays the number of Internet Control Message Protocol (ICMP) packets received by the device.
Total Sent	Displays the number of ICMP packets sent by the device.
Received Errors	Displays the number of errors received by the device. This information is used by Brocade customer support.
Sent Errors	Displays the number of errors sent by the device. This information is used by Brocade customer support.
Received Unreachable	Displays the number of Destination Unreachable messages received by the device.
Sent Unreachable	Displays the number of Destination Unreachable messages sent by the device.
Received Time Exceed	Displays the number of Time Exceeded messages received by the device.
Sent Time Exceed	Displays the number of Time Exceeded messages sent by the device.
Received Parameter	Displays the number of Parameter Problem messages received by the device.
Sent Parameter	Displays the number of Parameter Problem messages sent by the device.
Received Source Quench	Displays the number of Source Quench messages received by the device.
Sent Source Quench	Displays the number of Source Quench messages sent by the device.
Received Redirect	Displays the number of Redirect messages received by the device.
Sent Redirect	Displays the number of Redirect messages sent by the device.
Received Echo	Displays the number of Echo messages received by the device.
Sent Echo	Displays the number of Echo messages sent by the device.
Received Echo Reply	Displays the number of Echo Reply messages received by the device.

 TABLE 24
 Description of the fields in the IP Traffic window (Continued)

Field	Description
Sent Echo Reply	Displays the number of Echo Reply messages sent by the device.
Received Timestamp	Displays the number of Timestamp messages received by the device.
Sent Timestamp	Displays the number of Timestamp messages sent by the device.
Received Timestamp Reply	Displays the number of Timestamp Reply messages received by the device.
Sent Timestamp Reply	Displays the number of Timestamp Reply messages sent by the device.
Received Address Mask	Displays the number of Address Mask Request messages received by the device.
Sent Address Mask	Displays the number of Address Mask Request messages sent by the device
Received Address Mask Reply	Displays the number of Address Mask Reply messages received by the device.
Sent Address Mask Reply	Displays the number of Address Mask Reply messages sent by the device.
Received IRDP Advertisement	Displays the number of ICMP Router Discovery Protocol (IRDP) Advertisement messages received by the device.
Sent IRDP Advertisement	Displays the number of IRDP Advertisement messages sent by the device.
Received IRDP Solicitation	Displays the number of IRDP Solicitation messages received by the device.
Sent IRDP Solicitation	Displays the number of IRDP Solicitation messages sent by the device.
UDP Statistics parameters	
Received	Displays the number of User Datagram Protocol (UDP) packets received by the device.
Sent	Displays the number of UDP packets sent by the device.
No Port	Displays the number of UDP packets dropped because the packet did not contain a valid UDP port number.
Input Errors	Displays the number of errors on the incoming packets. This information is used by Brocade customer support.
TCP Statistics parameters	
Active Opens	Displays the number of Transmission Control Protocol (TCP) connections opened by this device by sending a TCP SYN to another device.
Passive Opens	Displays the number of TCP connections opened by this device in response to connection requests (TCP SYNs) received from other devices.
Failed Attempts	Displays the number of failed attempts. This information is used by Brocade customer support.

 TABLE 24
 Description of the fields in the IP Traffic window (Continued)

Field	Description
Active Resets	Displays the number of TCP connections this device reset by sending a TCP RESET message to the device at the other end of the connection.
Passive Resets	Displays the number of TCP connections this device reset because the device at the other end of the connection sent a TCP RESET message.
Input Errors	Displays the number of incoming errors. This information is used by Brocade customer support.
In Segments	Displays the number of TCP segments received by the device.
Out Segments	Displays the number of TCP segments sent by the device.
Retransmission	Displays the number of segments that this device retransmitted because the retransmission timer for the segment had expired before the device at the other end of the connection had acknowledged receipt of the segment.
Current Active TCBs	Displays the number of TCP Control Blocks (TCBs) that are currently active.
TCBs Allocated	Displays the number of TCBs that have been allocated.
TCBs Freed	Displays the number of TCBs that have been freed.

TABLE 24 Description of the fields in the IP Traffic window (Continued)

### **Displaying IP traffic information for devices running Layer 3 code**

To display the IP traffic statistics for the Brocade FCX, Brocade ICX, and Brocade FastIron SX devices running Layer 3 code, perform the following steps.

- 1. Click Monitor on the left pane and select IP .
- 2. Click Traffic
  - The IP Traffic window is displayed as shown in the figure below.

FIGURE 42 Monitoring the IP traffic information for devices running Layer 3 code

		ra	fic
	IP St		
Device	Packets Received:		Packets Sent: 7
a Monitor → Arp Cache	Packets Forwarded:	0	Filtered: 0
Device	Fragmented:	0	Reassembled: C
Flash	Bad Header:	0	No Route: C
Memory	Unknown Protocols:	0	No Buffer: 0
Front Panel	Other Errors:	0	
MAC Address	ICMP	Sta	tistics
System Log	Total Received:	0	Total Sent:
B Stack	Received Errors:	0	Sent Errors:
Port	Received Unreachable:	0	Sent Unreachable:
-● <u>STP</u> -● RSTP	Received Time Exceed:	0	Sent Time Exceed:
	Received Parameter:	0	Sent Parameter:
Cache	Received Source Quench:	0	Sent Source Quench:
Traffic	Received Redirect:	0	Sent Redirect:
Routing Tabl	Received Echo:	0	Sent Echo:
© ■ OSPF	Received Echo Reply:	0	Sent Echo Reply:
	Received Timestamp:	0	Sent Timestamp:
BGP	Received Timestamp Reply:	0	Sent Timestamp Reply:
Image: Pirtual Redund Image: Pirtual Redund Image: Pirtual Redund Image: Pirtual Redund	Received Address Mask:	0	Sent Address Mask:
	Received Address Mask Reply:	0	Sent Address Mask Reply:
⊡ Command	Received IRDP Advertisment:	0	Sent IRDP Advertisment:
	Received IRDP Solicitation:		Sent IRDP Solicitation:
	UDP S	tat	istics
	Received:	0	Sent:
	No Port:	0	Input Errors:
	TCP S	tati	stics
	Active Opens:	0	Passive Opens:
	Failed Attempts:		Active Resets:
	Passive Resets:		Input Errors:
	In Segments:	61	Out Segments:
	Retransmission:		l
	RIP S		stics
	Requests Sent:		Requests Received:
	Responses Sent:		Responses Received:
	Unrecognized:		Bad Version:
	Bad Address Family:		Bad Request Format:
	Bad Metrics:		Bad Response Format:
	Response Not from RIP Port:	-	Response from Loopback:
	Packets Rejected:		response from Boopodtk.
s l	[Home][Site Map][Logout][Save		ame Enable[Disable][TELNET]

Field

Description

IP Statistics parameters

Field	Description
Packets Received	Displays the number of IP packets received by the device.
Packets Sent	Displays the number of IP packets originated and sent by the device.
Packets Forwarded	Displays the total number of IP packets received by the device and forwarded to other devices.
Filtered	Displays the total number of IP packets filtered by the device.
Fragmented	Displays the number of IP packets fragmented by this device before sending or forwarding them.
Reassembled	Displays the number of fragmented IP packets received and re-assembled by the device.
Bad Header	Displays the number of IP packets dropped because they had a bad header.
No Route	Displays the number of packets dropped by the device because they had no route information.
Unknown Protocols	Displays the number of packets dropped by the device because the value in the protocol field of the packet header is unrecognized by this device.
No Buffer	Displays the number of packets dropped because the device ran out of buffer space.
Other Errors	Displays the number of packets dropped due to errors other than the ones already indicated in the <b>IP Statistics</b> parameters.
ICMP Statistics	Refer to Displaying IP traffic information for devices running Layer 2 code on page 76.
UDP Statistics	Refer to Displaying IP traffic information for devices running Layer 2 code on page 76.
TCP Statistics parameters	
Active Opens	Displays the number of TCP connections opened by this device by sending a TCP SYN to another device.
Passive Opens	Displays the number of TCP connections opened by this device in response to connection requests (TCP SYNs) received from other devices.
Failed Attempts	Displays the number of failed attempts. This information is used by Brocade customer support.
Active Resets	Displays the number of TCP connections this device reset by sending a TCP RESET message to the device at the other end of the connection.
Passive Resets	Displays the number of TCP connections this device reset because the device at the other end of the connection sent a TCP RESET message.

 TABLE 25
 Description of the fields in the IP Traffic window (Continued)

Field	Description					
Input Errors	Displays the number of incoming errors. This information is used by Brocade customer support.					
In Segments	Displays the number of TCP segments received by the device.					
Out Segments	Displays the number of TCP segments sent by the device.					
Retransmission	Displays the number of segments that this device retransmitted because the retransmission timer for the segment had expired before the device at the othe end of the connection had acknowledged receipt of the segment.					
RIP Statistics parameters						
Requests Sent	Displays the number of requests this device has sent to another Routing Information Protocol (RIP) Layer 3 switch for all or part of its RIP routing table.					
Requests Received	Displays the number of requests this device has received from another RIP Layer 3 switch for all or part of this device's RIP routing table.					
Responses Sent	Displays the number of responses this device has sent to another RIP Layer 3 switch's request for all or part of this device's RIP routing table.					
Responses Received	Displays the number of responses this device has received to requests for a part of another RIP Layer 3 switch's routing table.					
Unrecognized	Displays the number of RIP packets that were not recognized by the device.					
Bad Version	Displays the number of RIP packets dropped by the device because the RIP version was either invalid or is not supported by this device.					
Bad Address Family	Displays the number of RIP packets dropped because the value in the Address Family Identifier field of the packet's header was invalid.					
Bad Request Format	Displays the number of RIP request packets this Layer 3 switch dropped because the format was bad.					
Bad Metrics	Displays the number of responses to RIP request packets this Layer 3 switch dropped because of the bad metric value. This information is used by Brocade customer support.					
Bad Response Format	Displays the number of responses to RIP request packets this Layer 3 switch dropped because the format was bad.					
Response Not from RIP Port	Displays the number of RIP responses received from non-RIP ports. This information is used by Brocade customer support.					
Response from Loopback	Displays the number of RIP responses received from loopback interfaces.					
Packets Rejected	Displays the number of RIP packets rejected by the device.					

 TABLE 25
 Description of the fields in the IP Traffic window (Continued)

Displaying IP traffic information for devices running Layer 3 code

### **Monitoring RMON**

Displaying RMON history	
Displaying RMON Ethernet statistics	
Changing polling interval	90
Displaying RMON Ethernet error statistics	91

### **Displaying RMON history**

By default, all active ports generate two history control data entries per active port. An active port is defined as one with a link up. If the link goes down, the two history entries are automatically cleared.

The following history entries are generated for each device:

- · A sampling of statistics every 30 seconds
- A sampling of statistics every 30 minutes

To display Remote Monitoring (RMON) history, perform the following steps.

- 1. Click Monitor on the left pane and select RMON .
- 2. Click History .

The RMON Ethernet History window is displayed as shown in the figure below.

FIGURE 43 Monitoring the RMON Ethernet history

🖶 🖼 Monitor
Device
Flash
Memory
Front Panel
System Log
🗉 🗎 Stack
🗉 💼 Port
STP
-● RSTP
- History
Statistic
🗉 🧰 Configure
🗉 🚞 Command

**RMON Ethernet History** 

-	Port	Time Stamp	Utiliza- tion(%)	Drop Events	Octets	Packets	interiories interiories in the second second second in	Augn Err		ments		sions
	Port	Time	Utiliza-	Drop	Octote	Packets	Pkts	CRC	Size Pkts	Frag-	Tabbors	Colli-
	TOL	Stamp	tion(%)	Events	orreis	Latrets	Broadcast Multicast	Align Err	Under Over	ments	Jappers	sions

[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]

Field	Description
Port	Displays the port for which the history data is being presented. The port number varies based on the product:
	<ul> <li>For Brocade FCX and Brocade ICX devices - stack-unit/slotnum/portnum</li> <li>For Brocade FastIron SX devices - slotnum/portnum</li> </ul>
Time Stamp	Displays the day and time when the data was collected.
Utilization(%)	Displays the percentage of the port that was being utilized when the data was taken.
Drop Events	Displays the total number of events in which packets were dropped by the RMON probe due to lack of resources. This number is not necessarily the number of packets dropped, but is the number of times an overrun condition has been detected.
Octets	Displays the total number of octets of data received on the network.
	This number includes octets in bad packets.
	This number does not include framing bits but does include Frame Check Sequence (FCS) octets.
Packets	Displays the total number of packets received.
	This number includes bad packets, broadcast packets, and multicast packets.
Packets: Broadcast	Displays the total number of good packets received that were directed to the broadcas address.
	This number does not include multicast packets.
Packets: Multicast	Displays the total number of good packets received that were directed to a multicast address.
	This number does not include packets directed to the broadcast address.
CRC Alignment Errors	Displays the total number of packets received that were from 64 through 1518 octets long, but had either a bad FCS with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error).
	The packet length does not include framing bits but does include FCS octets.
Size Packets: Under	Displays the total number of packets received that were less than 64 octets long and were otherwise well formed.
	This number does not include framing bits but does include FCS octets.
Size Packets: Over	Displays the total number of packets received that were longer than 1518 octets and were otherwise well formed.
	This number does not include framing bits but does include FCS octets.
Fragments	Displays the total number of packets received that were less than 64 octets long and had either a bad FCS with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error).
	It is normal for this counter to be incremented, because it counts both runts (which are normal occurrences due to collisions) and noise hits.
	This number does not include framing bits but does include FCS octets.

#### TABLE 26 Description of the fields in the RMON Ethernet History window

Field	Description						
Jabbers	Displays the total number of packets received that were longer than 1518 octets and had either a bad FCS with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error).						
	<b>NOTE</b> This definition of jabber is different from the definition in IEEE-802.3 section 8.2.1.5 (10BASE5) and section 10.3.1.4 (10BASE2). These documents define jabber as the condition where any packet exceeds 20 ms. The allowed range to detect jabber is between 20 ms and 150 ms.						
	This number does not include framing bits but does include FCS octets.						
Collisions	Displays the best estimate of the total number of collisions on this Ethernet segment.						

TABLE 26 Description of the fields in the RMON Ethernet History window (Continued)

### **Displaying RMON Ethernet statistics**

RMON statistics provide count information on multicast and broadcast packets. This information includes total packets sent, undersized and oversized packets, CRC alignment errors, jabbers, collisions, fragments, and dropped events for each port on the system. RMON statistics collection is activated automatically during system startup, and requires no configuration.

To display RMON statistics, perform the following steps.

- 1. Click **Monitor** on the left pane and select **RMON**.
- 2. Click Statistic.
- 3. For the Brocade FCX and Brocade ICX devices, select a unit ID in the **Select Stack Unit ID** list and click **Display** to view information about a specific stack unit.

#### NOTE

The **Select Stack Unit ID** list is not available in the **RMON Ethernet Statistics** window for the Brocade FastIron SX devices.

The **RMON Ethernet Statistics** window for the Brocade FCX and Brocade ICX devices is displayed as shown in the figure below.

#### Select Stack Unit ID: 1 🖌 Display Clear Stop Polling [Change Polling Interval][RMON Ethernet Error Statistics] RMON Ethernet Statistics - Polling Interval 30 sec 🖻 Device 🗟 📾 Monitor Arp Cache Octets Pkts Packets Owner Status Device dcast Multicast 64 65-127 128-255 256-511 512-1023 1024-1518 -0 <u>Flash</u> monitor Active -0 Memory monitor Active -0 Front Panel monitor Active MAC Address monitor Active -0 System Log 🖻 🛅 Stack monitor Active 🗉 🗎 Port monitor Active - 🕘 <u>STP</u> monitor Active INTER IN monitor Active 🗄 🌐 IP monitor Active 🖹 🔤 RMON monitor Active History Û Û monitor Active Statistic 🕂 💼 Configure monitor Active 🖮 🧰 Command monitor Active monitor Active 3189692 35340 32831 1267 monitor Active Û monitor Active 2222862 33688 32722 701 monitor Active monitor Active monitor Active Pkts Octets Pkts Port Packets Statu Owner Broadcast Multicast 64 65-127 128-255 256-511 512-1023 1024-1518 Up Time=22 days 10h:13m:28s, Last Clear Time=22 days 04h:57m:37s Clear Stop Polling [Change Polling Interval][RMON Ethernet Error Statistics] [Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET] > <

#### FIGURE 44 Monitoring RMON Ethernet statistics

#### TABLE 27 Description of the fields in the RMON Ethernet Statistics window

Field	Description
Port	Displays the port number. The port number varies based on the product:
	<ul> <li>For Brocade FCX and Brocade ICX devices - stack-unit/slotnum/portnum</li> <li>For Brocade FastIron SX devices - slotnum/portnum</li> </ul>
Octets	Displays the total number of octets of data received on the network.
	This number includes octets in bad packets.
	This number does not include framing bits but does include Frame Check Sequence (FCS) octets.
Packets	Displays the total number of packets received.
	This number includes bad packets, broadcast packets, and multicast packets.

Field	Description
Packets: Broadcast	Displays the total number of good packets received that were directed to the broadcast address.
	This number does not include multicast packets.
Packets: Multicast	Displays the total number of good packets received that were directed to a multicast address.
	This number does not include packets directed to the broadcast address.
Octet Packets: 64	Displays the total number of packets received that were 64 octets long.
	This number includes bad packets.
	This number does not include framing bits but does include FCS octets.
Octet Packets: 65 - 127	Displays the total number of packets received that were from 65 through 127 octets long.
	This number includes bad packets.
	This number does not include framing bits but does include FCS octets.
Octet Packets: 128 - 255	Displays the total number of packets received that were from 128 through 255 octets long.
	This number includes bad packets.
	This number does not include framing bits but does include FCS octets.
Octet Packets: 256 - 511	Displays the total number of packets received that were from 256 through 511 octets long.
	This number includes bad packets.
	This number does not include framing bits but does include FCS octets.
Octet Packets: 512 - 1023	Displays the total number of packets received that were from 512 through 1023 octets long.
	This number includes bad packets.
	This number does not include framing bits but does include FCS octets.
Octet Packets: 1024 - 1518	Displays the total number of packets received that were from 1024 through 1518 octets long.
	This number includes bad packets.
	This number does not include framing bits but does include FCS octets.
Owner	Displays the owner of the packets.
Status	Displays the status of the port.
Up Time	Displays the length of time the device has been available.

TABLE 27 Description of the fields in the RMON Ethernet Statistics window (Continued)

To remove the current data in the table and restart monitoring, click **Clear**. To stop reporting the statistics, click **Stop Polling**.

The RMON Ethernet Statistics window contains the following links:

- To change the polling interval, click **Change Polling interval**. For more information, refer to the "Changing polling interval" section.
- To display the RMON Ethernet error statistics, click **RMON Ethernet Error Statistics**. For more information, refer to the "Displaying RMON Ethernet error statistics" section.

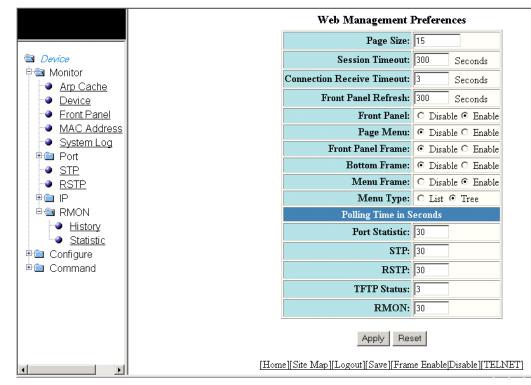
### **Changing polling interval**

To change the number of seconds between reporting the RMON Ethernet statistics, perform the following steps.

1. Click Change Polling interval on the RMON Ethernet Statistics window.

The Web Management Preferences window is displayed as shown in the figure below.

FIGURE 45 Modifying web management preferences



- 2. Specify the RMON polling interval in the RMON field.
- 3. Click Apply .

The message The change has been made is displayed at the top of the window. To undo the changes, click **Reset**. For more information on web management preferences, refer to Configuring the web management preferences on page 137.

### **Displaying RMON Ethernet error statistics**

To display RMON error information, perform the following steps.

- 1. Click RMON Ethernet Error Statistics on the RMON Ethernet Statistics window.
- 2. For the Brocade FCX and Brocade ICX devices, select a unit ID in the **Select Stack Unit ID** list and click **Display** to view information about a specific stack unit.

#### NOTE

The **Select Stack Unit ID** list is not available in the **RMON Ethernet Error Statistics** window for the Brocade FastIron SX devices.

The **RMON Ethernet Error Statistics** window for the Brocade FCX and Brocade ICX devices is displayed as shown in the figure below.

#### FIGURE 46 Monitoring the RMON Ethernet error statistics

Device Port	Dron Events	CRC Alignment Errors	Undersize Pkts	Oversize Plets	Fragments	Jabbers	Collisions
Monitor	0	0	0	0	n naginenits		0
Arp Cache 1/2	0	0	0	0	0	-	0
Device 1/3	0	0	0	0	0	-	0
Front Panel	0	0	0	0	0	0	0
MAC Address     MAC Address     MAC Address     MAC 1/4     1/5	0	0	0	0	0		0
	0	0	0	0	0	0	0
in the statistic statistic 1/7	0	0	0	0	0	0	0
Ethernet 1/8	0	0	0	0	0		0
Utilization	0	0	0	0	0	0	0
Managemen 1/10	0	0	0	0	0	0	0
STP 1/11	0	0	0	0	0	0	0
● <u>RSTP</u> 1/12	0	0	0	0	0	0	0
RMON 1/13	0	0	0	0	0	0	0
History 1/14	0	0	0	0	0	0	0
Statistic 1/15	0	0	0	0	0	0	0
Configure 1/16	0	0	0	0	0	0	0
Command 1/17	0	0	0	0	0	0	0
1/18	0	0	0	0	0	0	0
1/19	0	0	0	0	0	0	0
1/20	0	0	0	0	0	0	0
1/21	0	0	0	0	0	0	0
1/22	0	0	0	0	0	0	0
1/23	0	0	0	0	0	0	0
1/24	0	0	0	0	0	0	0
mgmt	2576980184	2576980184	2576980184	2576980184	2576980184	2576980184	257698018
Port	Drop Events	CRC Alignment Errors	Undersize Pkts	Oversize Pkts	Fragments	Jabbers	Collisions

Field	Description
Port	Displays the port number. The port number varies based on the product:
	<ul> <li>For Brocade FCX and Brocade ICX devices - stack-unit/slotnum/portnum</li> <li>For Brocade FastIron SX devices - slotnum/portnum</li> </ul>
Drop Events	Displays the total number of events in which packets were dropped by the RMON probe due to lack of resources. This number is not necessarily the number of packets dropped but is the number of times an overrun condition has been detected.
CRC Alignment Errors	Displays the total number of packets received that were from 64 through 1518 octets long, but had either a bad FCS with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error).
	The packet length does not include framing bits but does include FCS octets.
Undersize Pkts	Displays the total number of packets received that were less than 64 octets long and were otherwise well formed.
	This number does not include framing bits but does include FCS octets.
Oversize Pkts	Displays the total number of packets received that were longer than 1518 octets and were otherwise well formed.
	This number does not include framing bits but does include FCS octets.
Fragments	Displays the total number of packets received that were less than 64 octets long and had either a bad FCS with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error).
	It is normal for this counter to increment, because it counts both runts (which are normal occurrences due to collisions) and noise hits.
	This number does not include framing bits but does include FCS octets.
Jabbers	Displays the total number of packets received that were longer than 1518 octets and had either a bad FCS with an integral number of octets (FCS Error) or a bad FCS with a non-integral number of octets (Alignment Error).
	<b>NOTE</b> This definition of jabber is different from the definition in IEEE-802.3 section 8.2.1.5 (10BASE5) and section 10.3.1.4 (10BASE2). These documents define jabber as the condition where any packet exceeds 20 ms. The allowed range to detect jabber is between 20 ms and 150 ms.
	This number does not include framing bits but does include FCS octets.
Collisions	Displays the best estimate of the total number of collisions on this Ethernet segment.
Up Time	Displays the length of time the device has been available.
Last Clear Time	Displays the length of time data has been accumulating in the current table.

#### TABLE 28 Description of the fields in the RMON Ethernet Error Statistics window

To remove the current data in the table and restart monitoring, click  ${\bf Clear}$  . To stop reporting the statistics, click  ${\bf Stop\ Polling}$  .

The RMON Ethernet Error Statistics window contains the following links:

- To change the polling interval, click **Change Polling interval**. For more information, refer to Changing polling interval on page 90.
- To display the RMON statistics, click **RMON Ethernet Statistics**. For more information, refer to Displaying RMON Ethernet statistics on page 87.

Displaying RMON Ethernet error statistics

## **Configuring Stack Components**

• Configuring the general settings for a traditional stack	
Modifying stack priority	
Modifying stack ports.	
Configuring a stack module	
Configuring peri-ports	
Configuring peri-trunks	
Configuring stack connect	

NOTE

This chapter is specific to the Brocade FCX and Brocade ICX devices.

### Configuring the general settings for a traditional stack

To change the stack settings to improve performance and reliability of the device, perform the following steps.

- 1. Click Configure on the left pane and select Stack.
- 2. Click General.

The General Stacking Configuration window is displayed as shown in the figure below.

FIGURE 47 General stacking configuration

a ICX7750-48F Router	~
🖻 📾 Monitor	1
Arp Cache	
Device	
- Flash	
Memory	
Front Panel	
MAC Address	
System Log	
🖻 🏐 Stack	
Details	
<ul> <li>Module</li> </ul>	
<ul> <li>Neighbors</li> </ul>	
B Stack-Ports	
Status	
<ul> <li>Statistics</li> </ul>	
<ul> <li>Interface</li> </ul>	
Pen Port	
Ba Statistic	
Ethernet	
e 📾 Utilization	

[Show Stack Details][Show Stack Modules]

General Stacking Configuration				
MAC Address:	748e.f8f9.5580	Apply		
MAC Persistent Timer:	Disable O Enable	Apply		
MAC Persistent Timer.		Apply		

[Home][Site Map][Logout][Save][Frame Enable|Disable][TELNET]

- 3. Enter the Media Access Control (MAC) address of the device in the **MAC Address** field and then click **Apply**.
- 4. Click Disable or Enable for MAC Persistent Timer and then click Apply.

If you click **Enable**, type the time delay before the stack MAC address changes in the **MAC Persistent Timer** field and then click **Apply**.

The General Stacking Configuration window provides links to monitor stack parameters:

- To display the current stack information, click **Show Stack Details**. For more information, refer to the "Displaying the stack details" section.
- To display the current information about the stack modules, click **Show Stack Modules**. For more information, refer to the "Displaying a stack module" section.

### **Modifying stack priority**

The stack unit with the highest priority is the Active Controller (128 by default). The stack unit with the second highest priority is the Standby Controller, which takes over if the current Active Controller fails.

It is possible to assign the same priority for Active and Standby Controllers, or different priorities (Active highest and Standby second-highest). When the Active and Standby Controllers have the same priority, if the Active Controller fails, the Standby Controller takes over. If the original Active Controller becomes operational again, it will not be able to resume its original role.

When the priorities of the Active and Standby Controllers are different, if the Active Controller fails, the Standby Controller takes over. If the original Active Controller becomes operational again, the old Active Controller regains its role and resets the other units.

You can assign the same priority to the Active and Standby Controllers after the stack is formed. This prevents the intended Standby Controller from becoming the Active Controller during stack construction.

Changing the priority of a stack member triggers an election that takes effect immediately unless the Active Controller's role changes. This change will not take effect until the next stack reload.

To configure the priority of the units within a stack, perform the following steps.

- 1. Click Configure on the left pane and select Stack .
- 2. Click Priority .

The **Stack Unit Priority** window is displayed as shown in the figure below.

#### FIGURE 48 Stack unit priority

Device
🗉 🛅 Monitor
🖻 📾 Configure
🖻 🌚 Stack
General
Priority
Stack-Ports
General     Priority     Stack-Ports     Module
🗉 🗎 System
🗉 🛅 Port
Monitor and Mi
🖻 🛄 QOS
General     Priority     Stack-Ports     Module     System     Port     Monitor and Mi     QOS     VLAN     STP     RSTP     RSTP     Trunk     Static Station
-• <u>STP</u> -• <u>RSTP</u> -• <u>Trunk</u> -• Static Station
RSTP
Trunk
E I Command

[Show Stack Details][Show Stack Modules]
Stack Unit Priority
Unit ID Priority

Modify

[Add Module]

0

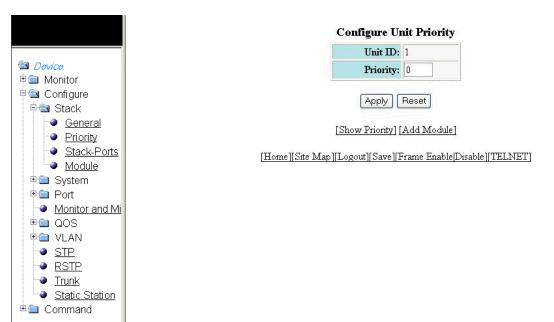
1

[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]

3. Click Modify .

The **Configure Unit Priority** window is displayed as shown in the figure below.

FIGURE 49 Configuring unit priority



- 4. Type the priority (from 0 through 255) you want to assign to the stack unit in the **Priority** field.
- 5. Click Apply .

The priority is assigned to the stack unit and the **Stack Unit Priority** window is displayed. To reset the data entered in the configuration pane, click **Reset**.

To display the priority of the stack units, click **Show Priority**. To add a new stack module, click **Add Module**. For more information on how to configure a stack module, refer to Configuring a stack module on page 99.

### **Modifying stack ports**

#### NOTE

You cannot change the stack ports for the Brocade ICX devices.

To modify the stack ports, perform the following steps.

- 1. Click Configure on the left pane and select Stack.
- 2. Click Stack-Ports.

The Stack Ports window is displayed.

FIGURE 50 Modifying stack ports

📾 Device
🖻 🕮 Monitor
🖻 📾 Configure
🖻 📾 Stack
General
Priority
Stack-Ports
Module
🗉 🕮 System
🗉 🕮 Port
Monitor and Mi
🗉 🕮 QOS
🖻 🕮 VLAN
<u>• STP</u>
RSTP
Image: Stack         Image: Optimized priority         Image: Stack-Ports         Image: Optimized priority         Image: Optity         Image:
Static Station
🖻 🗎 Command

[Show Stack Details][Show Stack Modules]

Stack Ports					
Unit ID	Stack-port1	Stack-port2			
1	up (1/2/1)	up (1/2/2)	Modify		

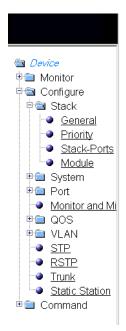
[Add Module]

[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]

3. Click Modify .

The Configure Stack Ports window is displayed as shown in the figure below.

#### FIGURE 51 Modifying stack ports



Unit ID:	1
Stack-portl:	1/2/1 🔽
Stack-port2:	1/2/2 🗸

Apply Reset [Show Stack-Ports] [Add Module]

[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]

- 4. Select a port in the Stack-port1 list.
- 5. Select a port in the Stack-port2 list.
- 6. Click Apply.

The stack ports are modified and the Stack Ports window is displayed.

To reset the data entered in the configuration pane, click **Reset** . To display the configured stack port, click **Show Stack-Ports**.

To configure a stack module, click **Add Module**. For more information on how to configure a stack module, refer to the "Configuring a stack module" section.

### Configuring a stack module

To configure a stack module, perform the following steps.

- 1. Click Configure on the left pane and select Stack .
- 2. Click Module .
  - The Add Modules For Stack Unit window is displayed as shown in the figure below.

#### FIGURE 52 Adding modules for a stack unit



- 3. Select a stack unit identifier in the Unit ID list.
- 4. Click Apply .

The Configure Stack Unit Modules window is displayed as shown in the figure below.

#### FIGURE 53 Adding and deleting a stack unit module



[Show Stack Details][Show Stack Modules]

#### **Configure Stack Unit Modules**

Unit ID:Module	Module	Status	Ports	Starting MAC	Action
S5:M1	Device-port Management Module	CFG	24	0000.0000.0000	Delete
S5:M2	2-port-16g-module				Add
S5:M3	2-port-10g-module				Add

	odu	

[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]

5. Select a stack module in the list on the Module column and then click Add .

To display current stack details, stack port status, and stack neighbors information, click **Show Stack Details**. For more information, refer to <u>Displaying the stack details</u> on page 39. Click **Delete** to delete a stack unit module. You cannot delete the active modules.

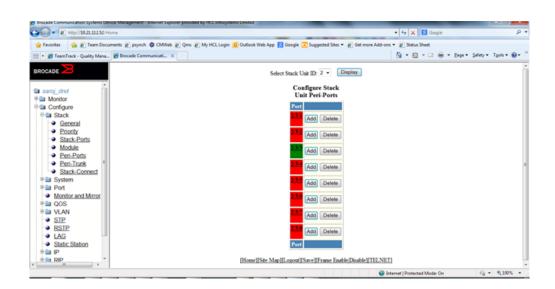
To display the stack unit modules, click **Show Stack Modules**. For more information, refer to Displaying a stack module on page 41.

### **Configuring peri-ports**

To configure peri-ports, perform the following steps.

- 1. Click Configure on the left pane and select Stack .
- 2. Click Peri-Ports.

The Configure Stack-Unit Peri-Ports window is displayed.

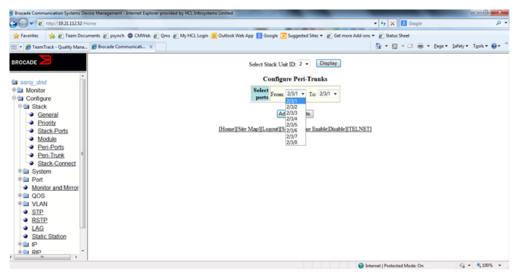


### **Configuring peri-trunks**

To configure peri-trunks, perform the following steps.

- 1. Click Configure on the left pane and select Stack.
- 2. Click Peri-Trunks.

The **Configure Peri-Trunks** window is displayed.

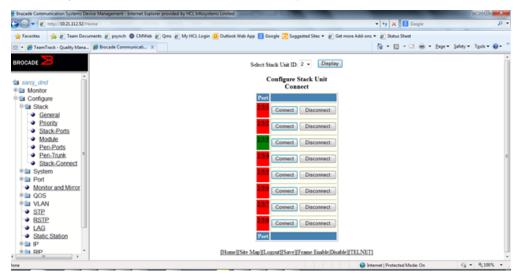


### **Configuring stack connect**

To configure stack connect perform the following steps.

- 1. Click **Configure** on the left pane and select **Stack**.
- 2. Click Stack-Connect.

The Configure Stack-Unit Connect window is displayed.



Configuring stack connect

## **Configuring System Components**

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# Configuring the system boot sequence for the Brocade FCX and Brocade ICX devices

To configure the system boot sequence for the Brocade FCX and Brocade ICX devices, perform the following steps.

- 1. Click Configure on the left pane and select System.
- 2. Click Boot sequence.

The **Boot Sequence** window is displayed as shown in the figure below.

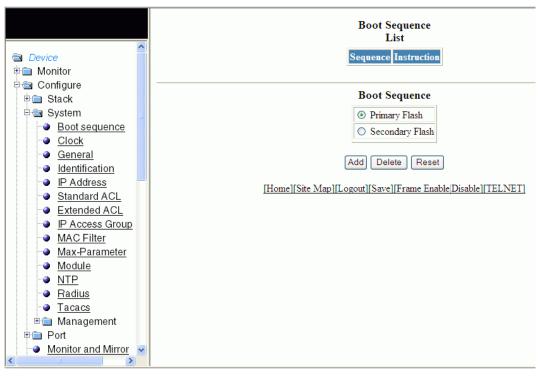


FIGURE 54 Configuring system boot sequence for the Brocade FCX and Brocade ICX devices

- 3. There are two types of boot sequence operations:
  - Select **Primary Flash** to store the image files and configuration files in the local storage device. By default, **Primary Flash** is enabled.
  - Select Secondary Flash to store the redundant images for additional reload reliability or to preserve one software image while testing another one.
- 4. Click Add.

The message The change has been made is displayed and the boot sequence is listed in the Boot Sequence List pane.

To reset the data entered in the configuration pane, click **Reset** . You can also delete the boot sequence operation by clicking **Delete**.

## Configuring the system boot sequence for the Brocade FastIron SX devices

To configure the system boot sequence for the Brocade FastIron SX devices, perform the following steps.

- 1. Click Configure on the left pane and select System.
- 2. Click Boot sequence.

The Boot Sequence window is displayed as shown in the figure below.

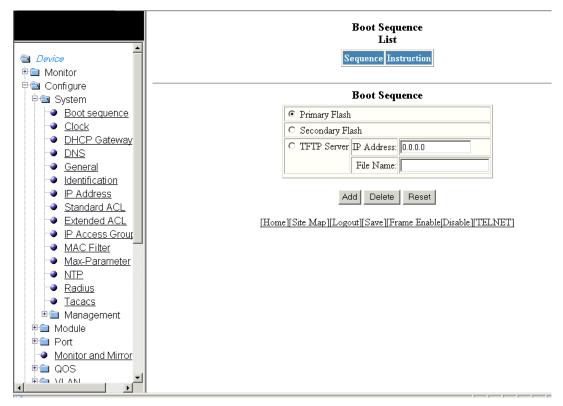


FIGURE 55 Configuring system boot sequence for the Brocade FastIron SX devices

- 3. There are three types of boot sequence operations:
  - Select Primary Flash to store the image files and configuration files in the local storage device. By default, Primary Flash is enabled.
  - Select Secondary Flash to store the redundant images for additional reload reliability or to
    preserve one software image while testing another one.
  - Click TFTP Server to store configuration files to a Trivial File Transfer Protocol (TFTP) server. Provide the following information:
    - **IP Address** --Type the IP address of the TFTP server.
    - File Name --Type the file name.
- 4. Click Add.

The message The change has been made is displayed and the boot sequence is listed in the Boot Sequence List pane.

To reset the data entered in the configuration pane, click **Reset**. You can also delete the boot sequence operation by clicking **Delete**.

### Configuring the system clock

To configure the system clock, perform the following steps.

- 1. Click Configure on the left pane and select System .
- 2. Click Clock .

The **Clock** window is displayed as shown in the figure below.

#### Device 🖻 🛄 Monitor 🖻 📾 Configure 🖻 🛅 Stack 🖻 🕲 System Boot sequ Clock DHCP Ga DNS General Identificati IP Addres Standard Extended IP Access MAC Filte Max-Para Module NTP 2 Radius Tacacs 🖻 🛅 Managem 🖻 🧰 Port Monitor and 🗄 🛅 QOS 🖻 🛅 VLAN STP RSTP ۵. Trunk Static Statio,



#### FIGURE 56 Configuring the system clock

- 3. Select the GMT time zone that you want to configure for the device in the Time Zone list.
- 4. Click **Disable** or **Enable** for **Daylight Saving Time**. Daylight Saving Time applies to the US time zone only.
- 5. Type the date in mm-dd-yyyy format in the Date (mm-dd-yyyy) field.
- 6. Type the time in hh:mm:ss format in the Time (hh:mm:ss) field and select AM or PM in the list.
- 7. Click Apply .

The message The change has been made is displayed. To reset the data entered in the configuration pane, click  ${\bf Reset}$  .

### **Configuring the system DNS**

To configure the system Domain Name System (DNS), perform the following steps.

- 1. Click Configure on the left pane and select System .
- 2. Click DNS .

The **DNS** window is displayed as shown in the figure below.

### FIGURE 57 Configuring the system DNS

	Domain Name:	
Device	Address Format:	<b>⊙</b> ij
<ul> <li>Image: Book of the second seco</li></ul>	Server Search List:	0.0.0
±⊞ Stack		0.0.0
P System		0.0.0
Boot sequ		0.0.0
Clock		1.000
DHCP Ga		
DNS		
General	[Home][Site Map]]	Logo
Jdentificati		
IP Addres		
Standard		
Extended		
P Access		
MAC Filte		
Max-Para		
Module		
NTP		
Radius		
Tacacs		
🖻 🛅 Managem		
🖻 🛅 Port		
Monitor and		
⊕ @ VLAN		
STP		
-•• <u>RSTP</u> -•• Trunk		
<ul> <li>ITUIK</li> <li>Static Statio</li> </ul>		

Domain Name:		
Address Format:	💿 ірv4 🔘 ірvб	
na se se contra da se la la	0.0.0.0	
	0.0.0.0	
	0.0.0.0	
	0.0.0.0	

### Apply Reset

[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]

- 3. Type the name of the domain that can be used to resolve host names in the **Domain Name** field.
- 4. Select ipv4 or ipv6 for the Address Format .
- 5. Type the server IP addresses in the Server Search List fields.

You can configure a Brocade device to recognize up to four DNS servers. The first entry serves as the primary default address. If a query to the primary address fails to be resolved after three attempts, the next DNS address is queried (also up to three times). This process continues for each defined DNS address until the query is resolved. The order in which the default DNS addresses are polled is the same as the order in which you enter them.

6. Click Apply .

The message The change has been made is displayed. To reset the data entered in the configuration pane, click  ${\bf Reset}$  .

# Configuring the general system settings

To configure the general system settings, perform the following steps.

- 1. Click Configure on the left pane and select System.
- 2. Click General.

The General System Configuration window is displayed.

FIGURE 58 Configuring the general system

C	6 m 10 m	
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👷 Favorites 🛛 🙀 🔊 Team Documents 👔 psynch 🏶 CMWeb 🔊 Qms 🖉 My HCL Login 🧕 Outlook Web App 🔝 Google 🔁 Suggested Sites 💌 🔊 Get more Add	ons 💌 🔊 Status Sheet	
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BRODADE         General System Configuration           Identification         Identification           IP Address         Policy Based VLANs IP Port           Image: Spaning Tree Diable IP Enable IP		
* Command MAL_Effer Confit MAL_Effer Max_Parameter RADRUS TACACS Management		
[Home][Site Map][Logout][Site][Frame Eastble][TELNE	ш	
	branne i Protected Mode On	√g = ₹ 100% =

- 3. Select the Port check box for Policy based VLANs to enable configuration of port-based VLANs.
- 4. Click **Disable** or **Enable** for **Spanning Tree**. If you click **Enable**, select the **Single** or **Fast** check box.
- 5. Click Strict or Weighted for QOS.
- 6. Click Disable or Enable for ACL Per Port Per VLAN.
- 7. Click Advance to configure additional system parameters.

The System window is displayed.

FIGURE 59 Advance system information

🐑 🔹 🐔 http://172.26.67.34/Home			• 47 🗙 🔝 Google	م
🖌 Favorites 🛛 🦛 🔊 Team Documents 🔊 psynch 🏶 CMWeb 🔊 Qms 🍘 My	HCL Login 🧕 Outlook Web App 🚷 Google 🔁 Suggested Sites 💌	🔊 Get more Add-ons	<ul> <li>Ø Status Sheet</li> </ul>	
• 🌮 TeamTrack - Quality Mana 🌮 Brocade Communicati 🗙			💁 • 🖾 • 🖾 🖶 • 🖻	ge 🔹 Şəfety 🔹 Tgols 🕶 🚷 🕶
ROCADE	System			
	Tag Type: 810	00		
i dut.2	Mac Age Time: 300	0		
Configure	Default VLAN ID: 1			
e 🔤 System	Chassis Poll Interval (sec): 5			
Boot sequence	Gig Port Default: Ne	o-Full-Auto		
Clock     General		Disable O Enable		
<ul> <li>Identification</li> </ul>	Jumbo Frame: 0			
IP Address				
Standard ACL	Apply Reset			
Extended ACL	[Home][Site Map][Logout][Save][Frame]	E-AL-TX-AL-VIET	NETI	
IP. Access Group     MAC Filter	[Home [Site Map [Logour] Site [Frame]	Enable LASSOF 1111	1464	
Max-Parameter				
Module				
Radius				
<ul> <li>Tacacs</li> </ul>				
8 Management				
Ethernet				
<ul> <li>Inine Power</li> </ul>				
Management				

8. Type the VLAN tag type in hexadecimal format from 0 through ffff in the **Tag Type** field. The default is 0081.

- 9. Type the number of seconds a port address remains active in the address table in the Mac Age Time field.
- 10.Type the default VLAN ID number in the Default VLAN ID field.
- 11.Type the interval, in seconds, in which the chassis is polled in the **Chassis Poll Interval (sec)** field.
- 12Select a negotiation mode in the Gig Port Default list.
- 13.Click **Disable** or **Enable** for **Route Only**. If you click **Enable**, Layer 2 switching is disabled globally. 14.Click **Disable** or **Enable** for **Jumbo Frame**.

Jumbo frames are Ethernet frames with more than 1,500 bytes MTU.

15.Click Apply.

The message The change has been made is displayed. To reset the data entered in the configuration pane, click **Reset**.

The **General System Configuration** window provides the following links to configure the system parameters:

- Identification
- IP Address
- DNS
- DHCP Gateway
- Clock
- MAC Filter
- Module
- Max-Parameter
- RADIUS
- TACACS
- Management

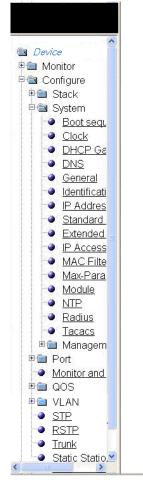
# Configuring the system identification

To configure the system identification information, perform the following steps.

- 1. Click Configure on the left pane and select System .
- 2. Click Identification .

The Identification window is displayed as shown in the figure below.

### FIGURE 60 Configuring the system identification



	Identification
Name:	Device
Contact:	
ocation:	

Apply Reset

[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]

- 3. Type the name of the device in the Name field.
- 4. Type the contact information of the device in the **Contact** field.
- 5. Type the location of the device in the Location field.
- 6. Click Apply .

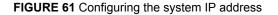
The message The change has been made is displayed. To reset the data entered in the configuration pane, click  ${\bf Reset}$  .

# **Configuring the system IP address**

To configure the IP address of the system, perform the following steps.

- 1. Click Configure on the left pane and select System .
- 2. Click IP Address .

The IP address window is displayed as shown in the figure below.



	IP Address: 172.31.0.10
▲	Subnet Mask: 255.255.0.0
Device	Default Gateway: 0.0.0.0
🗉 💷 Monitor	Delaut Gateway. 00000
🖻 📾 Configure	
🗉 🖿 🖿 Stack	Apply Reset
🖻 📾 System	[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]
Boot sequ	
Clock	
DHCP Ga	
DNS	
General	
ldentificati	
P Addres	
Standard	
Extended	
IP Access     MAC Filte	
Max-Parai	
Module	
adius	
Tacacs	
🖽 🛄 Managem	
🗉 🗎 Port	
Monitor and	
	1

- 3. Type the IP address of the device in the IP Address field.
- 4. Type the network mask for the IP address in the Subnet Mask field.
- 5. Type the IP address of a locally attached Layer 3 switch (or a Layer 3 switch attached to the Layer 2 switch by bridges or other Layer 2 switches) in the **Default Gateway** field.
- 6. Click Apply .

The message The change has been made is displayed. To reset the data entered in the configuration pane, click  ${\it Reset}$  .

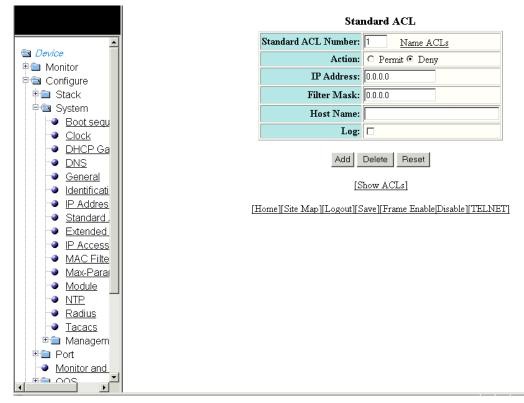
# **Configuring a standard ACL**

To configure a standard Access Control List (ACL), perform the following steps.

- 1. Click Configure on the left pane and select System .
- 2. Click Standard ACL .

The **Standard ACL** window is displayed as shown in the figure below.

#### FIGURE 62 Configuring a standard ACL



- 3. Type the standard ACL number from 1 through 99 in the **Standard ACL Number** field. If you want to type an ACL name, click **Name ACLs**. The field label changes to **Standard ACL Name**.
- 4. Click **Permit** or **Deny** for **Action** so that the ACL forwards or drops the packets that match the policy in the ACL.
- 5. Type the IP address of the route's destination in the IP Address field.
- Type the masking bits in the Filter Mask field. This allows you to specify a range of IP addresses to include or exclude based on mask matching.
- 7. Type the host name in the **Host Name** field. The host name enables you to perform Telnet, ping, and trace route commands.
- 8. Select the Log check box to log the entries.
- 9. Click Add .

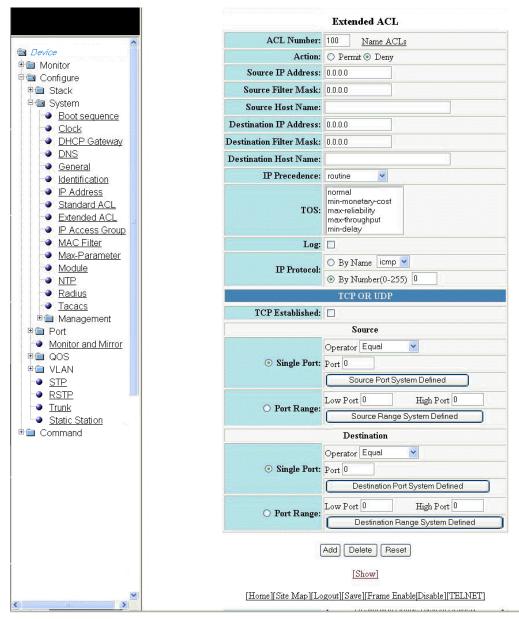
The message The change has been made is displayed. To display the configured standard ACL, click **Show ACLs**. To delete the configured ACL, click **Delete**. To reset the data entered in the configuration pane, click **Reset**.

# **Configuring an extended ACL**

To configure an extended Access Control List (ACL), perform the following steps.

- 1. Click Configure on the left pane and select System.
- 2. Click Extended ACL.
  - The Extended ACL window is displayed as shown in the figure below.

### FIGURE 63 Configuring an extended ACL



- 3. Type the extended ACL number (from 100 through 199) in the ACL Number field. If you want to specify an extended ACL name, click Name ACLs. The field label changes to ACL Name.
- 4. Click Permit or Deny for Action so that the packets that match the policy are forwarded or dropped.
- 5. Type the source IP address in the Source IP Address field.
- 6. Type the source mask in the Source Filter Mask field.
- 7. Type the source host name in the **Source Host Name** field.
- 8. Type the destination IP address in the **Destination IP Address** field.
- 9. Type the destination mask in the **Destination Filter Mask** field.
- 10.Type the destination host name in the **Destination Host Name** field.
- 11Select one of the following options in the IP Precedence list:

- routine --The ACL matches packets that have the routine precedence.
- priority -- The ACL matches packets that have the priority precedence.
- immediate -- The ACL matches packets that have the immediate precedence.
- flash -- The ACL matches packets that have the flash precedence.
- flash-override -- The ACL matches packets that have the flash override precedence.
- **critical** --The ACL matches packets that have the critical precedence.
- internet -- The ACL matches packets that have the internetwork control precedence.
- network -- The ACL matches packets that have the network control precedence.

12Select one of the following options in the TOS list:

- normal --The ACL matches packets that have the normal Type of Service (ToS).
- min-monetary-cost -- The ACL matches packets that have the minimum monetary cost ToS.
- max-reliability -- The ACL matches packets that have the maximum reliability ToS.
- max-throughput -- The ACL matches packets that have the maximum throughput ToS.
- min-delay -- The ACL matches packets that have the minimum delay ToS.
- 13Select the **Log** check box to enable generation of SNMP traps and syslog messages for packets denied by the ACL.
- 14.Click **By Name** for I**P Protocol** to select the IP protocol by name or click **By Number** to specify the number (from 0 through 255).
- 15Select the **TCP Established** check box so that the policy applies to TCP packets that have the ACK (Acknowledgment) or RST (Reset) bits set on (set to "1") in the Control Bits field of the TCP packet header. The policy applies only to the established TCP sessions, not to the new sessions.

### NOTE

This field applies only to the destination TCP ports, not the source TCP ports.

16Enter the following information for Source:

a) To configure a single port, click Single Port.

Select one of the following options for Operator:

- Equal -- The policy applies to the TCP or UDP port number or name you enter.
- NotEqual -- The policy applies to all the TCP or UDP port numbers except the port number or port name you enter.
- LessThan --The policy applies to the TCP or UDP port numbers that are less than the port number or the numeric equivalent of the port name you enter.
- **GreaterThan** --The policy applies to the TCP or UDP port numbers greater than the port number or the numeric equivalent of the port name you enter.

### Click Source Port System Defined.

b) To configure a range of ports, click **Port Range**.

Type the lower port number in the **Low Port** field and the highest port number in the **High Port** field.

#### Click Source Range System Defined.

17.To configure the destination port settings under **Destination**, follow the procedure explained in step 16.

#### 18.Click Add.

The message  ${\tt The \ change \ has \ been \ made \ is \ displayed.}$  To display the configured extended numbered ACL, click Show.

To delete the configured extended numbered ACL, click **Delete** . To reset the data entered in the configuration pane, click **Reset**.

# **Configuring an IP access group**

To configure an IP access group, perform the following steps.

- 1. Click Configure on the left pane and select System.
- 2. Click IP Access Group.

The IP Access Group window is displayed as shown in the figure below.

FIGURE 64 Configuring IP access groups

		Г	P Access (	Froup
<b>_</b>	Ĭ	Port:	1/1/1 💌	Select Name ACLs
Device		Direction:	🗖 In Boun	d
🗉 🛅 Monitor	l i	ACL Number:		
🖻 📾 Configure		non manser.		
🗉 🛄 Stack		Ad	d Delete	Reset
🖻 📾 System		Au		hesei
Boot sequen			[Show]	1
Clock			[DIIO W	L
DHCP Gate	[Home][	Site Map][Logo	ut][Save][Fra	ame Enable Disable [TELNET]
General				
ldentification				
IP Address     Standard AC				
Standard AC     Extended AC				
<ul> <li><u>Extended AC</u></li> <li><u>IP Access G</u></li> </ul>				
MAC Filter				
Max-Parame				
Module				
Radius				
Tacacs				
⊕ i Port				
Monitor and Mi				

- 3. Select a port in the Port list. The port number varies based on the product:
  - · For Brocade FCX and Brocade ICX devices stack-unit/slotnum/portnum
  - For Brocade FastIron SX devices slotnum/portnum
- 4. Select the **In Bound** check box for **Direction** to enable incoming traffic on the interface to which you apply the ACL.
- Type the ACL number in the ACL Number list. If you want to type an ACL name, click Select Name ACLs. The field label changes to ACL Name. Now, you can type the ACL name up to 256 alphanumeric characters.
- 6. Click Add.

The message  ${\tt The \ change \ has \ been \ made \ is \ displayed.}$  To display the configured IP access group, click  ${\tt Show}.$ 

To delete the configured IP access group, click **Delete**. To reset the data entered in the configuration pane, click **Reset**.

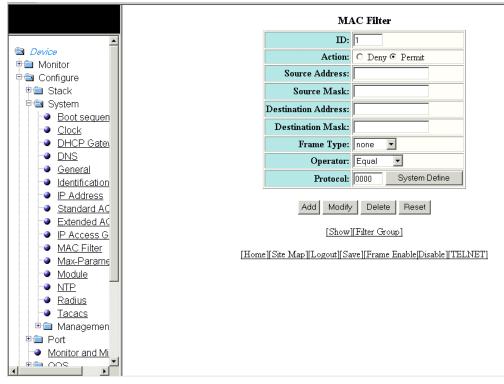
# Configuring the system MAC filter

To configure the system MAC filter, perform the following steps.

- 1. Click Configure on the left pane and select System.
- 2. Click MAC Filter.

The MAC Filter window is displayed as shown in the figure below.

FIGURE 65 Configuring a MAC filter



- 3. Type the filter number in the ID field.
- 4. Click Deny or Permit for Action.
- 5. Type the source MAC address in xx.xx.xx.xx.xx format in the Source Address field.
- 6. Type the source mask in the **Source Mask** field.
- 7. Type the destination MAC address in xx.xx.xx.xx.xx format in the Destination Address field.
- 8. Type the destination mask in the **Destination Mask** field.
- 9. Select the type of frame in the Frame Type list.

#### NOTE

The **Frame Type** list is not available in the **MAC Filter** window for the Brocade FastIron SX devices.

10 Select the comparison operator in the Operator list.

### NOTE

The **Operator** list is not available in the **MAC Filter** window for the Brocade FastIron SX devices.

11.Type the protocol identifier in the **Protocol** field. To select the system-defined protocol, click **System Define**.

### NOTE

The **Protocol** field is not available in the **MAC Filter** window for the Brocade FastIron SX devices.

12.Click Add.

The message The change has been made is displayed. To display the configured MAC filter, click Show.

To change the configured MAC filter, click **Modify**. You can also delete the MAC filter by clicking **Delete**. To reset the data entered in the configuration pane, click **Reset**.

To configure a filter group, click **Filter Group**. For more information on how to configure a filter group, refer to the "Configuring a filter group" section.

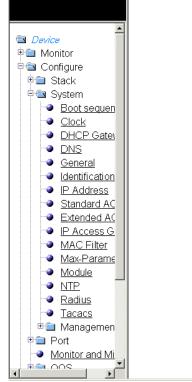
### Configuring a filter group

To configure a system filter group, perform the following steps.

1. Click Filter Group on the right pane of the MAC Filter window.

The Filter Group window is displayed as shown in the figure below.

### FIGURE 66 Configuring a filter group





- 2. Select a port number in the **Port** list. The port number varies based on the product:
  - · For Brocade FCX and Brocade ICX devices stack-unit/slotnum/portnum
  - For Brocade FastIron SX devices slotnum/portnum
- 3. Type the filter identifier in the Filter ID List field.
- 4. Click Add.

The message The change has been made is displayed. To display the configured filter group, click Show.

To delete the configured filter group, click **Delete**. To reset the data entered in the configuration pane, click Reset.

# Configuring the maximum system parameter value

To configure the maximum system parameter value, perform the following steps.

- 1. Click Configure on the left pane and select System .
- 2. Click Max-Parameter .

The Configure System Parameter Maximum Value window is displayed as shown in the figure below.

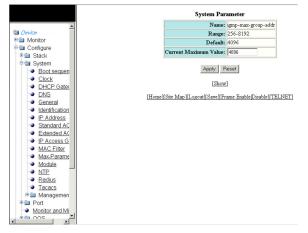
······	Name	Range	Default	Current Max Value	
Device	igmp-max-group-addr	64-1024	255	255	Modify
Monitor	ip-filter-sys	64-4096	2048	2048	Modify
Configure	13-vlan	0-1024	32	32	Modify
System		32768-32768		32768	Modify
Boot sequence	mac				
<u>Clock</u>	vlan	1-4095	64	64	Modify
DHCP Gateway	spanning-tree	1-255	32	32	Modify
DNS	mac-filter-port	4-256	32	32	Modify
	mac-filter-sys	8-512	64	64	Modify
IP Address	view	10-65535	10	10	Modify
Standard ACL	rmon-entries	128-32768	1024	1024	Modify
Extended ACL					
IP Access Group	mld-max-group-addr	256-32768	8192	8192	Modify
MAC Filter	igmp-snoop-mcache	256-8192	512	512	Modify
Max-Parameter	mld-snoop-mcache	256-8192	512	512	Modify
I IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Name	Range	CANCELED BY	Current Max Value	
		Trange	L/Erault	Current Max Value	
	[Home][Site Ma	p][Logout][Sav	e][Frame	Enable[Disable][TELN	ET]
🗄 🚍 Management					
🗉 Port					
Monitor and Mirror					
aos 🛛					
🗉 VLAN					
I STP					
- RSTP					
Trunk					
Static Station					

### FIGURE 67 Configuring the maximum system parameter

3. To change the values for each system parameter, click Modify .

The System Parameter window is displayed as shown in the figure below.

FIGURE 68 Modifying the maximum parameter value



- 4. Type the maximum value in the Current Maximum Value field.
- 5. Click Apply .

The message The change has been made is displayed. To display the configured maximum system value, click **Show**. To reset the data entered in the configuration pane, click **Reset**.

# Configuring a system module

### NOTE

The system module described here is specific to the Brocade FCX and Brocade ICX devices and is not available for the Brocade FastIron SX devices.

To configure a system module, perform the following steps.

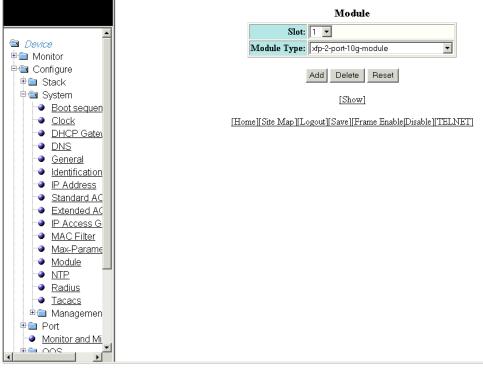
- 1. Click Configure on the left pane and select System.
- 2. Click Module.
  - The **Module** window is displayed as shown in the figure below.

### FIGURE 69 Configuring system modules

			Module				
I Monitor	Unit ID: Module	Slot	Module	Status	Ports	Starting MAC	
Configure	S1:M1	1	Device 24-port Management Module	OK	24	00e0.5200.0100	Delet
System	S1:M2	2	Device 2-port 16G Module (2-CX4)	OK	2	00e0.5200.0119	Delet
Boot sequence	S1:M3	3	None				Delet
<ul> <li><u>Clock</u></li> <li><u>DHCP Gateway</u></li> </ul>	S1:M4	4	None				Delet
<ul> <li><u>DNS</u></li> </ul>	S2:M1	5	None				Delet
General	S2:M2	6	None				Delet
<ul> <li>Identification</li> <li>IP Address</li> </ul>	S2:M3	7	None				Delet
Standard ACL	S2:M4	8	None				Delet
Extended ACL	S3:M1	9	None				Delet
I <u>P Access Group</u> MAC Filter	\$3:M2	10	None				Delet
Max-Parameter	S3:M3	10	None				Delet
1odule	S3:M4	11	None				Delet
<u>NTP</u> Radius	S4:M1	12	None				Delet
Tacacs	S4:M2	13	None				Delet
Management rt							
itor and Mirror	S4:M3	15	None				Delet
	S4:M4	16	None				Delet
	S5:M1	17	None				Delet
>	S5:M2	18	None				Delet
	S5:M3	19	None				Delet
Station	S5:M4	20	None				Delet
d 📕	S6:M1	21	None				Delet
	S6:M2	22	None				Delet
	S6:M3	23	None				Delet
	S6:M4	24	None				Delet
	S7:M1	25	None				Delet
	S7:M2	26	None				Delet
	S7:M3	27	None				Delet
	S7:M4	28	None				Delet
	S8:M1	29	None				Delet
	S8:M2	30	None				Delet
	S8:M3	31	None				Delet
	S8:M4	32	None				Delet
	Unit ID: Module	Slot	Module	Status	Ports	Starting MAC	
		1	[Add Modu	<u>le]</u>			
			[Home][Site Map][Logout][Save][Fram	ne Enable Di	sable][	TELNET]	

3. Click Add Module.

The **Module** window is displayed as shown in the figure below.



### FIGURE 70 Adding system modules

- 4. Select a slot number in the **Slot** list.
- 5. Select a chassis module type in the **Module Type** list.
- 6. Click Add.

The message The change has been made is displayed. To display the configured module, click Show.

To delete the configured module, click **Delete**. To reset the data entered in the configuration pane, click **Reset**.

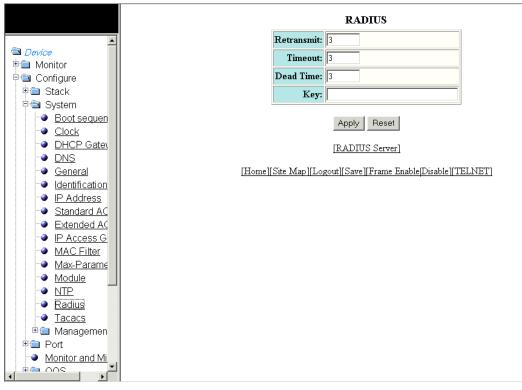
# **Configuring a RADIUS server**

To configure a Remote Authentication Dial In User Service (RADIUS) server, perform the following steps.

- 1. Click Configure on the left pane and select System .
- 2. Click Radius .

The **RADIUS** window is displayed as shown in the figure below.

### FIGURE 71 Configuring a RADIUS server



- 3. Type the retransmission interval, which specifies how many times the Brocade device resends an authentication request when the RADIUS server does not respond, in the **Retransmit** field. The range is from 1 through 5 times. The default is 3 times.
- 4. Type the timeout interval, which specifies how many seconds the Brocade device waits for a response from a RADIUS server before either retrying the authentication request or determining that the RADIUS servers are unavailable and moving on to the next authentication method in the authentication method list, in the **Timeout** field. The range is from 1 through 15 seconds. The default is 3 seconds.
- 5. Type the dead interval, which specifies how long the Brocade device waits for the primary authentication server to reply before deciding the server is dead and trying to authenticate using the next server, in the **Dead Time** field. The range is from 1 through 5 seconds. The default is 3 seconds.
- 6. Type the RADIUS key in the **Key** field. This is used to encrypt RADIUS packets before they are sent over the network. The value for the key parameter on the Brocade device should match the one configured on the RADIUS server. The key can be from 1 through 32 characters in length and cannot include any space characters.
- 7. Click Apply .

The message The change has been made is displayed. To display the configured RADIUS server, click **RADIUS Server**. To reset the data entered in the configuration pane, click **Reset**.

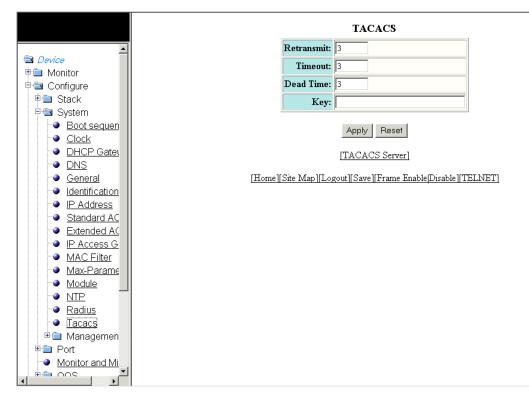
# Configuring a TACACS/TACACS+ server

To configure a TACACS/TACACS+ server, perform the following steps.

- 1. Click Configure on the left pane and select System .
- 2. Click Tacacs .

The TACACS window is displayed as shown in the figure below.

FIGURE 72 Configuring a TACACS/TACACS+ server



- 3. Type the retransmission interval, which specifies how many times the Brocade device resends an authentication request when the TACACS/TACACS+ server does not respond, in the **Retransmit** field. The range is from 1 through 5 times. The default is 3 times.
- 4. Type the timeout interval, which specifies how many seconds the Brocade device waits for a response from a TACACS/TACACS+ server before either retrying the authentication request or determining that the TACACS/TACACS+ servers are unavailable and moving on to the next authentication method in the authentication method list, in the **Timeout** field. The range is from 1 through 15 seconds. The default is 3 seconds.
- 5. Type the dead interval, which specifies how long the Brocade device waits for the primary authentication server to reply before deciding the server is dead and trying to authenticate using the next server, in the **Dead Time** field. The range is from 1 through 5 seconds. The default is 3 seconds.
- 6. Type the TACACS/TACACS+ key in the Key field. This is used to encrypt TACACS/TACACS+ packets before they are sent over the network. The value for the key parameter on the Brocade device should match the one configured on the TACACS/TACACS+ server. The key can be from 1 through 32 characters in length and cannot include any space characters.
- 7. Click Apply .

The message The change has been made is displayed. To display the configured TACACS/ TACACS+ server, click **TACACS Server**. To reset the data entered in the configuration pane, click **Reset**.

# **Configuring management authentication**

To configure management authentication, perform the following steps.

- 1. Click Configure on the left pane and select System.
- 2. Click Management and select Authentication Methods.

The Authentication Method window is displayed as shown in the figure below.

FIGURE 73 Configuring management authentication

→ Module → NTP → Radius → Tacacs	Login Authentication Sequence Sequence Method
<ul> <li>Management</li> <li>Authentication</li> <li>Authorization N</li> <li>Accounting Ms</li> <li>Community St</li> <li>General</li> <li>System Log</li> <li>Trap</li> <li>Trap Receiver</li> <li>User Account</li> <li>Web Preferen</li> <li>Port</li> <li>Monitor and Mirror</li> <li>QOS</li> <li>VLAN</li> <li>SIP</li> <li>RSTP</li> <li>Trunk</li> <li>Static Station</li> <li>Command</li> </ul>	Authentication Method         Type:       Login       Show Sequence <ul> <li>Enable</li> <li>Radius</li> <li>Line</li> <li>Local</li> <li>TACACS+</li> <li>TACACS</li> <li>None</li> </ul> Add     Delete   [Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]
▼ ▲	

- 3. Select one of the following types of authentication in the Type list:
  - Login
  - Enable
  - Web Server
  - SNMP Server
- 4. Click one of the following servers:
  - Enable
  - Radius
  - Line
  - Local
  - TACACS+
  - TACACS
  - None
- 5. Click Add.

The message The change has been made is displayed and the configured authentication method is listed in the Login Authentication Sequence pane. Click Show Sequence to display the list of authentication methods added. To remove the configured management authentication, click Delete.

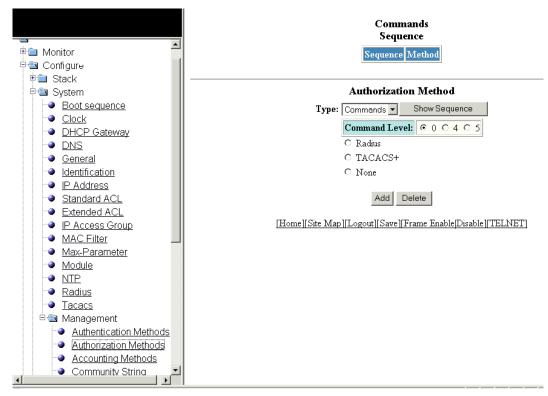
# **Configuring management authorization**

To configure management authorization, perform the following steps.

- 1. Click Configure on the left pane and select System.
- 2. Click Management and select Authorization Methods.

The Authorization Method window is displayed as shown in the figure below.

FIGURE 74 Configuring management authorization



- 3. Select either of the following modes of authorization in the Type list:
  - Commands
  - Exec
- 4. Click 0 or 4 or 5 for Command Level.
- 5. Click one of the following servers:
  - Radius
  - TACACS+
  - None
- 6. Click Add.

The message The change has been made is displayed and the configured authorization method is listed in the **Commands Sequence** pane. Click **Show Sequence** to display the list of authentication methods added. To delete the configured management authorization, click **Delete**.

# **Configuring management accounting**

To configure management accounting, perform the following steps.

- 1. Click Configure on the left pane and select System.
- 2. Click Management and select Accounting Methods.

The **Accounting Method** window is displayed as shown in the figure below.

FIGURE 75 Configuring management accounting methods

	Commands Sequence Sequence Method
	Accounting Method
Boot sequence         Clock         DHCP Gateway         Seneral         Identification         IP Address         Standard ACL         Extended ACL         IP Access Group         MAC Filter         Max-Parameter         Module         NTP	Accounting Method Type: Commands Show Sequence Command Level: © 0 0 4 0 5 © Radius © TACACS+ © None Add Delete [Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]
NIC     Radius     Tacacs     Management     Authentication Methods     Authorization Methods     Accounting Methods     Community String	

- 3. Select one of the following modes of authorization:
  - Commands
  - Exec
  - System
- 4. Click 0 or 4 or 5 for Command Level .
- 5. Click one of the following servers:
  - Radius
  - TACACS+
  - None
- 6. Click Add.

The message The change has been made is displayed and the configured accounting method is listed in the **Commands Sequence** pane. To delete the configured accounting method, click **Delete**.

# **Configuring an SNMP community string**

To configure an SNMP community string, perform the following steps.

- 1. Click Configure on the left pane and select System .
- 2. Click Management and select Community String.

The **SNMP Community String** window is displayed as shown in the figure below.

FIGURE 76 Configuring an SNMP community string

P Address	Type	<b>Community String</b>	Encrypt	View Name	ACL Id	
Standard ACL	set	private	yes	all	0	Delete
Extended ACL	get	public	no	all	0	Delete
P Access Group						Delete
MAC Filter	Type	Community String	Encrypt	View Name	ACL Id	
<ul> <li>Max-Parameter</li> </ul>						
Module		LAd	id Commi	unity String]		
• NIP	Hor	ne∥Site Map∥Logou	#IfSave10	Frame Enable	Disable If	TELNET
Radius	Line of the second s					
<ul> <li>Tacacs</li> </ul>						
🗉 🖼 Management						
Authentication Meth						
Authorization Metho						
Accounting Method						
Community String						
General						
System Log						
Trap						
Trap Receiver						
User Account						
Web Preference						
Port I						
Monitor and Mirror						
Monitor and Mirror QOS						
a gos						
QOS VLAN						
QOS VLAN STP						

3. Click Add Community String .

The SNMP Community String window is displayed as shown in the figure below.

FIGURE 77 Adding community strings

P Address	Type:	· Get	O Set	
Standard ACL	Community String:			
Extended ACL	Encrypt:	2		
P Access Group	View Name:		1	
MAC Filter				
Max-Parameter	ACL Id:	0		
Module			0	
<u>NTP</u>	Add	Delete	Reset	
Radius     Tacacs		[Show]		
Management				
Authentication Meth	[Home][Site Map][Logout	t][Save][Fran	ne Enable Disable  TELNET	1
<ul> <li>Authorization Metho</li> </ul>				
Accounting Method				
Community String				
General				
System Log				
Trap				
Trap Receiver				
<ul> <li>User Account</li> </ul>				
Web Preference     Port				
Monitor and Mirror				
u qos				
I QOS I VLAN				
Monitor and Mirror QOS VLAN SIP RSTP				
UQOS VLAN STP				

- 4. Click Get or Set for Type .
- 5. Type the user name to open a web management session in the Community String field.
- 6. Select the Encrypt check box to enable encryption for a particular string.

- 7. Type the name of the community string in the View Name field.
- 8. Type the ACL number in the ACL Id field.
- 9. Click Add .

The message The change has been made is displayed. To display the configured community string, click **Show**.

To delete the community string, click **Delete** . To reset the data entered in the configuration pane, click **Reset** .

### Configuring the general management parameters

To configure the general management parameters, perform the following steps.

- 1. Click Configure on the left pane and select System .
- 2. Click Management and select General .

The Management window is displayed as shown in the figure below.

FIGURE 78 Configuring general management parameters

	Manag	ement
P Address	Web Management:	O Disable    Enable
<ul> <li>Standard ACL</li> </ul>	SNMP:	O Disable 💿 Enable
<ul> <li>Extended ACL</li> </ul>	TELNET:	O Disable @ Enable
P Access Group	Telnet Authentication:	Disable O Enable
MAC Filter	Telnet Time Out:	
Max-Parameter		
Module	Telnet Password:	
→ NTP		
Radius	Apply	Reset
Tacacs     Management	[Web Preference][User Account][Authentication Methods]].	Authorization Methods [Accounting Methods [System Log]
<ul> <li>Authentication Meth</li> </ul>	[Community String]]	
Authorization Metho		
<ul> <li>Accounting Method</li> </ul>	[Home][Site Map][Logout][Save]]	Frame Enable[Disable][TELNET]
Community String		
General		
System Log		
Trap		
Trap Receiver		
User Account		
Web Preference     Port		
<ul> <li>Monitor and Mirror</li> </ul>		
Para OOS		
I VLAN		
I SIP		
RSTP		
Trunk		
Static Station		
Command		
<		

- 3. Click Disable or Enable for Web Management .
- 4. Click **Disable** or **Enable** for **SNMP**.
- 5. Click Disable or Enable for TELNET .
- 6. Click Disable or Enable for Telnet Authentication .
- 7. Type the timeout interval in seconds to wait for a response in the Telnet Time Out field.
- 8. Type an alphanumeric password in the Telnet Password field.
- 9. Click Apply .

The message The change has been made is displayed. To reset the data entered in the configuration pane, click **Reset** .

The Management window provides links to configure other management parameters:

- To configure the web management preferences, click **Web Preference**. For more information, refer to Configuring the web management preferences on page 137.
- To configure a management user account, click User Account. For more information, refer to Configuring a management user account on page 136.
- To configure management authentication, click **Authentication Methods**. For more information, refer to Configuring management authentication on page 127.

- To configure management authorization, click **Authorization Methods**. For more information, refer to Configuring management authorization on page 128.
- To configure management accounting, click Accounting Methods. For more information, refer to Configuring management accounting on page 129.
- To configure a system module, click **System**. For more information, refer to Configuring a system module on page 122.
- To configure an SNMP community string, click **Community String**. For more information, refer to Configuring a system module on page 122.
- To configure a trap, click Trap. For more information, refer to Configuring a trap on page 134.
- To configure a trap receiver, click Trap Receiver. For more information, refer to Configuring a trap receiver on page 135.

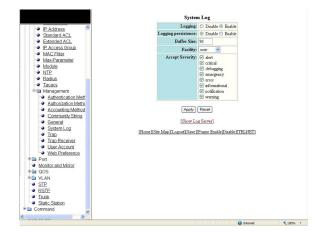
# Configuring a management system log

To configure a management system log, perform the following steps.

- 1. Click **Configure** on the left pane and select **System**.
- 2. Click Management and select System Log.

The System Log window is displayed as shown in the figure below.

FIGURE 79 Configuring a system log



- 3. Click **Disable** or **Enable** for **Logging**. By default, the syslog buffer is enabled.
- 4. Click **Disable** or **Enable** for **Logging persistence**. By default, logging persistence is disabled.
- 5. Type the number of messages in the **Buffer Size** field.
- 6. Select a facility in the Facility list.
- 7. Select one of the following severity levels for Accept Severity:
  - alert
  - critical
  - debugging
  - emergency
  - error
  - informational

- notification
- warning
- 8. Click Apply .

The message The change has been made is displayed. To display log server entries, click Show Log Server. To reset the data entered in the configuration pane, click Reset.

If there are no log servers, the message There are no Log Server entries is displayed as shown in the figure below.

FIGURE 80 Viewing log server entries

	😜 Internet	₹ 100% ·
* Command		
Static Station		
Trunk		
- RSTP		
- STP		
B VLAN		
Monitor and Mirror     GOS		
® Port		
Web Preference		
User Account		
Trap Receiver		
Trap		
System Log		
General		
Community String		
Accounting Method		
Authorization Metho		
Authentication Meth		
🖻 🖼 Management		
<ul> <li>Tacacs</li> </ul>		
Radius		
- NIP		
Module		
Max-Parameter		
MAC Filter		
P Access Group		
Extended ACL	[Home][Site Map][Logout][Save][Frame Enable[Disable][TELNET]	
IP Address     Standard ACL		
Address	[Add Log Server]	

To add extra log servers to your system log configuration, perform the following steps.

### Adding a log server

To add a log sever, perform the following steps.

1. Click Add Log Server.

The System Log Server window is displayed as shown in the figure below.

FIGURE 81 Adding a Log Server

PAddrass      Addrass      Addrass
EAddress     EAddress     Ended ACL     Hear ISit May ILogod ISory IFram EndelDuable [TELNET]     Add Effer     Add Effer     Add Start     Eaddress     ID     Eaddres     Eaddress     Eaddress
EADLines     Exactly ACL     If Home T Site Mary I Exact Store (Frame Easted Dirate TENET)     Easted ACL     Mary Enganetic     Mary Enganetic     Mary Enganetic     Mary Enganetic     Ander Exact Store     Automation     Automation
Estanded ACL     ACL     Estanded ACL     MAC-Elter     MacAgement     MacAgement     Autorization     Autorization
EAccess Group     Mac-Parameter     Mac-Parameter     Mac-Parameter     Macou     Traces     Tracess     Anagement     Authorization Metr     Authorization Metr
MAC Filter     Mac A standard     Management     Authorization Mett     Authorization Mett
Mac-Parameter     Model     Mac-Parameter     Model     Model     Mac-Parameter     Deadus     Tacacs     Tacacs     Management     Authentication Metr     Authentication Metr
Module     Module     More     Marca     Tacks     Management     Authorization Metr     Authorization Metr
ITE     Cadus     Cadus     Cadus     Astronoment     Authorization Metr     Authorization Metr
Endus     Endus     Tacas     Automatication Met     Automatication Met     Automatication Met
Totacs     Management     Authorization Mett     Authorization Mett
Wita Management     Automitication Mett     Mathematication Mett
Authentication Meth     Authorization Meth
<ul> <li>Authorization Metho</li> </ul>
Accounting Method
Community String
General
System Log
<ul> <li>Trap</li> </ul>
<ul> <li>Trap Receiver</li> </ul>
User Account
Web Preference
* Port
Monitor and Mirror
** 00S
S VLAN
- STP
RSIP
Static Station
* Command
Core Pitternet \$100% -

2. Click ipv4 or ipv6 and then type the IPv4 or IPv6 address in the Server IP Address field.

- 3. Type the application port that can be used for the syslog facility in the **Server Udp Port** field. The default value is 514.
- 4. Click Add .

The message The change has been made is displayed. To display the log server entries, click Show Log Server . To display the system log window, click Show System Log .

To delete the changes made, click **Delete**. To reset the data entered in the configuration pane **Reset**.

# **Configuring a trap**

To configure a trap, perform the following steps.

- 1. Click Configure on the left pane and select System .
- 2. Click Management and select Trap .

The Trap window is displayed as shown in the figure below.

### FIGURE 82 Configuring a trap

http://1723647.84/Home		• 47 🗙 🔝 Googie	
Favorites 🛛 🚖 🔊 Team Documents 👔 psynch 🏟 CMNIeb 🔊 Qms 🔊 My HCL Logi	🤨 Outlook Web App 🔣 Google 🕃 Suggested Sites 🔹 🔊 Get more A	ldd-ons 🔹 👔 Status Sheet	
🂋 TeamTrack - Quality Mana 🎽 Brocade Communicati 🕱		💁 • 🔯 • 🖾 👼 • Equ	• Salety • Tgols • 🚷
	Тгар		
General *	SNMP Authentication: O Disable # E	Inable	
Identification	Power Supply: O Disable @ E	inable	
PAddress	Fan O Disable @ E	inable	
Standard ACL	Cold Start: O Disable # 1	institut	
Extended ACL	Link Up: O Disable # E		
IP Access Group     MAC Filter	Link Down: O Disable # 1		
Max-Parameter	Bridge New Root: O Disable # E		
Module	Bridge Topology Change: O Diable # 1		
Radius	Locked Address Violation Diate		
Tacacs	Module Insert: O Disable # 2		
Ba Management	Module Remove: O Disable * E		
Authentication Methods     Authorization Methods	OSPF: O Diable * E		
<ul> <li>Accounting Methods</li> </ul>	BGP: O Diable # E		
Community String			
General	VRRP: O Disable # I		
System Log	VRRPE: @ Disable O E		
Trap	VSRP: O Ditable @ E		
<ul> <li>Trap Receiver</li> </ul>	MRP: O Disable * E		
User Account	VRF: O Disable @ E		
Web Preference	Redundant State Change: O Disable # E	inable	
a bran a	Temperature: O Disable @ E	nable	

- 3. Click Disable or Enable for SNMP Authentication .
- 4. Click Disable or Enable for Power Supply .
- 5. Click Disable or Enable for Fan .
- 6. Click Disable or Enable for Cold Start .
- 7. Click Disable or Enable for Link Up .
- 8. Click Disable or Enable for Link Down .
- 9. Click Disable or Enable for STP New Root .
- 10.Click Disable or Enable for STP Topology Change .
- 11.Click Disable or Enable for Locked Address Violation .
- 12.Click Disable or Enable for Module Inserted .
- 13.Click Disable or Enable for Module Removed .
- 14.Click Disable or Enable for OSPF .

15.Click Disable or Enable for Temperature warning .

16.Click Apply .

The message The change has been made is displayed. To reset the data entered in the configuration pane, click **Reset** .

# Configuring a trap receiver

To configure a trap receiver, perform the following steps.

- 1. Click Configure on the left pane and select System.
- 2. Click Management and select Trap Receiver.

The Trap Receiver window is displayed as shown in the figure below.

FIGURE 83 Configuring a trap receiver

					Traj	Receiv	/er		
	IP Address	~	IP Address	UDP Port	Comm/Security Name	Encrypt	Sec. Model	Sec. Level	
	Standard ACL		<b>a</b> )	41472	\$	yes	v1	noAuth	Delete Modify
	Extended ACL		IP Address	UDP Port	Comm/Security Name	Encrypt	Sec. Model	Sec. Level	
-	IP Access Group								
	MAC Filter				[Add]	Trap Rece	tiver]		
	Max-Parameter			10000	without the second				1-10 <sup>-1</sup>
	Module			[Hom	ne [[Site Map][Logout][Sa	we][Fram	e Enable[Disa	ible][TELNE	T
	NTP								
	Radius								
	Tacacs								
	Management								
11 1	Authentication Meth								
11 1	Authorization Methorization								
	Accounting Method								
	Community String								
	General								
	System Log								
	Trap								
	Trap Receiver								
	User Account								
	Web Preference								
🕫 🚍 F									
	Monitor and Mirror								
• 🖬 C									
🖻 🖻 V									
• S									
• B									
I •									
	static Station								
🖲 💼 Cor		~							
	× ×								

3. Click Add Trap Receiver to configure a new trap receiver.

The Trap Receiver window is displayed as shown here.

FIGURE 84 Adding a new trap receiver

		Trap Rece	eiver	
P Address	IP Address:	⊙ ipv4 ○ ipv6		
Standard ACL	UDP Port Number:	162		
Extended ACL	Security Name or Community:			
P Access Group	Encrypt (Turn off for V3):			
<ul> <li>MAC Filter</li> </ul>	Security Model:			
Max-Parameter				
Module     NTP	Security Level (Only for V3):	noAuth 🚩		
Radius				
Tacacs		Add Delete	Reset	
e 🖼 Management		[Show]		
Authentication Mether		Toucas		
Authorization Metho	[Home][Site Map]]	Logout [Save] Fra	ame Enable[Disable][TELNET]	
Accounting Method				
Community String				
General				
<ul> <li>System Log</li> </ul>				
<ul> <li>Trap</li> <li>Trap Receiver</li> </ul>				
User Account				
Web Preference				
* Port				
Monitor and Mirror				
a QOS				
🗉 VLAN				
<u>STP</u>				
<u>RSTP</u>				
<ul> <li>Trunk</li> </ul>				
Static Station				
Command				
<u>&gt;</u>				
			😔 Internet	🔍 100

4. Click **ipv4** or **ipv6** and then type the IP address of the destination of the route in the **IP Address** field.

- 5. Type the UDP port number of the host that will receive the trap in the UDP Port Number field.
- 6. Type an arbitrary value made of two five-digit integers joined by a colon in the **Security Name or Community** field. Each string in the community name can be a number from 0 through 65535.
- Select the Encrypt (Turn off for V3) check box to enable or disable encryption for a particular string. It is turned off for V3.
- 8. Select one of the following options in the Security Model list:
  - V1
  - V2C
  - V3
- 9. For V3 only, select one of the following options in the Security Level (Only for V3) list:
  - · noAuth --Allow all packets.
  - authNoPriv --Allow only authenticated packets.
  - authPriv -- A password is required.

10.Click Add.

The message The change has been made is displayed. To view the trap receiver entries, click Show.

To delete the trap receiver, click **Delete**. To reset the data entered in the configuration pane, click **Reset**.

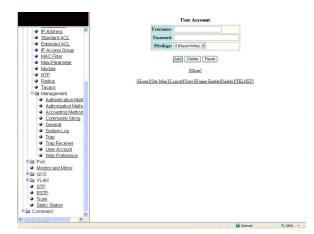
## Configuring a management user account

To configure a management user account, perform the following steps.

- 1. Click Configure on the left pane and select System.
- 2. Click Management and select User Account.

The User Account window is displayed as shown in the figure below.

FIGURE 85 Configuring a management user account



- 3. Type the user identifier in the **Username** field.
- 4. Type the login password in the **Password** field.
- 5. Select one of the following options in the **Privilege** list:

- 0 (Read-Write)
- 4 (Port-Config)
- 5 (Read-Only)
- 6. Click Add.

The message The change has been made is displayed. To view the configured user account, click Show.

To delete the configured user account, click **Delete**. To reset the data entered in the configuration pane, click **Reset**.

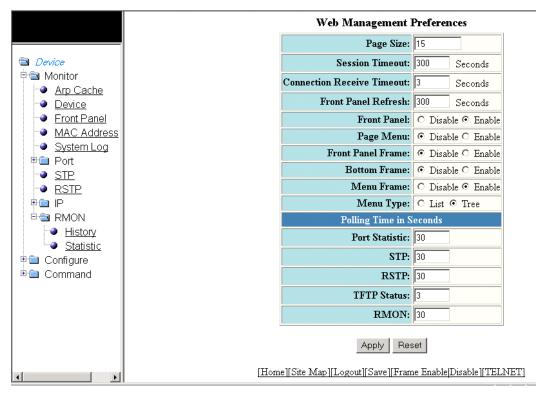
### Configuring the web management preferences

To configure the web management preferences, perform the following steps.

- 1. Click Configure on the left pane and select System.
- 2. Click Management and select Web Preference.

The **Web Management Preferences** window for the Brocade FastIron SX devices is displayed as shown in the figure below.

FIGURE 86 Configuring the web management preferences



- 3. Type the page size in the Page Size field.
- 4. Type the console session timeout value in seconds in the Session Timeout field.
- 5. Type the wait time interval after getting disconnected from the application in the **Connection Receive Timeout** field.

- 6. Type the number of seconds after which the front panel gets refreshed in the **Front Panel Refresh** field.
- 7. Click **Disable** or **Enable** for **Front Panel**. By default, it is enabled and the ports are labelled on the front panel of the devices.
- 8. Click Disable or Enable for Page Menu.
- 9. Click Disable or Enable for Front Panel Frame.
- 10.Click **Disable** or **Enable** for **Bottom Frame**.
- 11 Click Disable or Enable for Menu Frame.

12.Click List or Tree for Menu Type.

13.Type the port statistics polling time in the Port Statistic field.

14.Type the STP statistics polling time in the STP field.

15.Type the RSTP statistics polling time in the RSTP field.

### NOTE

The **RSTP** field is not available in the **Web Management Preference** window for the Brocade FCX and Brocade ICX devices.

16.Type the TFTP polling time in seconds in the TFTP Status field.

17.Type the polling time for Remote Monitoring in the **RMON** field.

18.Click Apply.

The message The change has been made is displayed. To reset the data entered in the configuration pane, click **Reset**.

# **Configuring Module Components**

Configuring a module	
Modifying inline power budget	140

#### NOTE

This chapter is specific to the Brocade FastIron SX devices.

# **Configuring a module**

To configure a chassis module, perform the following steps.

- 1. Click Configure on the left pane and select Module .
- 2. Click Config Module .

The Module window is displayed as shown in the figure below.

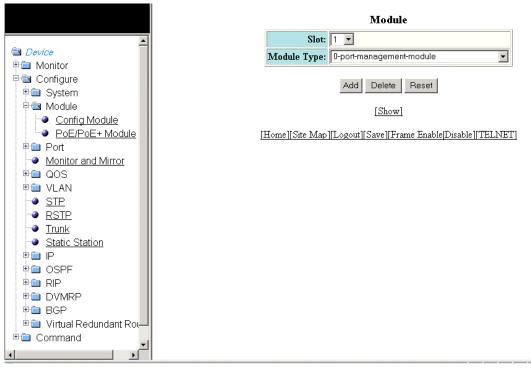
FIGURE 87 Configuring a module

			Modul	e			
Device	Unit ID: Module	Slot	Module	Status	Ports	Starting MAC	
🗉 🧰 Monitor	S1:M1	1	Device 24-port Gig Copper	OK	24	00e0.5200.0100	Delete
e 📾 Configure ₱ 💼 System	S1:M2	2	Device 48-port 100/1000 Copper				Delete
P Module	S1:M3	3	None				Delete
Config Modu	S1:M4	4	None				Delete
PoE/PoE+N ⊕  ■ Port	S2:M1	5	None				Delete
Monitor and Mi	S2:M2	6	None				Delete
	S2:M3	7	None				Delet
♥ 🛄 VLAN ● STP	S2:M4	8	None				Delet
→ <u>RSTP</u>	S3:M1	9	None				Delete
<u>Trunk</u> Station	S3:M2	10	Device 0-port Management	OK	0		Delete
Command <u>Static Station</u>	Unit ID: Module	Slot	Module	Status	Ports	Starting MAC	
			[Add Mod	ule]			
		I	[Home][Site Map][Logout][Save][Fra	me Enab	le Disal	ble][TELNET]	
d							

3. Click Add Module .

The Module window is displayed as shown in the figure below.

### FIGURE 88 Configuring a module



- 4. Select a slot number in the Slot list.
- 5. Select a chassis module type in the Module Type list.
- 6. Click Add .

The message  ${\tt The\ change\ has\ been\ made\ is\ displayed.}$  To display the configured module, click  ${\tt Show}$  .

To delete the configured module, click **Delete**. To reset the data entered in the configuration pane, click **Reset**.

# Modifying inline power budget

To configure Power over Ethernet (PoE), perform the following steps.

- 1. Click Configure on the left pane and select Module .
- 2. Click PoE/PoE+ Module .

The Inline Power Budget Configuration window is displayed as shown in the figure below.

### FIGURE 89 Configuring PoE

	[Inline Power Statistics][ETHERNET Port Configuration][ETHERNET Port Statistic][ETHERNET Port Utiliz
General     Identification     IP Address     Standard ACL	Module# (milliWatts)
Extended ACL     IP Access Group	3 65535000 Modify
<u>MAC Filter</u> <u>Max-Parameter</u>	4 65535000 Modify
→ NTP → Radius → Tacacs	6 65535000 Modify
Authentication Methods     Authorization Methods	Module# Power Budget (milliWatts)
<u>Accounting Methods</u> <u>Community String</u> <u>General</u>	[Inline Power Statistics][ETHERNET Port Configuration][ETHERNET Port Statistic][ETHERNET Port Utiliz [Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]

3. Click Modify .

The Configure Inline Power Module window is displayed as shown in the figure below.

FIGURE 90 Modifying the inline power module

	Configure Inline Power Module
	Module#: 6
General	Inline Power Budget: 65535000
Identification	
IP Address	Apply Reset
Standard ACL	
Extended ACL	[Show Inline Power Module Configuration][Inline Power Statistics][ETHERNET Port Configuration][ETHERNET Port Statistic][ETHERNET Port Unlization]
IP Access Group	[Home][Site Map][Logout][Save][Frame Enable[Disable][TELNET]
MAC Filter	
May Parameter	

- 4. Type the number of milliwatts (from 0 through 65535000) to allocate to the module in the **Inline Power Budget** field. The default value is 65535000 milliwatts.
- 5. Click Apply .

The message The change has been made is displayed. To reset the data entered in the configuration pane, click **Reset**. To display the configured inline power budget, click **Show Inline Power Module Configuration**.

The **Inline Power Budget Configuration** window provides links to monitor the power budget of the PoE or PoE+ modules and to configure and monitor port parameters:

- To display the power budget of the PoE or PoE+ module, click **Inline Power Statistics**. For more information, refer to Displaying inline power details on page 62.
- To configure an Ethernet port, click **ETHERNET Port Configuration**. For more information, refer to Configuring an Ethernet port on page 143.
- To view the total number of packets, collisions, and errors that have occurred on a port, click
   ETHERNET Port Statistic . For more information, refer to Displaying Ethernet port statistics on
   page 51.
- To view the traffic that is received and transmitted on a port, click **ETHERNET Port Utilization**. For more information, refer to Displaying Ethernet port utilization on page 55.

Modifying inline power budget

# **Configuring Port Parameters**

Configuring an Ethernet port	
Configuring port inline power	
Configuring a management port	
Configuring the port uplink relative utilization	

# **Configuring an Ethernet port**

To configure an Ethernet port, perform the following steps.

- 1. Click Configure on the left pane and select Port.
- 2. Click Ethernet.

The ETHERNET Port Configuration window is displayed as shown in the figure below.

FIGURE 91 Configuring an Ethernet port

and F and	ETHERNET Port Configuration														
Bei Stack	Port	Actual speed/ mode		QOS	Lock Addr	Tag	STP/RSTP	Fast STP	Fast Uplink	BroadCast limit	Flow Ctrl	Gig Default	DHCP ID	Trunk	
<ul> <li><u>Clock</u></li> <li>General</li> </ul>	1/1/1	None	Auto	0	Disable	No	Enabled	Disabled	Disabled	0	Enabled	Neg-Full-Auto	None	None	Modify
<ul> <li>Identification</li> <li>IP Address</li> </ul>	1/1/3	None	Auto	0	Disable	No	Enabled	Disabled	Disabled	0	Enabled	Neg-Full-Auto	None	None	Modify
<ul> <li>Standard AC</li> <li>Extended AC</li> </ul>	1/1/4	None	Auto	0	Disable	No	Enabled	Disabled	Disabled	0	Enabled	Neg-Full-Auto	None	None	Modify
<ul> <li>IP Access G</li> <li>MAC Filter</li> </ul>	1/1/5	None	Auto	0	Disable	No	Enabled	Disabled	Disabled	0	Enabled	Neg-Full-Auto	None	None	Modify
Max-Parame Module	<u>1/1/6</u>	None	Auto	0	Disable	No	Enabled	Disabled	Disabled	0	Enabled	Neg-Full-Auto	None	None	Modify
• <u>NTP</u> • Radius	1/1/7	None	Auto	0	Disable	No	Enabled	Disabled	Disabled	0	Enabled	Neg-Full-Auto	None	None	Modify
-● <u>Tacacs</u> ● <u>Tacacs</u> 	1/1/8	None	Auto	0	Disable	No	Enabled	Disabled	Disabled	0	Enabled	Neg-Full-Auto	None	None	Modify
B thernet	<u>1/1/9</u>	None	Auto	0	Disable	No	Enabled	Disabled	Disabled	0	Enabled	Neg-Full-Auto	None	None	Modify
<ul> <li>Inline Power</li> <li>Managemen</li> </ul>	<u>1/1/10</u>	None	Auto	0	Disable	No	Enabled	Disabled	Disabled	0	Enabled	Neg-Full-Auto	None	None	Modify
Managemen Monitor and Mi	1/1/11	None	Auto	0	Disable	No	Enabled	Disabled	Disabled	0	Enabled	Neg-Full-Auto	None	None	Modify
	14/12	None	âuto.	n	Dieshle	No	Enabled	Disabled	Disabled	n	Fnahled	Neg-Full-Auto	None	None	Modify

3. For the Brocade FCX and Brocade ICX devices, select a unit ID in the **Select Stack Unit ID** list and click **Display** to display the information about a specific stack unit.

### NOTE

The **Select Stack Unit ID** list is not available in the **ETHERNET Port Configuration** window for the Brocade FastIron SX devices.

4. Click Modify to modify the respective Ethernet port.

The Configure ETHERNET Port window is displayed as shown in the figure below.

### FIGURE 92 Modifying the port settings

	Configure ETHERNET Port								
		Port: 1/1/1 MAC:74-8e-f8-34-25-20							
E Device	Name:								
🖻 🧰 Monitor	Speed Duplex:	○ 10-full ○ 10-half ○ 100-full ○ 100-half ○ 1G-full-master ○ 1G-full-slave ④ auto ○ Disable ④ Enable							
⊡ 🔄 Configure									
⊕ (in Stack ⊕ (in System		○ Disable ③ Enable ○ Enable with neg-on							
⊡ System ⊡ System									
Ethernet	Lock Address:	⊙ Disable ○ Enable Addr-count 0							
Inline Power	Route Only:	⊙ Disable ○ Enable							
<ul> <li>Management</li> </ul>	QOS:	0 🗸							
Monitor and Mirror									
🗉 💼 QOS	[Show ETHERNET Port Configuration] [Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]								
🗉 🧰 VLAN									
••• <u>STP</u>									
• <u>RSTP</u>									
Trunk									
Static Station									
⊕ 👜 IP									
🖲 🛅 OSPF									
₽ 🕮 RIP									
🖲 💼 PIM									
🖲 🛅 BGP									
🗉 🚞 Virtual Redundant I									

5. Type the name of the Ethernet port in the Name field.

6. Select the type of the port speed for Speed Duplex, which can be one of the following:

- 10-full --10 Mbps, full duplex
- 10-half -- 10 Mbps, half duplex
- 100-full --100 Mbps, full duplex
- 100-half -- 100 Mbps, half duplex
- 1G-full-master --1 Gbps, full duplex master
- 1G-full-slave --1 Gbps, full duplex slave
- auto -- Auto-negotiation
- 7. Click Disable or Enable for Status to disable or enable an Ethernet port.
- 8. Click **Disable** or **Enable** or **Enable with neg-on** for **Flow Control**. By default, flow control is enabled.
- 9. Click **Disable** or **Enable** for **Lock Address**. If you click **Enable**, type the number of devices that can have access to a specific port in the **Addr-count** field.

10.Click **Disable** or **Enable** for **Route Only**. If you click **Enable**, Layer 2 switching is disabled globally.

11Select the QoS priority for the port in the QOS list.

### 12.Click Apply.

The message The change has been made is displayed. To reset the data entered in the configuration pane, click **Reset**.

# To display the **ETHERNET Port Configuration** window, click **Show ETHERNET Port Configuration** .

To display the inline power statistics for a PoE stack device, click **Show Inline Power**. For more information, refer to the "Displaying port inline power for the Brocade FCX and Brocade ICX devices" section.

### Configuring port inline power

To configure port inline power, perform the following steps.

- 1. Click Configure on the left pane and select Port .
- 2. Click Inline Power .

The **Configure Inline Power** window is displayed as shown in the figure below.

FIGURE 93 Configuring port inline power

	[Show Inline Power]
Carrier .	Configure Inline Power
Device Image:	Inline Power: O Disable O Enable
🖻 📹 Configure	Allocate Power By: C Class: 0-UnknownClass V @ Power Limit 1000
🗉 💼 Stack	Priority: 3-Lowest
🗉 🛄 System	
🖻 📾 Port	Select POE Ports
<ul> <li><u>Ethernet</u></li> <li>Inline Power</li> </ul>	Select a range From: 1/1/1 To: 1/1/1
Management	Select one port $\boxed{1/1/1}$
<ul> <li>Monitor and Mirror</li> </ul>	
🖽 🛄 QOS	Apply Reset
🗉 🛅 VLAN	
• <u>STP</u>	[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]
<u>RSTP</u> Truck	
<ul> <li>Trunk</li> <li>Static Station</li> </ul>	

- 3. Click Disable or Enable for Inline Power .
- Click Class for Allocate Power By and then select a power class in the Class list, or click Power Limit and then type the maximum power level for a power-consuming device in the Power Limit field.
- 5. Select an inline power priority for a Power over Ethernet (PoE) port in the Priority list.
- 6. To select the PoE ports, select the **Select a range** check box and select the range of ports in the **From** and **To** lists, or select the **Select one port** check box and select the port in the list.
- 7. Click Apply .

The message  ${\tt The\ change\ has\ been\ made\ is\ displayed.}$  To reset the data entered in the configuration pane, click Reset .

To display the inline power statistics and details, click **Show Inline Power**. For more information, refer to Displaying port inline power for the Brocade FCX and Brocade ICX devices on page 59.

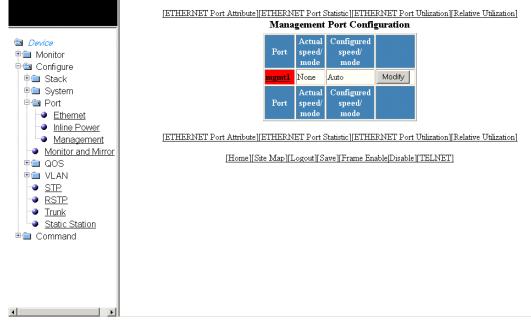
## **Configuring a management port**

To configure a management port, perform the following steps.

- 1. Click Configure on the left pane and select Port .
- 2. Click Management .

The Management Port Configuration window is displayed as shown in the figure below.

FIGURE 94 Management port configuration



3. Click Modify .

The Configure Management Port window is displayed as shown in the figure below.

#### FIGURE 95 Configuring a management port

BROCADE	Configure Management Port Port: mgmt1 MAC:00-e0-52-00-01-18 Status: Disable Enable Apply Reset [Show Inline Power] [Show Management Port Configuration] [Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]
< >	

- 4. Click Disable or Enable for Status .
- 5. Click Apply .

The message The change has been made is displayed. To reset the data entered in the configuration pane, click **Reset**.

To display the configured management port information, click **Show Management Port Configuration**.

To display the inline power statistics and details, click **Show Inline Power**. For more information, refer to Displaying port inline power for the Brocade FCX and Brocade ICX devices on page 59.

### Configuring the port uplink relative utilization

To configure the port uplink utilization list, perform the following steps.

- 1. Click **Configure** on the left pane and select **Port**.
- 2. Click Relative Utilization on the ETHERNET Port Configuration, Configure Inline Power, or Management Port Configuration window.

The Port Uplink Relative Utilization window is displayed as shown in the figure below.

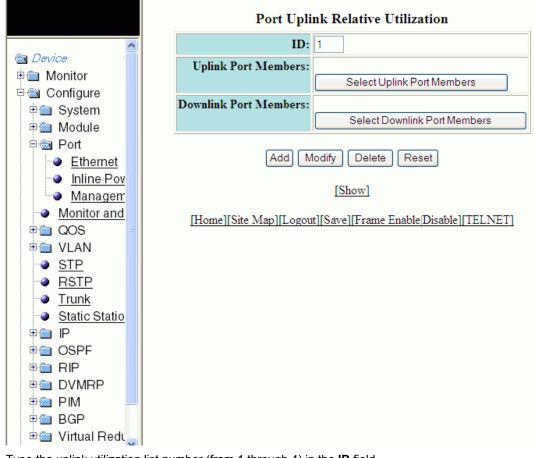


FIGURE 96 Configuring the port uplink relative utilization

- 3. Type the uplink utilization list number (from 1 through 4) in the ID field.
- 4. Click Select Uplink Port Members to select the uplink ports.
- 5. Click Select Downlink Port Members to select the downlink ports.

#### NOTE

The port number varies based on the product:

- · For Brocade FCX and Brocade ICX devices stack-unit/slotnum/portnum
- · For Brocade FastIron SX devices slotnum/portnum
- 6. Click Add.

The message The change has been made is displayed. To display the configured port uplink utilization list, click **Show**.

To modify the configured port uplink utilization list, click **Modify**. You can also delete the configured port uplink utilization list by clicking **Delete**. To reset the data entered in the configuration pane, click **Reset**.

# **Configuring Monitor and Mirror Port**

Configuring a mirror port.	149
Configuring a monitor port	.150

## Configuring a mirror port

To configure port monitoring, first configure the mirror port. The mirror port is the port to which the monitored traffic is copied. To configure a mirror port, perform the following steps.

1. Click Configure on the left pane and select Monitor and Mirror.

The Configure MIRROR Port window is displayed as shown in the figure below.

FIGURE 97 Configuring a mirror port

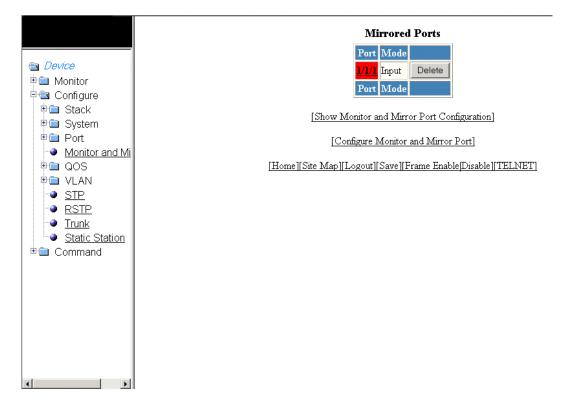
2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 - 2 -	Mode: In
<i>Device</i> Monitor	<b>Mirror Port</b> 1/1/1 ~
■ Configure ■	Add Delete Reset
♥□ System □ System<	Configure MONITOR Port
Inline Power	Mode: In & Out 🛩
Managemen:	Monitor Port: 1/1/1 🗸
Monitor and Mi	Configured Mirror Port: None V
●	Add Delete Reset
™ <u>RSTP</u> ™ Trunk	[Show Monitor and Mirror Port Configuration]
Static Station	[Show Mirror Port]
	[Home][Site Map][Logout][Save][Frame Enable]Disable][TE

- 2. Select the mode in which the port operates in the Mode list, which can be one of the following:
  - In
  - Out
  - In & Out
- 3. Select a port to which the monitored traffic must be copied in the **Mirror Port** list. The port number varies based on the product:
  - · For Brocade FCX and Brocade ICX devices stack-unit/slotnum/portnum
  - · For Brocade FastIron SX devices slotnum/portnum
- 4. Click Add .

The message The change has been made is displayed. To display the configured mirror port, click **Show Mirror Port**. The figure below shows the **Mirrored Ports** window with the configured mirror port information.

To delete the configured mirror port, click **Delete**. To reset the data entered in the configuration pane, click **Reset**.

FIGURE 98 Monitoring mirror ports



## Configuring a monitor port

To configure port monitoring on an individual port on a Brocade device, perform the following steps.

1. Click Configure on the left pane and select Monitor and Mirror.

The **Configure MONITOR Port** window is displayed as shown in the figure below.

#### FIGURE 99 Configuring the monitor port

	Configure MIRROR Port
a commence and the second s	Mode: In 💌
	Mirror Port 1/1/1 🐱
Monitor	
∎ Coninguie ∄tilla Stack	Add Delete Reset
Tim Statk Tim System	
a System a Port	
Ethernet	Configure MONITOR Port
<ul> <li>Inline Power</li> </ul>	Mode: In & Out 🗸
Managemen	Monitor Port: 1/1/1 V
Monitor and Mi	
	Configured Mirror Port: None 💌
🗉 🖾 VLAN	
I STP	Add Delete Reset
<u>RSTP</u>	[Show Monitor and Mirror Port Configuration]
Trunk	[Show Montol and Million Port Conliguiation]
Static Station	[Show Mirror Port]
Command	
1 B	[Home][Site Map][Logout][Save][Frame Enable]Disable][

- 2. Select one of the following modes in which the port operates in the Mode list:
  - In
  - Out
  - In & Out
- 3. Select a port for which you want to monitor the traffic in the **Monitor Port** list. The port number varies based on the product:
  - For Brocade FCX and Brocade ICX devices stack-unit/slotnum/portnum
     For Brocade FastIron SX devices slotnum/portnum
- 4. Select a mirror port that you have configured in the Configured Mirror Port list.
- 5. Click Add.

The message The change has been made is displayed. To display the configured monitor port, click Show Monitor and Mirror Port Configuration. To display the mirror port, click Show Mirror Port.

To delete the configured monitor port, click **Delete**. To reset the data entered in the configuration pane, click **Reset**.

Configuring a monitor port

# **Configuring QoS**

Configuring the QoS profile	153
Configuring the QoS profile bind	154

## **Configuring the QoS profile**

To configure the Quality of Service (QoS) profile, perform the following steps.

- 1. Click Configure on the left pane and select QOS .
- 2. Click Profile .

The QOS Profile window is displayed as shown in the figure below.

FIGURE 100 Configuring a QoS profile

	N	Committed <b>E</b>	-	
Device	Name	Requested	Calculated	Priority
Monitor	qosp0	3	3	Priority0(Lowest
⊡ 📾 Configure ⅊் Stack	qosp1	3	3	Priority1
🗉 🛄 System	qosp2	3	3	Priority2
<ul> <li>Port</li> <li>Monitor and Mi</li> </ul>	qosp3	3	3	Priority3
	qosp4	3	3	Priority4
Profile	qosp5	3	3	Priority5
Bind ⊡© VLAN	qosp6	7	7	Priority6
STP	qosp7	75	75	Priority7(Highest
Image: Participation       Performance       Static Station       Being Command	[Home][Site Map][I	Apply Reset [Bind] .ogout][Save][Frame B	] Enable Disable]	TELNETI

- 3. The default queue names are **qosp0**, **qosp1**, **qosp2**, **qosp3**, **qosp4**, **qosp5**, **qosp6**, and **qosp7**. You can change one or more of the names, if desired. Type the QoS name in the **Name** field.
- 4. The **Committed Bandwidth (%)** is the percentage of the device outbound bandwidth that is allocated to the queue. Brocade QoS queues require a minimum bandwidth of 3 percent for each priority. Type the percentage of bandwidth you want for the queue in the **Requested** field.

#### NOTE

The total of the percentages you enter must be equal to 100. The Brocade device does not adjust the bandwidth percentages you enter.

5. Click Apply .

The message The change has been made is displayed and the committed bandwidth is changed to the configured value in the **Calculated** field. The **Priority** field shows the default priority of the individual QoS from lowest to highest (0 through 7).

To clear the entered data in the fields, click **Reset**. To configure the QoS profile bind, click **Bind**. For more information on how to configure a QoS profile bind, refer to Configuring the QoS profile bind on page 154.

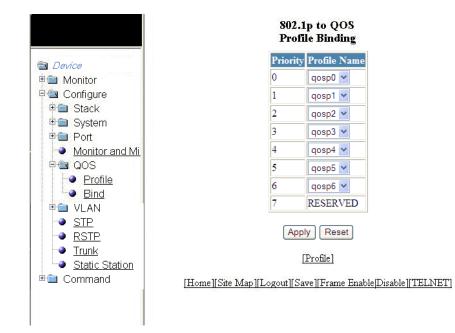
## Configuring the QoS profile bind

To bind an 802.1p priority to a hardware forwarding queue, perform the following steps.

- 1. Click Configure on the left pane and select QOS .
- 2. Click Bind .

The 802.1p to QOS Profile Binding window is displayed as shown in the figure below.

FIGURE 101 802.1p to QoS profile binding



- 3. Select a hardware forwarding queue to which you are reassigning the priority in the **Profile Name** lists.
- 4. Click Apply .

The message  ${\tt The\ change\ has\ been\ made\ is\ displayed.}$  To reset the data entered in the configuration pane, click  ${\bf Reset}$  .

To configure the Quality of Service (QoS) profile, click **Profile**. For more information, refer to Configuring the QoS profile on page 153.

# **Configuring VLAN**

Configuring a port VLAN for the Brocade FCX and Brocade ICX devices	155
Modifying a port VLAN	158
Configuring a port VLAN for the Brocade FastIron SX devices	160
Configuring a protocol VLAN	163

## Configuring a port VLAN for the Brocade FCX and Brocade ICX devices

To configure a port-based Virtual LAN (VLAN) for the Brocade FCX and Brocade ICX devices, perform the following steps.

- 1. Click Configure on the left pane and select VLAN .
- 2. Click Port .

The **Port VLAN** window is displayed as shown in the figure below. You can limit the number of VLANs displayed per page using the **VLANs per page** list.

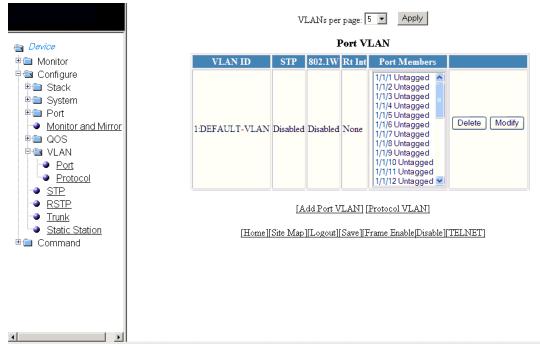


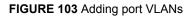
FIGURE 102 Configuring port VLANs

3. Click Add Port VLAN .

The Add Port VLAN window is displayed as shown in the figure below.

#### NOTE

Port-based VLAN cannot be configured, if the VLAN does not have any ports assigned to it.

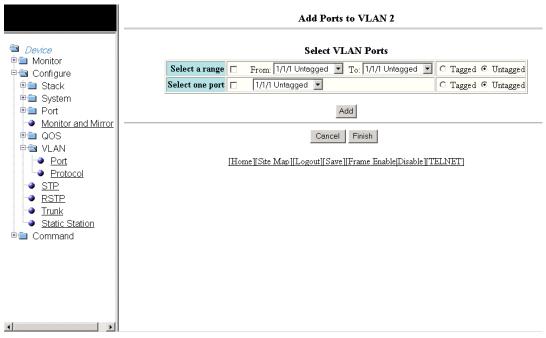


	Add Port VLAN				
		Vlan Id:	1		
Service Image: Imag		Name:			
Pa Configure		Spanning Tree:	<ul> <li>Disable</li> </ul>	e 🔿 Enable	
teoningure teoningure			O Disable		
🗉 🗎 System		Router Interface:			
🗉 🗎 Port					
Monitor and Mirror			Add Ca	incel	
⊕© QOS ⊡© VLAN	гт	I			- ווידידו אדבידיו
Port	<u> </u> [	Home][Site Map][Logo	out    Save    F	rame Enable[Disabl	e    IELNEI
Protocol					
• <u>STP</u>					
-● <u>RSTP</u>					
Irunk					
Static Station					
🖻 🚞 Command					

- 4. Type the VLAN identifier of the port in the Vlan Id field.
- 5. Type the port VLAN name in the **Name** field.
- 6. Click Disable or Enable for Spanning Tree .
- 7. Click Disable or Enable for 802.1W .
- 8. Select a virtual routing interface in the Router Interface list.
- 9. Click Add .

The Add Ports to VLAN window is displayed as shown in the figure below.

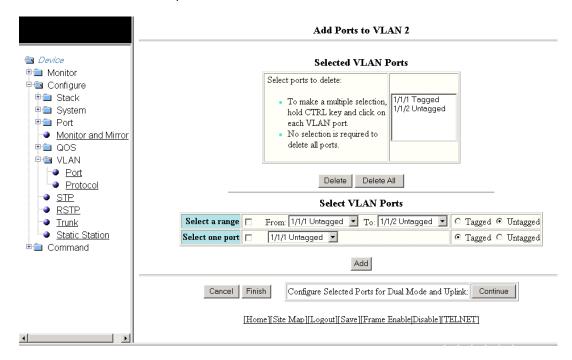
#### FIGURE 104 Adding ports to VLANs



- 10.To select the VLAN ports, select the **Select a range** check box, select the range of VLAN ports in the **From** and **To** lists, and click **Tagged** or **Untagged**, or select the **Select one port** check box, select a port-based VLAN in the list, and click **Tagged** or **Untagged**.
- 11.Click Add .

The Selected VLAN Ports window is displayed as shown in the figure below.

FIGURE 105 Selected VLAN ports



12. The selected VLAN ports are displayed in the **Selected VLAN Ports** list. Click **Delete or Delete All** to delete the VLAN ports.

#### NOTE

The VLAN configuration is retained even if the last port member is deleted.

- 13.You can add more VLAN ports from the **Select VLAN Ports** pane. To do so, complete step 10 and step 11.
- 14.Click **Finish** to return to the **Port VLAN** window with the configured port-based VLAN displayed, or click **Continue** to configure selected ports for dual mode and uplink. The **Configure Selected Ports for VLAN** window is displayed as shown in the figure below.

FIGURE 106 Configuring dual mode and uplink for ports

Select VLAN Ports To Configure Configure Stack System Port Monitor and Mirror Oual Mode Port Monitor and Mirror Concel Static Station Cencel Trunk Static Station Command		Configure Selected Ports for VLAN 2
Protocol     Protocol     STP     [Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]     RSTP     Trunk     Static Station	<ul> <li>Monitor</li> <li>Configure</li> <li>Stack</li> <li>System</li> <li>Port</li> <li>Monitor and Mirror</li> <li>QOS</li> <li>VLAN</li> </ul>	Select VLAN Ports To Configure          Dual Mode       From: 1/1/4 Tagged To: 1/1/4 Tagged C       © Disable © Enable       Apply         Uplink Switch       From: 1/1/1 Untagged To: 1/1/1 Untagged C       © Disable © Enable       Apply         Dual Mode Ports:       None       Uplink Ports:       None
	Protocol     STP     RSTP     Trunk     Static Station	

15.To configure dual mode and uplink for the ports, perform the following steps.

- a) Select the ports for which you want to configure the dual mode in the From and To lists for Dual Mode. Click Disable or Enable and then click Apply. The configured ports are displayed in the Dual Mode Ports list.
- b) Select the ports for which you want to configure uplink in the From and To lists for Uplink Switch. Click Disable or Enable and then click Apply. The configured ports are displayed in the Uplink Ports list.
- c) Click Finish .

The configured port VLAN is displayed in the **Port VLAN** window. To cancel the VLAN port configuration and return to the **Port VLAN** window, click **Cancel**.

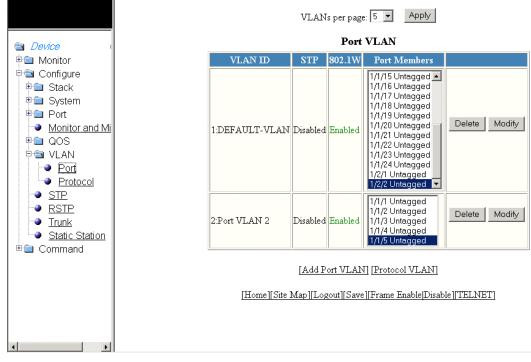
### Modifying a port VLAN

To modify a port VLAN, perform the following steps.

- 1. Click Configure on the left pane and select VLAN .
- 2. Click Port .

The **Port VLAN** window is displayed as shown in the figure below.

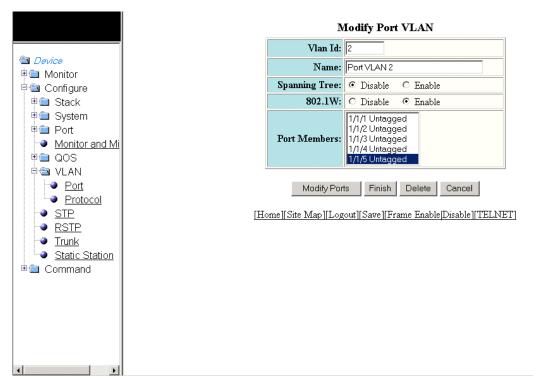
FIGURE 107 Configuring port VLANs



3. Click Modify .

The Modify Port VLAN window is displayed as shown in the figure below .

#### FIGURE 108 Modifying port VLANs



- 4. Type the VLAN identifier of the port in the Vlan Id field.
- 5. Type the port VLAN name in the Name field.
- 6. Click Disable or Enable for Spanning Tree .
- 7. Click Disable or Enable for 802.1W .
- 8. Select the VLAN ports in the Port Members list.
- 9. Click Modify Ports to add or delete VLAN ports.

10.Click Finish .

To delete the configured port VLAN, click Delete . To undo your changes and go back to the Port VLAN window, click Cancel .

### **Configuring a port VLAN for the Brocade FastIron SX devices**

To configure a port-based Virtual LAN (VLAN) for the Brocade FastIron SX devices, perform the following steps.

- 1. Click Configure on the left pane and select VLAN.
- 2. Click Port.

The Port VLAN window is displayed as shown in the figure below.

#### FIGURE 109 Configuring port VLANs

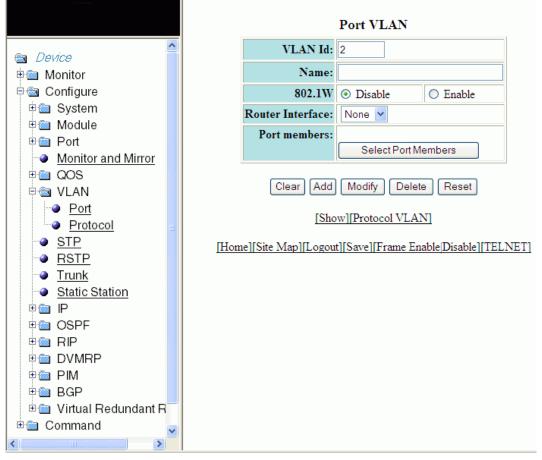
	Port VLAN				
	VLAN ID	STP	802.1W	Port Members	
Device Monitor	1:DEFAULT-VLAN	Enabled	Disabled	1/1,1/2,1/3,1/4,1/5,1/6,1/7,1/8, 1/9,1/10,1/11,1/12,1/13,1/14,1/15,1/16 , 1/17,1/18,1/19,1/20,1/21,1/22,1/23,1/24	Delete Modif
⊡ System	VLAN ID	STP	802.1W	Port Members	
Module     Port     Monitor and Mi     QOS	[Add Port VLAN][Protocol VLAN] [Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]				
VLAN     Port     Protocol     STP     RSTP     Trunk     Static Station     Command					
<					

3. Click Add Port VLAN.

The**Port VLAN** window is displayed as shown in the figure below.

#### **NOTE** Port-based VLAN cannot be configured, if the VLAN does not have any ports assigned to it.

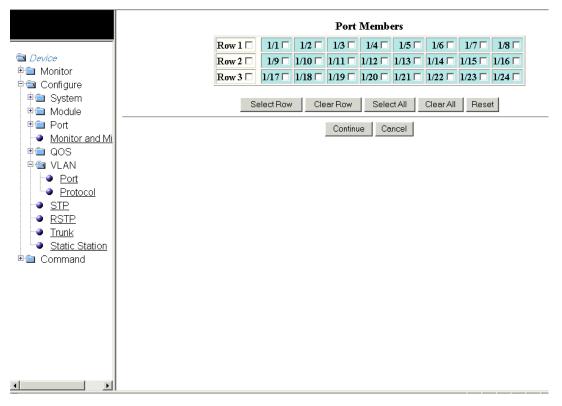
#### FIGURE 110 Adding port VLANs



- 4. Type the VLAN identifier of the port in the VLAN Id field.
- 5. Type the port VLAN name in the Name field.
- 6. Click  $\ensuremath{\text{Disable}}$  or  $\ensuremath{\text{Enable}}$  for  $\ensuremath{\text{802.1W}}$  .
- 7. Select a virtual routing interface in the Router Interface list.
- 8. Click Select Port Members to add ports to the VLAN.

The Port Members window is displayed as shown in the figure below.

#### FIGURE 111 Adding port members



The options within the right panel include:

- Select Row—Allows you to select the entire row.
- · Clear Row—Allows you to clear any selected row.
- Select All—Allows you to select all the port members.
- Clear All—Allows you to clear all the port members selected.
- · Reset—Allows you to undo your changes.

#### NOTE

The VLAN configuration is retained even if the last port member is deleted.

 Select the port members and click Continue. The Port VLAN window is displayed and the selected port members are displayed in the Port Members field. To cancel the selection of the ports and go back to the Port VLAN window, click Cancel.

The **Port VLAN** window is displayed and you can view the selected port members in the **Port Members** field.

#### 10.Click Add on the Port VLAN window.

The message The change has been made is displayed. To delete the configured port VLAN, click **Delete**. To undo your changes and go back to the **Port VLAN** window, click **Cancel**.

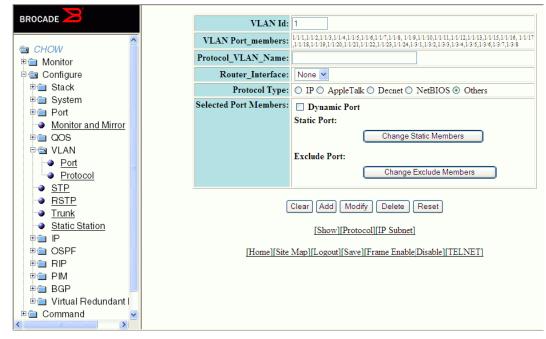
### **Configuring a protocol VLAN**

To configure a protocol-based VLAN, perform the following steps.

- 1. Click **Configure** on the left pane and select **VLAN**.
- 2. Click Protocol.

The protocol VLAN window is displayed as shown in the figure below.

FIGURE 112 Configuring a protocol VLAN



- 3. Type the VLAN identifier in the VLAN Id field.
- 4. Type the VLAN name in the Protocol\_VLAN\_Name field.
- 5. Select a virtual routing interface in the Router Interface list.
- 6. Click one of the following types for Protocol Type:
  - IP—The device sends IP broadcasts to all ports within the IP protocol VLAN.
  - IPX—The device sends IPX broadcasts to all ports within the IPX protocol VLAN.
  - **AppleTalk**—The device sends AppleTalk broadcasts to all ports within the AppleTalk protocol VLAN.
  - Decnet—The device sends DECnet broadcasts to all ports within the DECnet protocol VLAN.
  - NetBIOS—The device sends NetBIOS broadcasts to all ports within the NetBIOS protocol VLAN.
  - **Other**—The device sends broadcasts from all protocol types other than those listed in **Protocol Type** to all ports within the VLAN.
- 7. Select the Dynamic Port check box to add the protocol VLAN dynamically.
- 8. Click Change Static Members to add protocol VLANs statically.

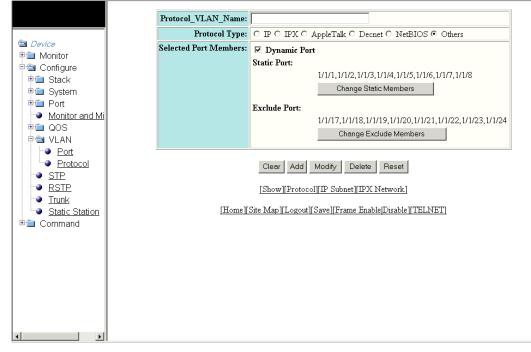
The Port Members window is displayed as shown in the figure below.

#### FIGURE 113 Adding static port members

	Port Members
Andrea - The second	Row1 1/1/1 1/1/2 1/1/3 1/1/4 1/1/5 1/1/6 1/1/7 1/1/8
Device	Row 2 1/1/9 1/1/10 1/1/11 1/1/12 1/1/13 1/1/14 1/1/15 1/1/16
Monitor	Row 3 1/1/17 1/1/18 1/1/19 1/1/20 1/1/21 1/1/22 1/1/23 1/1/24
· line line line line line line line line	Row 4 🗌 1/2/1 🗌 1/2/2 🗌
₽	Select Row Clear Row Select All Clear All Reset
Monitor and Mi © QOS	Continue
Port	
Protocol	
IN STP	
- RSTP	
Trunk	
Static Station	
Command	

The options within the right panel include:

- Select Row -- A llows you to select the entire row.
- Clear Row -- Allows you to clear any selected row.
- Select All -- Allows you to select all the port members.
- Clear All -- Allows you to clear all the port members selected.
- Reset --Allows you t o undo your changes.
- 9. Select the port members and click **Continue** to view the selected port members as shown in the figure below. To go back to the protocol VLAN window, click **Cancel**.
- 10.Click **Change Exclude Members** in the protocol VLAN window to explicitly exclude the selected ports in a port-based VLAN from becoming members of a protocol. The **Port Members** window is displayed.
- 11 Select the port members and click **Continue** to view the selected port members as shown in the figure below.



#### FIGURE 114 Displaying the selected port members

12.Click Add.

The message The change has been made is displayed. To display the configured protocol VLAN, click Show.

To modify the configured protocol VLAN, click **Modify**. You can also delete the protocol VLAN by clicking **Delete**. To clear the selected static and exclude ports, click **Clear**. To reset the data entered in the configuration pane, click **Reset**.

The protocol VLAN window provides links to various VLAN parameters:

- Click IP Subnet to configure an IP subnet VLAN. For more information, refer to Configuring an IP subnet VLAN on page 166.
- Click IPX Network to configure an Internetwork Packet Exchange (IPX) network VLAN. For more
  information, refer to the "Configuring an IPX network VLAN" section.

### **Configuring an IP subnet VLAN**

To configure an IP subnet VLAN, perform the following steps.

- 1. Click Configure on the left pane and select VLAN .
- 2. Click Protocol .

The protocol VLAN window is displayed as shown in Configuring a protocol VLAN on page 163.

3. Click IP Subnet .

The IP subnet VLAN window is displayed as shown in the figure below.

#### FIGURE 115 Configuring an IP subnet VLAN

		VLAN Id:	1	
<ul> <li>Image: Monitor</li> <li>Image: Monitor<!--</th--><th></th><th>VLAN Port_members:</th><th>111,12,113,114,115,116,117,118, 119,110,111,112,113,114,115,116 , 117,118,119,120,121,122,123,124, 21,22,23,24,25,26,27,28 , 29,210,211,212,213,214,215,216,217,218,219,220,221,222,2 ,72,74,714,715,716,71</th><th>/23,2/24</th></li></ul>		VLAN Port_members:	111,12,113,114,115,116,117,118, 119,110,111,112,113,114,115,116 , 117,118,119,120,121,122,123,124, 21,22,23,24,25,26,27,28 , 29,210,211,212,213,214,215,216,217,218,219,220,221,222,2 ,72,74,714,715,716,71	/23,2/24
🗉 🛅 System		Protocol_VLAN_Name:		
🗉 🛅 Module		Router Interface:	None V	
🖻 🛅 Port		_		
Monitor and Mirror		IP_Address:	0.0.0	
🖻 🛅 QOS		Mask:	0.0.0.0	
🖻 🎰 VLAN		Selected Port Members:	Dynamic Port	
Port			Static Port:	
Protocol				_
• <u>STP</u>			Change Static Members	
••• <u>RSTP</u>			Exclude Port:	
Trunk				
Static Station			Change Exclude Membe	ars
🗄 🛅 IP				
🗉 🛅 OSPF		Clear	r Add Modify Delete Reset	
🗉 🛄 RIP		Clear	Add Modily Delete Reset	
🗉 🛅 DVMRP			[Show][Protocol][IP Subnet]	
🗉 🏛 PIM				
🗉 🛅 BGP	[Home][Site Map][Logout][Save][Frame Enable Disable][TELNET]			
🗉 🛅 Virtual Redundant R		-		
🗉 🛅 Command				
×				

- 4. Type the VLAN identifier in the VLAN Id field.
- 5. Type the protocol-based VLAN name in the Protocol\_VLAN\_Name field.
- 6. Select a virtual routing interface in the Router Interface list.
- 7. Type the IP address of the device in the IP\_Address field.
- 8. Type the IP subnet mask in the **Mask** field. This parameter provides a filter for displaying multiple MAC addresses that have specific values in common.
- 9. Select the Dynamic Port check box to add the IP subnet VLANs dynamically.

10.Click Change Static Members to add IP subnet VLANs statically.

- 11.Click Change Exclude Members to explicitly exclude the selected ports in a port-based VLAN from becoming members of an IP subnet.
- 12.Click Add .

The message  ${\tt The\ change\ has\ been\ made\ is\ displayed.}$  To display the configured IP subnet VLAN, click <code>Show</code> .

To modify the configured IP subnet VLAN, click **Modify**. You can also delete the IP subnet VLAN by clicking **Delete**. To clear the selected static and exclude ports, click **Clear**. To reset the data entered in the configuration pane, click **Reset**.

### **Configuring an IPX network VLAN**

To configure an IPX network VLAN, perform the following steps.

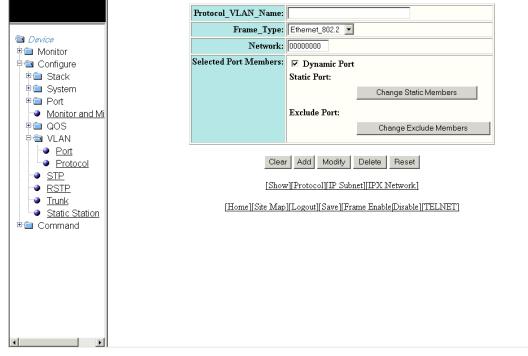
- 1. Click Configure on the left pane and select VLAN .
- 2. Click Protocol .

The protocol VLAN window is displayed as shown in Configuring a protocol VLAN on page 163.

3. Click IPX Network .

The IPX network VLAN window is displayed as shown in the figure below.

FIGURE 116 Configuring an IPX network VLAN



- 4. Type the VLAN identifier in the VLAN Id field.
- 5. Type the protocol-based VLAN name in the Protocol\_VLAN\_Name field.
- 6. Select the Ethernet frame type of the protocol in the Frame\_Type list.
- 7. Type the IPX network address from 0x00000001 to 0xFFFFFFE in the Network field.
- 8. Select the Dynamic Port check box to add the IPX network VLANs dynamically.
- 9. Click Change Static Members to add IPX network VLANs statically.
- 10.Click **Change Exclude Members** to explicitly exclude the selected ports in a port-based VLAN from becoming members of an IPX network.
- 11.Click Add .

The message  ${\tt The\ change\ has\ been\ made\ is\ displayed.}$  To display the configured IPX network VLAN, click Show .

To modify the configured IPX network VLAN, click **Modify**. You can also delete the IPX network VLAN by clicking **Delete**. To clear the selected static and exclude ports, click **Clear**. To reset the data entered in the configuration pane, click **Reset**.

# **Configuring STP**

Configuring STP parameters......169

## **Configuring STP parameters**

Brocade Layer 2 switches and Layer 3 switches support standard Spanning Tree Protocol (STP) as described in the IEEE 802.1D specification.

Each port-based VLAN on a Brocade device runs a separate spanning tree. A Brocade device has one port-based VLAN (VLAN 1) that contains all the device ports. However, if you configure additional port-based VLANs on a Brocade device, then each of those VLANs on which STP is enabled and the VLAN 1 run separate spanning trees.

If you configure a port-based VLAN on the device, the VLAN has the same STP state as the default STP state on the device. Thus, by default on Layer 2 switches, new VLANs have STP enabled and on Layer 3 switches, new VLANs have STP disabled. You can enable or disable STP in each VLAN separately and also on individual ports.

Using the Web Management Interface, you can change the default STP bridge and port parameters.

### **Changing STP bridge parameters**

The table below lists the default STP bridge parameters.

#### TABLE 29 Default STP bridge parameters

Default value
15 seconds
20 seconds
2 seconds
32768

#### NOTE

To change STP bridge timers, you must stay within the following ranges:2 \* (Forward Delay-1) >= Maximum Age >= 2 \* (Hello Time +1)

To change the default STP bridge values, perform the following steps.

1. Click Configure on the left pane and select STP .

The STP Bridge window is displayed as shown in the figure below.

#### FIGURE 117 Configuring the STP bridge

Select Stack Unit ID: 1 🔽

1 💌 Display

51P Bridge					
VLAN	Priority	Max Age	Hello Time	Forward Delay	
1	32768	20	2	15	Modify

CTD D-24-

	STP Port				
VLAN	Port	Priority	Path Cost		
1	1/1/1	128	0	Modify	
1	1/1/2	128	0	Modify	
1	1/1/3	128	0	Modify	
1	1/1/4	128	0	Modify	
1	1/1/5	128	0	Modify	
1	1/1/6	128	0	Modify	
1	1/1/7	128	0	Modify	
1	1/1/8	128	0	Modify	
1	1/1/9	128	0	Modify	
1	1/1/10	128	0	Modify	
1	1/1/11	128	0	Modify	
1	1/1/12	128	0	Modify	
1	1/1/13	128	0	Modify	
1	1/1/14	128	0	Modify	
1	1/1/15	128	100	Modify	
1	1/1/16	128	0	Modify	
1	1/1/17	128	0	Modify	
1	1/1/18	128	0	Modify	
1	1/1/19	128	0	Modify	
1	1/1/20	128	0	Modify	
1	1/1/21	128	0	Modify	
1	1/1/22	128	0	Modify	
1	1/1/23	128	0	Modify	
1	1/1/24	128	100	Modify	
1	1/2/1	128	2	Modify	
1	1/2/2	128	2	Modify	
VLAN	Port	Priority	Path Cost		

[Home][Site Map][Logout][Save][Frame Enable|Disable][TELNET]

2. For the Brocade FCX and Brocade ICX devices, select a unit ID in the **Select Stack Unit ID** list and click **Display** to display the information about a specific stack unit.

#### NOTE

The **Select Stack Unit ID** list is not available in the **STP Bridge** window for the Brocade FastIron SX devices.

3. To change the default values of the STP bridge, click Modify .

The STP window is displayed as shown in the figure below.

STP VLAN ID: 1 📾 Device Bridge 🖻 🛅 Monitor Forward Delay (Seconds): 15 è 📾 Configure 🗄 🛅 Stack Maximum Age (Seconds): 20 🗄 🚞 System Hello Time (Seconds): 2 🕂 🛄 Port Priority: 32768 Monitor and Mi 🗄 🧰 QOS Apply 🗟 🕲 VLAN Port Port Priority: 128 Protocol Path Cost: 0 STP <u>RSTP</u> Port: 1/1/1 -۵ Trunk Apply Port STP Apply To All Ports Static Station 🗄 🛅 Command [Show][Statistic] [Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET] 4

FIGURE 118 Configuring STP bridge parameters

4. Type the VLAN identifier of the port in the VLAN ID field.

#### NOTE

The VLAN ID field is not available in the STP window for the Brocade FastIron SX devices.

- 5. Type the forward delay time, which is the period of time spent by a port in the listening and learning state before moving on to the learning or forwarding state, in the Forward Delay (Seconds) field. The range is from 4 through 30 seconds.
- 6. Type the maximum amount of time the device waits before a topology change in the **Maximum Age** (Seconds) field. The range is from 6 through 40 seconds.
- 7. Type the hello time, which is the interval of time between each configuration BPDU sent by the root bridge, in the **Hello Time (Seconds)** field. The range is from 1 through 10 seconds.
- 8. Type the priority used to identify the root bridge in a spanning tree in the **Priority** field. The range is from 0 through 65535.
- 9. Click Apply .

The message The change has been made is displayed and the configured values are displayed in the **STP Bridge** window. To display the **STP Bridge** window, click **Show**. To display STP information, click **Statistic**. For more information on the field descriptions, refer to Displaying STP information on page 67.

### **Changing STP port parameters**

The table below lists the default STP port parameters.

TABLE 30 Default STP port parameters

Parameter	Default value
Priority	128
Path Cost	The default path cost depends on the port type.
	• 10 Mbps - 100
	• 100 Mbps - 19
	• 1 Gbps - 4
	• 10 Gbps - 2

To change the default STP port values, perform the following steps.

1. Click Configure on the left pane and select STP.

The **STP Port** window is displayed as shown in the figure below.

2. For the Brocade FCX and Brocade ICX devices, select a unit ID in the **Select Stack Unit ID** list and click **Display** to display the information about a specific stack unit.

#### NOTE

The **Select Stack Unit ID** list is not available in the **STP Bridge** window for the Brocade FastIron SX devices.

#### FIGURE 119 Configuring the STP port

<ul> <li>Device</li> <li>Monitor</li> <li>Configure</li> <li>Stack</li> <li>System</li> <li>Port</li> <li>Monitor and Mi</li> <li>QOS</li> <li>VLAN</li> <li>STP</li> <li>RSTP</li> <li>Irunk</li> <li>Static Station</li> <li>Command</li> </ul>

Select Stack Unit ID: 1 🔽

1 💌 Display

STP Bridge					
VLAN	Priority	Max Age	Hello Time	Forward Delay	
1	32768	20	2	15	Modify

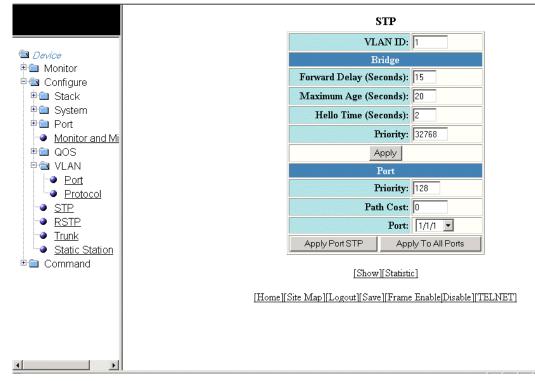
STP Port					
VLAN	Port	Priority	Path Cost		
1	1/1/1	128	0	Modify	
1	1/1/2	128	0	Modify	
1	1/1/3	128	0	Modify	
1	1/1/4	128	0	Modify	
1	1/1/5	128	0	Modify	
1	1/1/6	128	0	Modify	
1	1/1/7	128	0	Modify	
1	1/1/8	128	0	Modify	
1	1/1/9	128	0	Modify	
1	1/1/10	128	0	Modify	
1	1/1/11	128	0	Modify	
1	1/1/12	128	0	Modify	
1	1/1/13	128	0	Modify	
1	1/1/14	128	0	Modify	
1	1/1/15	128	100	Modify	
1	1/1/16	128	0	Modify	
1	1/1/17	128	0	Modify	
1	1/1/18	128	0	Modify	
1	1/1/19	128	0	Modify	
1	1/1/20	128	0	Modify	
1	1/1/21	128	0	Modify	
1	1/1/22	128	0	Modify	
1	1/1/23	128	0	Modify	
1	1/1/24	128	100	Modify	
1	1/2/1	128	2	Modify	
1	1/2/2	128	2	Modify	
VLAN	Port	Priority	Path Cost		

[Home][Site Map][Logout][Save][Frame Enable|Disable][TELNET]

3. Click **Modify** to change the default values of individual STP ports.

The **STP** window is displayed.

•



#### FIGURE 120 Configuring STP port parameters

- 4. Type the VLAN identifier of the port in the VLAN ID field.
- 5. Type the preference that STP should give to this port relative to other ports for forwarding traffic out of the spanning tree in the **Priority** field. The range is from 0 through 240.
- 6. Type the cost of using the port to reach the root bridge in the **Path Cost** field. The range is from 0 through 65535.
- 7. Select a port number in the Port list. The port number varies based on the product:
  - · For Brocade FCX and Brocade ICX devices stack-unit/slotnum/portnum
  - For Brocade FastIron SX devices slotnum/portnum
- 8. Click **Apply Port STP** to configure the entered values only to the specified port. Click **Apply To All Ports** to configure the entered values to all the ports.

The message The change has been made is displayed and the configured values are displayed in the STP Port window. To display the STP Port window, click Show.

To display STP information, click **Statistic**. For more information on the field descriptions, refer to the "Displaying STP information" section.

# **Configuring RSTP**

### **Configuring RSTP parameters**

You can change the RSTP default bridge and port parameters using the Web Management Interface.

### **Changing RSTP bridge parameters**

The table below lists the default RSTP bridge parameters.

**TABLE 31** Default RSTP bridge parameters

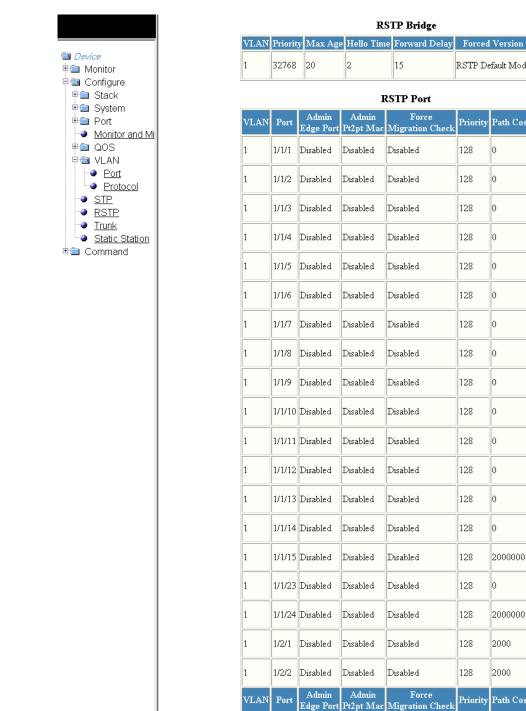
Parameter	Default value
Forward Delay	15 seconds
Maximum Age	20 seconds
Hello Time	2 seconds
Priority	32768
Force Version	RSTP Default Mode

To change the default RSTP bridge values, perform the following steps.

1. Click Configure on the left pane and select RSTP.

The RSTP Bridge window is displayed as shown in the figure below.

#### FIGURE 121 Configuring RSTP parameters



[Home][Site Map][Logout][Save][Frame Enable|Disable][TELNET]

Modify

RSTP Default Mode

Priority Path Cost

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

2000000

2000000

2000

2000

Priority Path Cost

128

128

128

128

128

128

128

128

128

128

128

128

128

128

128

128

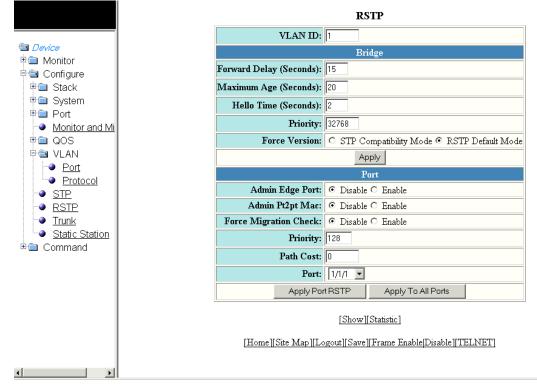
128

128

128

2. Click Modify.

The **RSTP** window is displayed as shown in the figure below.



#### FIGURE 122 Changing RSTP bridge values

- 3. Type the forward delay, which specifies how long a port waits before it forwards an RST BPDU after a topology change, in the **Forward Delay (Seconds)** field. The range is from 4 through 30 seconds.
- 4. Type the maximum age, which specifies the amount of time the device waits to receive a Hello packet before it starts a topology change, in the **Maximum Age (Seconds)** field. The range is from 6 through 40 seconds.
- 5. Type the hello time, which specifies the interval between two Hello packets, in the **Hello Time** (Seconds) field. The range is from 1 through 10 seconds.
- 6. Type the priority of the bridge in the Priority field. The range is from 0 through 65535.
- 7. Click STP Compatibility Mode or RSTP Default Mode for Force Version . By default, RSTP Default Mode is enabled.
- 8. Click Apply.

The message The change has been made is displayed and the configured values are shown in the RSTP Bridge window.

### **Changing RSTP port parameters**

The table below lists the default RSTP port parameters.

<b>TABLE 32</b> Default RSTP port parameters	
--	--

Parameter	Default value
Admin Edge Port	Disable

Parameter	Default value
Admin Pt2pt Mac	Disable
Force Migration Check	Disable
Priority	128
Path Cost	<ul> <li>The default path cost varies based on the products:</li> <li>For Brocade FCX and Brocade ICX devices - 0</li> <li>For Brocade FastIron SX devices - 2000</li> </ul>

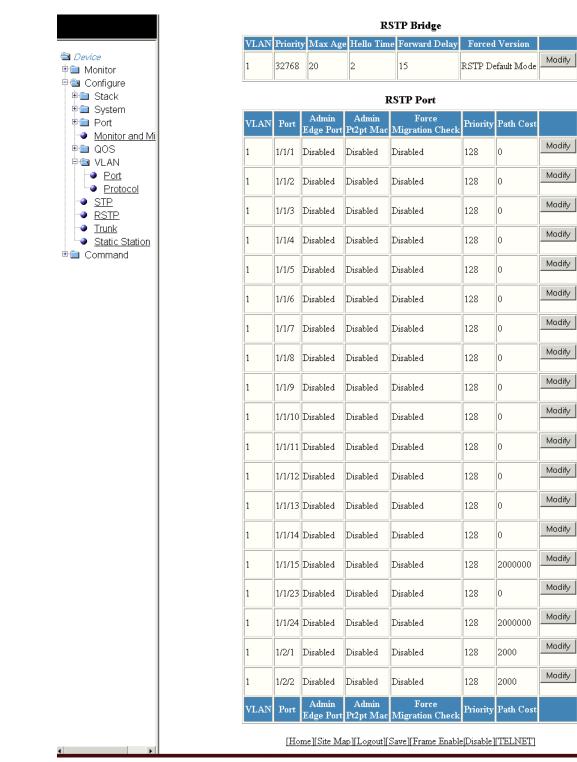
#### **TABLE 32** Default RSTP port parameters (Continued)

To change the default RSTP port values, perform the following steps.

1. Click **Configure** on the left pane and select **RSTP** 

The **RSTP Port** window is displayed as shown in the figure below.

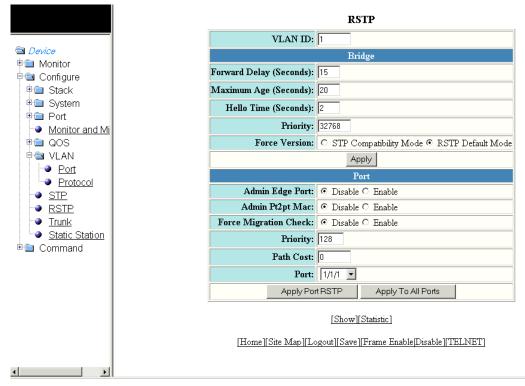
#### FIGURE 123 Configuring RSTP ports



2. Click Modify to change the default values for an individual RSTP ports.

The **RSTP** window is displayed as shown in the figure below.

#### FIGURE 124 Changing RSTP port values



- 3. Click **Disable** or **Enable** for **Admin Edge Port**. If you click **Enable**, the port becomes an edge port in the domain.
- 4. Click **Disable** or **Enable** for **Admin Pt2pt Mac**. If you click **Enable**, a port will be connected to another port through a point-to-point link.
- Click Disable or Enable for Force Migration Check. If you click Enable, the specified port will be forced to send one RST BPDU. If only STP BPDUs are received in response to the sent RST BPDU, then the port returns to sending STP BPDUs.
- 6. Type the priority, which is the preference that RSTP gives to this port relative to other ports for forwarding traffic out of the topology, in the **Priority** field. The range is from 0 through 240.
- 7. Type the cost of the port path to the root bridge in the **Path Cost** field. The range is from 1 through 20,000,000.
- 8. Select a port in the Port list. The port number varies based on the product:
  - · For Brocade FCX and Brocade FCX devices stack-unit/slotnum/portnum
  - · For Brocade FastIron SX devices slotnum/portnum
- 9. Click **Apply Port RSTP** to configure the values only to the specified port, or click **Apply To All Ports** to configure the values to all the ports.

The message The change is made is displayed and the configured RSTP port values are reflected in the **RSTP Port** window.

# **Configuring LAGs**

Configuring a static dynamic or keep-alive LAG	181
Displaying a configured LAG.	184

### Configuring a static dynamic or keep-alive LAG

You can configure a static, dynamic, or keep-alive link aggregation group (LAG).

#### NOTE

sFlow and rate-limiting commands are not supported in the Web Management interface.

To configure a LAG, perform the following steps.

1. Click Configure on the left pane and select LAG.

The Link Aggregation Group window is displayed.

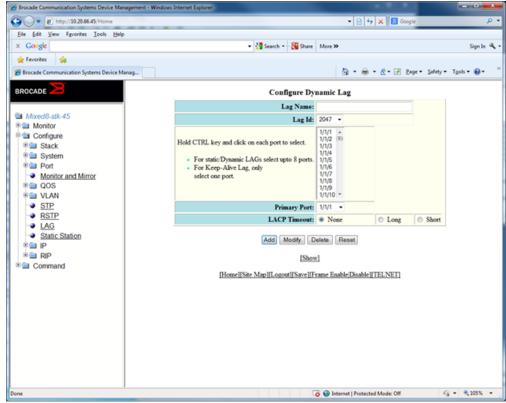
🏉 Brocade Communication Systems Device Management - Internet Explorer provided by HCL Infosystems Limited	
G v ktp://10.20.157.102/Home	• 🖯 4 🗙 🖸 8ing 🖉 •
🚖 Favorites 🌟 🥃 Suggested Sites 👻 🖉 Get more Add-ons 🕶	🔯 + 🖾 - 🗔 👼 + Page + Safety + Tools + 🚇 + "
BROCADE > ■ ICX6450-24 Router * Monitor * Monitor	Link Aggregation Group Lag Type: Stati: # Dynamic & KeepAlive Acopy Reset Ste Mao][Logoot][Stevel]Frame Enable:Disable][TELNET]
Done	😌 Internet   Protected Mode: On 🦷 👻 🔍 100% 💌
🚱 📜 🔍 🔩 💁 🥔 🗮 💌	- 📂 🖽 40 - 611 PM 2/27/2014

You can select among the LAG types: static, dynamic, or keep-alive.

- 2. Click Apply.
  - · If you select a static LAG, this window is displayed:

Brocade Communication Systems Device M	lanagement - Internet Explorer provided by HCL Inf	oxystems Limited			
G . + ttp://10.20.157.102/Home				🔹 😫 👍 🗙 💽 Bing	۹ م
🚖 Favorites 🛛 🍰 Suggested Sites 🕶	👩 Get more Add-ons 🕶				
6 Brocade Communication Systems Device N	Aanag			🏠 • 🖾 - 🖾 🛞	• Bage • Safety • Tools • 📦 •
		Configure Static	Lag		
an investo of Device		Lag Name:	Red		
ICX6450-24 Router * Monitor		Lag Id:	256 •		
Configure Stack System Pot Monitor and Mirror GOS GVAN		Hold CTRL key and click on each port to select. <ul> <li>For static Dynamic LAGs select upto 12 ports.</li> <li>For Key-Ale Lag, only select one port.</li> </ul>	1/1/1 1/1/2 1/1/3 1/1/6 1/1/6 1/1/7 1/1/8 1/1/9 1/1/9 1/1/10 *		
STP     RSTP		Primary Port:	1/1/1 •		
→ LAG		Trunk Threshold:	1		
Static Station     Static Station     Rip     Rip     Command		Add Modify Delete	Reset		
- Command					
		[Home][Site Map][Logout][Save][Frame E	inable[Disable][TEL	NET	
/forms/dgLag			0	Internet   Protected Mode: On	G • \$100% •
🕘 📋 🔍 🔩	💁 🥥 💋 🍢 🛛				- ► 🐨 €) 6.17 PM 2/27/2814

· If you select a dynamic LAG, this window is displayed:



• If you select a keep-alive LAG, this window is displayed:

Erocade Communication Systems Device Management - Windows In	ternet Explorer			_		
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Brocade Communication Systems Device Manag			<u>6</u> • ∉	• 🐮 🐼 🗈	ge ≖ ≦afety =	Tgols = 🔞 = 🥂
BROCADE	Configure Kee	p-Alive Lag				
	Lag Name:					
MonodBask-45     @     Monitor     @     Stack     @     Stack     @     System     @     Port <sup>™</sup> Monitor and Mir     @     QOS	Hold CTRL key and click on each port to select. <ul> <li>For static Dynamic LAGs select upto 8 ports.</li> <li>For Keep-Afre Lag, only select one port.</li> </ul>	1/1/1 1/1/2 (#) 1/1/3 1/1/3 1/1/6 1/1/6 1/1/6 1/1/7 1/1/8 1/1/9 1/1/10 ~				
🗉 🚍 VLAN	LACP Timeout:	None	Cong	Short		
STP     RSTP	Add Modify I	Delete Reset				
LAG     Static Station	[Sho	w]				
8 🗃 IP 8 📺 RIP	[Home][Site Map][Logout][Save][]	Frame Enable[Disable]	[TELNET]			
Command						
lone			😌 Internet   Protei	cted Mode: Off	-94	• @105% •

3. Enter the LAG name in the Lag Name field.

You can enter up to 64 alphanumeric characters.

4. Enter the LAG ID in the Lag Id field.

Hold down the CTRL key and, for static and dynamic LAGs only, select ports from the list. The number of ports you can select for static and dynamic LAGs depends on the platform. You can select only one port for keep-alive LAGs.

#### NOTE

If you do not select a LAG ID, an ID is automatically generated.

<sup>5.</sup> NOTE

This step applies only to static and dynamic LAGs.

Select the primary port.

The **Primary Port** list displays a list of the ports you selected for the LAG; you can select a primary port from it.

### <sup>6.</sup> NOTE

This step applies only to static LAGs.

Configure the trunk threshold.

## 7. NOTE

This step applies only to dynamic and keep-alive LAGs.

Configure the LACP timeout.

8. Click Add.

The LAG is added.

## **Displaying a configured LAG**

You can display information for a configured link aggregation group (LAG). You can also deploy, undeploy, modify, or delete configured LAGs.

To display LAG information, perform the following step.

Click Show in the Configure LAG window.

	5.45/Home									• 8 4	🗙 🔝 Goog	ple
Edit View Fgvorites Google	Tools	Help			🔹 🚺 Sear	ch • 👪 Share	More 39					Sign In
avorites 🎪												
ocade Communication Sys	stems Dev	ice Manag.	-						6		🔥 - 💽 B	age = Safety = Tools = 🔞 =
CADE Z						Link Aggre	gation Gr	oup				
Aixed8-stk-45	Lag Id	Lag Name	Lag Type	Port Members	Primary Port	Trunk Threshold	LACP Timeout	Port Count	LACP Key	Trunk Type	Status	
Monitor Configure	60	ds	Dynamic	8/1/1, 8/1/2, 8/1/3, 8/1/4, 8/1/5, 8/1/6, 8/1/7, 8/1/8	8/1/7	1	long	8	20060	hash- based	Undeployed	Deploy UnDeploy Delete Modify
<ul> <li>System</li> <li>Port</li> <li>Monitor and Mir</li> </ul>	-	keep- peri	KeepAlive	1/3/5	1/3/5		long	1	9867	hash- based	Deployed	Deploy UnDeploy Delete Modify
QOS VLAN <u>STP</u>	512	kh512	Dynamic	5/1/1, 5/1/2, 5/1/3	5/1/1	1	none	3	20512	hash- based	Deployed	Deploy UnDeploy Delete Modify
<u>RSTP</u> <u>LAG</u> <u>Static Station</u>	1	lagl	Static	2/1/1, 2/1/2, 2/1/3	2/1/1	1		3		hash- based	Deployed	Deploy UnDeploy Delete Modify
RIP Command	2	12	Static	5/1/4, 5/1/5, 5/1/6, 5/1/7	none	1		4	-	hash- based	Undeployed	Deploy UnDeploy Delete Modify
	Lag Id	Lag Name	Lag Type	Port Members	Primary Port	Trunk Threshold	LACP Timeout	Port Count	LACP Key	Trunk Type	Status	

This window has information fields for all LAG types; the fields are populated according to the LAG type, as follows:

- For static LAGs, the LACP Timeout and LACP Key fields display "-" because these parameters do not apply to static LAGs.
- For dynamic LAGs, the Trunk Threshold field displays "-" because this parameter does not apply to dynamic LAGs.

You can perform the following actions in this window:

- · You can select the Modify button to display the Link Aggregation Group configuration window.
- You can select the Add LAG link to configure a new LAG.

# **Configuring a Static Station**

Adding a static station	185
Modifying a static station	186

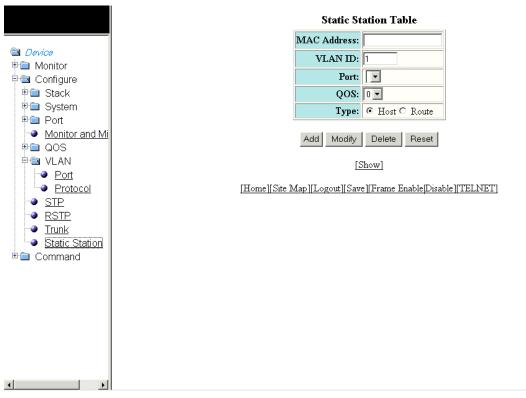
### Adding a static station

To configure a static MAC entry and assign the traffic priority (QoS) and VLAN membership (VLAN ID) to the entry, perform the following steps.

1. Click Configure on the left pane and select Static Station.

The Static Station Table window is displayed as shown in the figure below.

FIGURE 125 Configuring the static station



- 2. Type the MAC address of the device in xx-xx-xx-xx-xx format in the MAC Address field.
- 3. Type the port-based VLAN identifier in the VLAN ID field. VLAN 1 is the default VLAN.
- 4. Select a port number in the Port list. The port number varies based on the product:
  - For Brocade FCX and Brocade ICX devices stack-unit/slotnum/portnum
  - · For Brocade FastIron SX devices slotnum/portnum
- 5. Select a QoS priority in the QOS list. A static MAC entry can be assigned a priority from 0 through 7.

- 6. Click Host or Route for Type. By default, Host is selected.
- 7. Click Add.
  - The message The change has been made is displayed. To display the configured static station, click Show.

To reset the data entered in the configuration pane, click **Reset**. You can also delete the configured static station entry by clicking **Delete**.

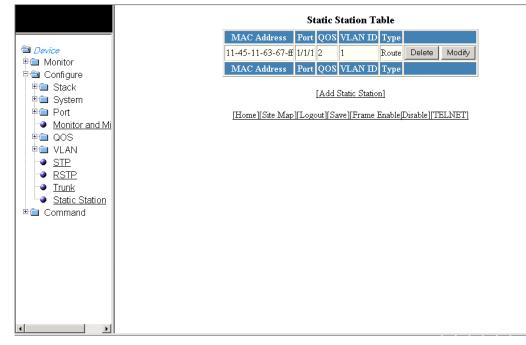
### Modifying a static station

After you configure a static station, you can modify the port number, QoS priority, VLAN ID, and device type of the entry by performing the following steps.

1. Click **Configure** on the left pane and select **Static Station**.

The Static Station Table window is displayed as shown in the figure below.

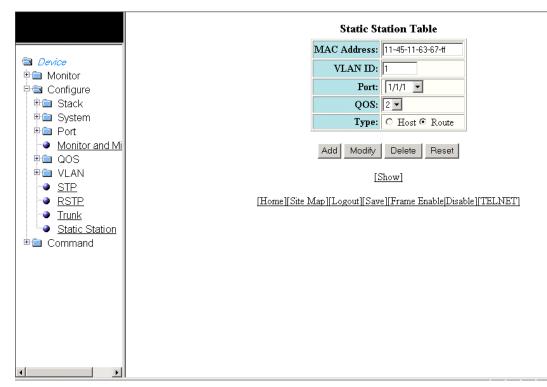
FIGURE 126 Modifying the static station



2. Click Modify .

The Static Station Table window is displayed as shown in the figure below.

#### FIGURE 127 Modifying the static station



3. Type the port-based VLAN identifier in the VLAN ID field. VLAN 1 is the default VLAN.

#### NOTE

The VLAN ID field is not available in the Static Station Table window for the Brocade FastIron SX devices.

- 4. Select a port number in the Port list. The port number varies based on the product:
  - For Brocade FCX and Brocade ICX devices stack-unit/slotnum/portnum
  - · For Brocade FastIron SX devices slotnum/portnum
- 5. Select a QoS priority in the QOS list. A static MAC entry can be assigned a priority from 0 through 7.
- 6. Click Host or Route for Type.
- 7. Click Modify.

The message The change has been made is displayed and the configured values are reflected in the Static Station window. To display the modified static station, click Show.

To reset the data entered in the configuration pane, click **Reset**. You can also delete the static station entry by clicking **Delete**.

Modifying a static station

# **Configuring IP**

Configuring the router IP address	
Configuring a standard ACL	
Configuring an extended ACL	
Configuring an IP access group	
Configuring an IP Autonomous System-path access list	195
Configuring an IP community list	196
Configuring an IP prefix list	
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Configuring IP interfaces.	
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Configuring a static RARP	202
Configuring a static route	
Configuring a UDP helper	

The IP feature is specific to the Brocade FCX, Brocade ICX, and Brocade FastIron SX devices running Layer 3 code.

#### NOTE

The terms "Layer 3 switch" and "router" are used interchangeably in this chapter.

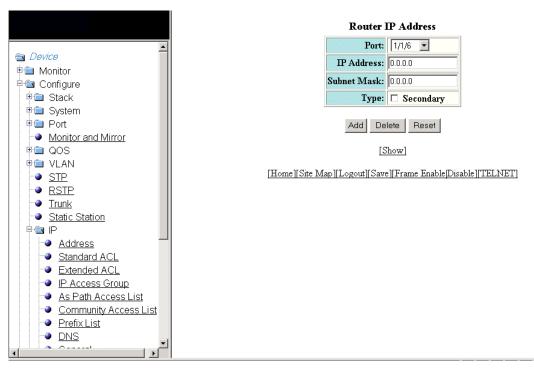
# **Configuring the router IP address**

To configure an IP address to an interface, perform the following steps.

- 1. Click Configure on the left pane and select IP.
- 2. Click Address.

The Router IP Address window is displayed as shown in the figure below.

### FIGURE 128 Configuring router IP addresses



- 3. Select a port in the Port list. The port number varies based on the product:
  - · For Brocade FCX and Brocade ICX devices stack-unit/slotnum/portnum
  - · For Brocade FastIron SX devices slotnum/portnum
- 4. Type the IP address of the device in the IP Address field.
- 5. Type the IP subnet mask in the Subnet Mask field.
- Select the Secondary check box for Type if you have already configured an IP address within the same subnet on the interface.
- 7. Click Add.

The message The change has been made is displayed and the specified IP address is assigned to the interface. To display the configured router IP address, click **Show**.

To delete the configured IP address, click **Delete**. To reset the data entered in the configuration pane, click **Reset**.

### **Configuring a standard ACL**

To configure a standard ACL, perform the following steps.

- 1. Click Configure on the left pane and select IP .
- 2. Click Standard ACL .

The Standard ACL window is displayed as shown in the figure below.

#### FIGURE 129 Configuring standard ACLs

	Standard ACL
	Standard ACL Number: 1 Name ACLs
	Action: O Permit O Deny
Monitor	IP Address: 0.0.0.0
⊡	Filter Mask: 0.0.0.0
P System	
⊕ Port	Host Name:
Monitor and Mirror	Log:
₽ 💼 QOS	
🗉 🏛 VLAN	Add Delete Reset
-• <u>STP</u>	
Provent state of the state of	[Show ACLs]
Trunk	[Home][Site Map][Logout][Save][Frame Enable Disable][TEI
Static Station	
Address	
Standard ACL     Extended ACL	
<ul> <li>Extended ACL</li> <li>IP Access Group</li> </ul>	
<ul> <li>As Path Access List</li> </ul>	
<ul> <li><u>Community Access List</u></li> </ul>	
Prefix List	
DNS	

- Type the ACL number from 1 through 99 in the Standard ACL Number field. If you want to type an ACL name, click Name ACLs. The field label changes to Standard ACL Name. Now you can type an ACL name up to 256 alphanumeric characters in length.
- 4. Click **Permit** or **Deny** for **Action** so that the packets that match a policy in the ACL can be permitted (forwarded) or denied (dropped).
- 5. Type the host IP address in the IP Address field.
- 6. Type the IP subnet mask in the Filter Mask field.
- 7. Type the host name in the Host Name field.
- 8. Select the **Log** check box so that the device generates syslog entries and SNMP traps for the packets that are denied by the access policy.
- 9. Click Add .

The message The change has been made is displayed and the ACL is added. To display the configured ACL, click Show ACLs .

To delete the configured ACL, click **Delete** . To reset the data entered in the configuration pane, click **Reset** .

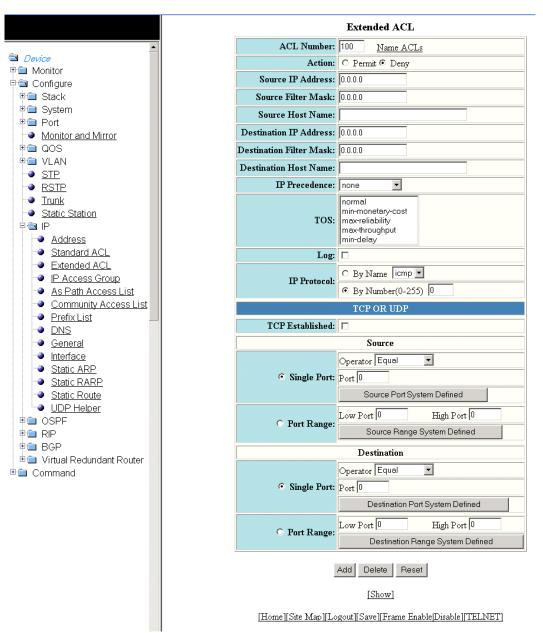
### **Configuring an extended ACL**

To configure an extended numbered ACL, perform the following steps.

- 1. Click Configure on the left pane and select IP .
- 2. Click Extended ACL .

The Extended ACL window is displayed as shown in the figure below.

#### FIGURE 130 Configuring an extended ACL



- 3. Type the extended ACL number from 100 through 199 in the ACL Number field. If you want to specify the extended ACL name, click Name ACLs. The field label is changed to ACL Name.
- Click Permit or Deny for Action so that the packets that match the policy can be forwarded or dropped.
- 5. Type the source IP address in the **Source IP Address** field.
- 6. Type the source mask in the Source Filter Mask field.
- 7. Type the source host name in the Source Host Name field.
- 8. Type the destination IP address in the **Destination IP Address** field.
- 9. Type the destination mask in the Destination Filter Mask field.
- 10.Type the destination host name in the **Destination Host Name** field.

11Select one of the following options in the IP Precedence list:

- **routine** -- The ACL matches packets that have the routine precedence.
- priority --The ACL matches packets that have the priority precedence.
- **immediate** -- The ACL matches packets that have the immediate precedence.
- **flash** --The ACL matches packets that have the flash precedence.
- **flash-override** --The ACL matches packets that have the flash override precedence.
- **critical** -- The ACL matches packets that have the critical precedence.
- **internet** --The ACL matches packets that have the internetwork control precedence.
- **network** -- The ACL matches packets that have the network control precedence.

12Select one of the following options in the **TOS** list:

- normal --The ACL matches packets that have the normal ToS.
  - **min-monetary-cost** --The ACL matches packets that have the minimum monetary cost ToS.
  - **max-reliability** --The ACL matches packets that have the maximum reliability ToS.
  - **max-throughput** --The ACL matches packets that have the maximum throughput ToS.
  - min-delay --The ACL matches packets that have the minimum delay ToS.
- 13Select the **Log** check box to enable generation of SNMP traps and syslog messages for packets denied by the ACL.
- 14.Click **By Name** for **IP Protocol** to select the IP protocol by name or click **By Number** to specify the number (from 0 through 255).
- 15Select the **TCP Established** check box so that the policy applies to the TCP packets that have the ACK (Acknowledgment) or RST (Reset) bits set on (set to "1") in the Control Bits field of the TCP packet header. The policy applies only to the established TCP sessions, not to the new sessions.

#### NOTE

This field applies only to the destination TCP ports, not the source TCP ports.

16Enter the following information for Source :

a) To configure a single port, click Single Port.

Select one of the following for **Operator** :

- Equal --The policy applies to the TCP or UDP port name or number you enter.
   NotEqual --The policy applies to all the TCP or UDP port numbers except the port number or port name you enter.
  - **LessThan** --The policy applies to the TCP or UDP port numbers that are less than the port number or the numeric equivalent to the port name you enter.
  - **GreaterThan** --The policy applies to the TCP or UDP port numbers greater than the port number or the numeric equivalent to the port name you enter.

### Click Source Port System Defined

b) To configure a range of ports, click **Port Range**.

Type the lower port number in the **Low Port** field and the highest port number in the **High Port** field.

#### Click Source Range System Defined .

17.To configure the destination port settings under **Destination**, follow the procedure explained in step 16.

### 18.Click Add .

The message  ${\tt The \ change \ has \ been \ made is displayed.}$  To display the configured extended numbered ACL, click Show .

To delete the configured extended numbered ACL, click **Delete**. To reset the data entered in the configuration pane, click **Reset**.

### Configuring an IP access group

To configure an IP access group, perform the following steps.

- 1. Click Configure on the left pane and select IP .
- 2. Click IP Access Group .

The IP Access Group window is displayed as shown in the figure below.

FIGURE 131 Configuring IP access groups

	IP Access Group
	Port: 1/1/1 Select Name ACLs
	Direction: 🗖 In Bound
🗎 🧰 Monitor	ACL Number: 0
E Configure	μ
🗎 🛄 Stack	Add Delete Reset
🗉 🛅 System	
• Port	[Show]
Monitor and Mirror	
	[Home][Site Map][Logout][Save][Frame Enable Disable][TELNET]
RSTP     Trunk	
─● <u>Trunk</u> ─● Static Station	
Address	
Standard ACL	
Extended ACL	
P Access Group	
<ul> <li>As Path Access List</li> </ul>	
Community Access List	
<ul> <li>Prefix List</li> </ul>	
- DNS	

- 3. Select a port in the Port list. The port number varies based on the product:
  - For Brocade FCX and Brocade ICX devices stack-unit/slotnum/portnum
     For Brocade FastIron SX devices slotnum/portnum
- 4. Select the **In Bound** check box for **Direction** to enable incoming traffic on the interface to which you apply the ACL.
- Type the ACL number in the ACL Number field. If you want to type an ACL name, click Select Name ACLs. The field label changes to ACL Name. Now you can type the ACL name up to 256 alphanumeric characters in length.
- 6. Click Add .

The message  ${\tt The \ change \ has \ been \ made \ is \ displayed.}$  To display the configured IP access group, click  ${\tt Show}$  .

To delete the configured IP access group, click Delete . To reset the data entered in the configuration pane, click Reset .

### **Configuring an IP Autonomous System-path access list**

To configure an Autonomous System-path access list, perform the following steps.

- 1. Click Configure on the left pane and select IP .
- 2. Click Autonomou System Path Access List .

The IP Autonomous System Path Access List window is displayed as shown in the figure below.

FIGURE 132 Configuring the IP Autonomous System-path access list

	IP As Path Access List
	Name:
	Sequence (0 - System Set): 0
⊕ Monitor     □     Gonfigure     □	Action: O Deny • Permit
i tack	Regular Expression:
P ■ Stack	Reguar Expression:
Port	Add Modify Delete Reset
Monitor and Mirror	Add Modily Delete Reset
	[Show]
🗉 🏛 VLAN	<u> </u>
-• <u>STP</u>	[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNE
• <u>RSTP</u>	
Trunk	
Static Station	
Address	
Standard ACL	
Extended ACL	
Access Group     As Path Access List	
<u>As Patri Access Lis</u> <u>Community Access List</u>	
<ul> <li>Prefix List</li> </ul>	
DNS	

- 3. Type the ACL name in the Name field.
- 4. Type the Autonomous System-path list sequence number in the **Sequence (0 System Set)** field. You can configure up to 199 entries in an Autonomous System-path list.

If you do not specify a sequence number, the software numbers the entries in increments of five, beginning with number 5. The software interprets the entries in an Autonomous System-path list in numerical order, beginning with the lowest sequence number.

- 5. Click Deny or Permit for Action .
- 6. Type the Autonomous System-path information you want to permit or deny to routes that match any of the match statements within the ACL in the **Regular Expression** field.
- 7. Click Add .

The message The change has been made is displayed. To display the configured Autonomous System-path list, click **Show** .

To modify the Autonomous System-path list, click **Modify**. You can also delete the Autonomous System-path list by clicking **Delete**. To reset the data entered in the configuration pane, click **Reset**.

# **Configuring an IP community list**

To configure an IP community list, perform the following steps.

- 1. Click Configure on the left pane and select IP .
- 2. Click Community Access List .

The IP Community List window is displayed as shown in the figure below.

FIGURE 133 Configuring the IP community list

	IP	Community List
	Name:	
Device	Sequence (0 - System Set):	0
🗎 💼 Monitor	Action:	O Deny • Permit
ētā Configure ētā Stack		□ Internet □ No Advertise □ No Export □ Local As
P System		
Port	Community List (123:345, 9:567):	
Monitor and Mirror	Add	lodify Delete Reset
🖷 💷 VLAN		[Show]
-• <u>STP</u>		
● <u>RSTP</u>	[Home][Site Map][Logou	ıt][Save][Frame Enable Disable][TELNET]
Trunk		
Static Station		
Address		
Standard ACL		
Access Group     As Path Access List		
Community Access List		
<ul> <li>Prefix List</li> </ul>		
DNS		

- 3. Type the ACL name in the Name field.
- 4. Type the community list sequence number in the **Sequence (0 System Set)** field. You can configure up to 199 entries in a community list.

If you do not specify a sequence number, the software numbers the entries in increments of five, beginning with number 5. The software interprets the entries in a community list in numerical order, beginning with the lowest sequence number.

- 5. Click Deny or Permit for Action .
- 6. Select one of the following options for Set Community :
  - Internet --The Internet community.
    - **No Advertise** --Routes with this community cannot be advertised to any other BGP Layer 3 switches.
    - **No Export** --The community of sub-Autonomous Systems within a confederation. Routes with this community can be exported to other sub-Autonomous Systems within the same confederation but cannot be exported outside the confederation to other Autonomous Systems or otherwise sent to EBGP neighbors.
    - **Local Autonomous System** --The local sub-Autonomous System within the confederation. Routes with this community can be advertised only within the local sub-Autonomous System.

7. Type the community number in *num* :*num* format in the **Community List** field.

8. Click Add .

The message The change has been made is displayed. To display the configured community list, click  $\mathbf{Show}$ .

To modify the community list, click **Modify**. You can also delete the community list by clicking **Delete**. To reset the data entered in the configuration pane, click **Reset**.

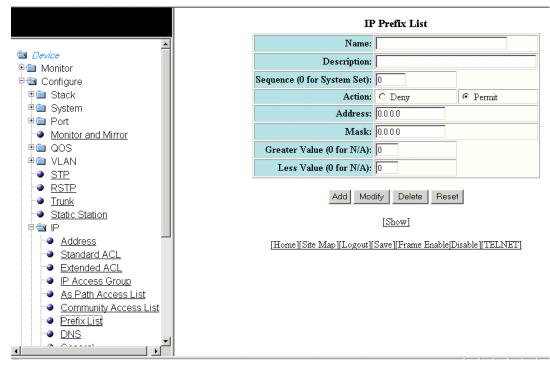
### **Configuring an IP prefix list**

To configure an IP prefix list, perform the following steps.

- 1. Click Configure on the left pane and select IP .
- 2. Click Prefix List .

The IP Prefix List window is displayed as shown in the figure below.

FIGURE 134 Configuring IP prefix lists



- 3. Type the prefix list name in the Name field.
- 4. Type a text string describing the prefix list in the **Description** field.
- 5. Type the IP prefix list sequence number in the **Sequence (0 for System Set)** field. You can configure up to 100 prefix list entries.

If you do not specify a sequence number, the software numbers the entries in increments of five, beginning with prefix list entry 5. The software interprets the prefix list entries in numerical order, beginning with the lowest sequence number.

- 6. Click Deny or Permit for Action .
- 7. Type the network IP address in the Address field.
- 8. Type the network mask address in the Mask field.
- 9. Type the maximum value of the mask length in the Greater Value (0 for N/A) field.

10.Type the least value of the mask length in the Less Value (0 for N/A) field.

```
NOTE
```

The Greater Value (0 for N/A) or Less Value (0 for N/A) values you specify must meet the following condition:Length < Greater Value <= Less Value <= 32

11.Click Add .

The message  ${\tt The \ change \ has \ been \ made \ is \ displayed.}$  To display the configured IP prefix list, click Show .

To modify the IP prefix list, click **Modify**. You can also delete the IP prefix list by clicking **Delete**. To reset the data entered in the configuration pane, click **Reset**.

## **Configuring a DNS entry**

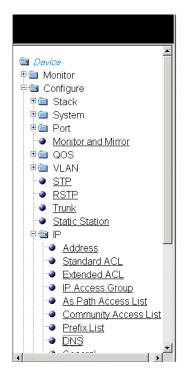
You can configure the Brocade device to recognize up to four Domain Name System (DNS) servers. The first entry serves as the primary default address. If a query to the primary address fails to be resolved after three attempts, the next DNS address is queried (also up to three times). This process continues for each defined DNS address until the query is resolved. The order in which the default DNS addresses are polled is the same as the order in which you enter them.

To configure DNS, perform the following steps.

- 1. Click Configure on the left pane and select IP .
- 2. Click DNS .

The **DNS** window is displayed as shown in the figure below.

FIGURE 135 Configuring a DNS entry



Domain Name:	
Address Format:	⊙ ірv4 С ірvб
Server Search List:	0.0.0.0
	0.0.0.0
	0.0.0.0
	0.0.0.0

[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]

- 3. Type the domain name in the **Domain Name** field.
- 4. Click ipv4 or ipv6 for Address Format .
- 5. Type the IPv4 or IPv6 address of the DNS in the Server Search List fields.
- 6. Click Apply

The message  ${\tt The\ change\ has\ been\ made\ is\ displayed}.$  To reset the data entered in the configuration pane, click  ${\tt Reset}$  .

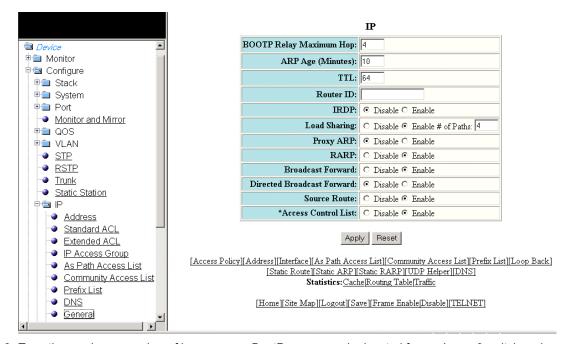
### **Configuring the general IP settings**

To configure the general IP settings, perform the following steps.

- 1. Click Configure on the left pane and select IP .
- 2. Click General .

The **IP** window is displayed as shown in the figure below.

FIGURE 136 Configuring the general IP settings



- 3. Type the maximum number of hops away a BootP server can be located from a Layer 3 switch and still be used by the router clients for network booting in the **BOOTP Relay Maximum Hop** field. The range is from 1 through 15. The default value is 4 hops.
- 4. Type the amount of time the device should keep a MAC address learned through ARP in the device ARP cache in the **ARP Age (Minutes)** field. The range is from 0 through 240 minutes. The default is 10 minutes.
- Type the maximum number of Layer 3 switches (hops) through which a packet can pass before being discarded in the TTL field. The range is from 1 through 255 hops. The default is 64 hops.
- 6. Type the Layer 3 switch identifier in the Router ID field.
- 7. Click Disable or Enable for IRDP . By default, this protocol is disabled.

ICMP Router Discovery Protocol (IRDP) is an IP protocol a Layer 3 switch can use to advertise the IP addresses of its interfaces to the directly attached hosts.

- 8. Click **Disable** or **Enable** for **Load Sharing**. If you click **Enable**, type the number of load sharing paths in the **# of Paths** field.
- 9. Click Disable or Enable for Proxy ARP .

Proxy ARP is an IP mechanism a Layer 3 switch can use to answer an ARP request on behalf of a host, by replying with the Layer 3 switch's own MAC address instead of the host.

10.Click Disable or Enable for RARP .

Reverse ARP (RARP) is an IP mechanism a host can use to request an IP address from a directly attached Layer 3 switch when the host boots.

11 Click Disable or Enable for Broadcast Forward .

#### 12 Click Disable or Enable for Directed Broadcast Forward .

A directed broadcast is a packet containing all ones (or in some cases, all zeros) in the host portion of the destination IP address. When a Layer 3 switch forwards such a broadcast, it sends a copy of the packet to each of its enabled IP interfaces.

13.Click Disable or Enable for Source Route .

14.Click Disable or Enable for Access Control List .

15.Click Apply .

The message The change has been made is displayed. To reset the data entered in the configuration pane, click Reset .

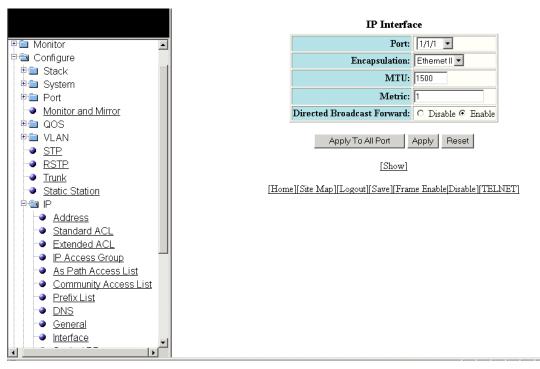
### **Configuring IP interfaces**

To configure an IP interface, perform the following steps.

- 1. Click Configure on the left pane and select IP .
- 2. Click Interface .

The IP Interface window is displayed as shown in the figure below.

#### FIGURE 137 Configuring an IP interface



- 3. Select a port in the Port list. The port number varies based on the product:
  - For Brocade FCX and Brocade ICX devices stack-unit/slotnum/portnum
     For Brocade FastIron SX devices slotnum/portnum
- 4. Select the format of the Layer 2 packets in the Encapsulation list.
- 5. Type the maximum size of the IP packet when encapsulated in a Layer 2 packet, in the MTU field.
- 6. Type the cost in the **Metric** field.
- 7. Click Disable or Enable for Directed Broadcast Forward .
- 8. Click **Apply** to configure the IP interface to the specified port or click **Apply To All Ports** to configure the IP interface on all the ports.

The message The change has been made is displayed. To display the configured IP interface, click **Show** . To reset the data entered in the configuration pane, click **Reset** .

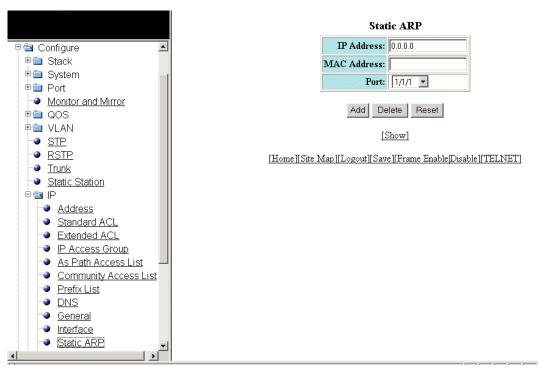
### **Configuring a static ARP**

To configure a static Address Resolution Protocol (ARP) entry, perform the following steps.

- 1. Click Configure on the left pane and select IP .
- 2. Click Static ARP .

The Static ARP window is displayed as shown in the figure below.

#### FIGURE 138 Configuring static ARP



- 3. Type the IP address of the directly connected device in the IP Address field.
- 4. Type the MAC address of the device in xx-xx-xx-xx-xx format in the MAC Address field.
- 5. Select a port number in the Port list. The port number varies based on the product:
  - For Brocade FCX and Brocade ICX devices stack-unit/slotnum/portnum
  - For Brocade FastIron SX devices slotnum/portnum
- 6. Click Add .

The message The change has been made is displayed. To display the configured static ARP entry, click **Show**.

To reset the data entered in the configuration pane, click Reset .

#### NOTE

The delete operation is not supported in 08.0.20 and later releases.

### **Configuring a static RARP**

The Reverse Address Resolution Protocol (RARP) provides a simple mechanism for directly attached IP hosts to boot over the network. RARP allows an IP host that does not have a means of storing its IP address across power cycles or software reloads to query a directly attached Layer 3 switch for an IP address.

To configure a static IP RARP entry for static routes on a Brocade Layer 3 switch, perform the following steps.

- 1. Click Configure on the left pane and select IP .
- 2. Click Static RARP .

The Static RARP window is displayed as shown in the figure below.

FIGURE 139 Configuring static RARP

🗉 Stack 🔳	Static RARP MAC Address:
🗉 🛄 System	<b>IP Address:</b> 0.0.0.0
🖻 🧰 Port	
Monitor and Mirror	Add Delete Reset
🖻 💼 QOS	
🖻 🕮 VLAN	[Show]
STP	
RSTP	[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]
<u> </u>	
Static Station	
₽ 📾 IP	
Address	
Standard ACL	
Extended ACL	
P Access Group	
As Path Access List	
Community Access List	
Prefix List	
General	
Static ARP	

- 3. Type the MAC address of the boot client in xx-xx-xx-xx-xx format in the MAC Address field.
- 4. Type the IP address you want the Layer 3 switch to give to the client in the IP Address field.
- 5. Click Add .

The message The change has been made is displayed. To display the configured static IP RARP entry, click Show .

To delete the configured static IP RARP entry, click  $\mbox{Delete}$  . To reset the data entered in the configuration pane, click  $\mbox{Reset}$  .

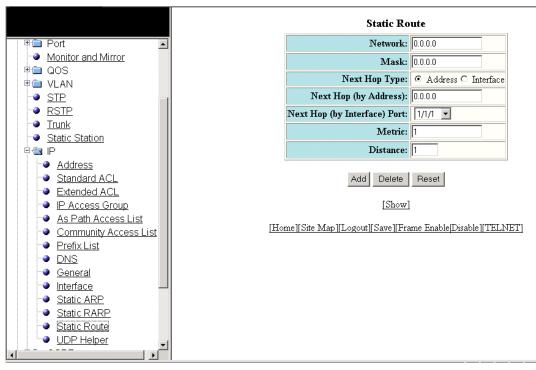
# Configuring a static route

To configure an IP static route, perform the following steps.

- 1. Click Configure on the left pane and select IP .
- 2. Click Static Route .

The Static Route window is displayed as shown in the figure below.

#### FIGURE 140 Configuring static routes



- 3. Type the route destination IP address in the **Network** field.
- 4. Type the network mask in the Mask field.
- 5. Click Address for Next Hop Type and type the IP address of the next hop router (gateway) for the route in the Next Hop (by Address) field.

Or

Click Interface for Next Hop Type and select an Ethernet port in the Next Hop (by Interface) Port list.

- 6. Type the metric value from 1 through 16 in the Metric field. The default is 1.
- 7. Type the administrative distance of the route in the **Distance** field. The default is 1.
- 8. Click Add .

The message  ${\tt The\ change\ has\ been\ made\ is\ displayed.}$  To display the configured static route, click  ${\tt Show}$  .

To delete the configured static route, click  $\mbox{Delete}$  . To reset the data entered in the configuration pane, click  $\mbox{Reset}$  .

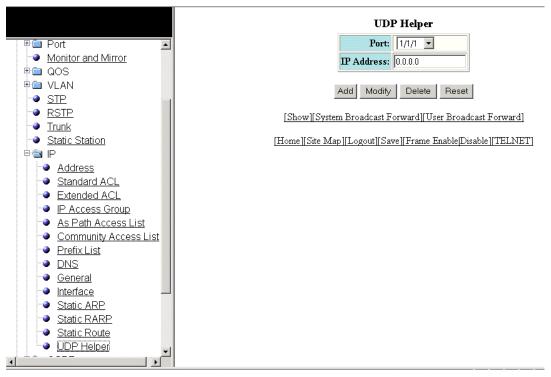
### **Configuring a UDP helper**

To configure a helper address on the interface connected to the clients, perform the following steps.

- 1. Click Configure on the left pane and select IP .
- 2. Click UDP Helper .

The **UDP Helper** window is displayed as shown in the figure below.

#### FIGURE 141 Configuring UDP helper



- 3. Select an Ethernet port in the Port list. The port number varies based on the product:
  - For Brocade FCX and Brocade ICX devices stack-unit/slotnum/portnum
  - For Brocade FastIron SX devices slotnum/portnum
- 4. Type the server IP address or the subnet directed broadcast address of the IP subnet the server belongs to in the **IP Address** field.
- 5. Click Add .

The message  ${\tt The\ change\ has\ been\ made\ is\ displayed.}$  To display the configured UDP helper, click <code>Show</code> .

To modify the configured UDP helper, click **Modify**. You can also delete the UDP helper by clicking **Delete**. To reset the data entered in the configuration pane, click **Reset**.

### **Enabling forwarding for a UDP application**

To specify a UDP application by using an application name, perform the following steps.

1. Click System Broadcast Forward on the UDP Helper window.

The system broadcast forward window is displayed as shown in this figure.

C . ttp://172266734/Home	- + X S Geogle	ρ.
🔆 Frentes: 🙀 (E) Team Documents: (E) psynch. 🏶 CMWeb (E) One: (E) My HCL Login: (D) Outlook Web App: 🔝 Google 🕃 Suggested Sites 🕶 (E)		Tgols = 😜 - 🤇
BROCADE Selected Forward P DOMAIN TFTP TIME TACACE # UVLN	Ports	
STE     Static Static     Static Static		
•	S Internet   Protected Mode: On	₹100% ×
	Config guides Desktop	12:39 PM Wiednesday

#### FIGURE 142 Enabling forwarding for a UDP application

- 2. Select one of the following forward ports in the list:
  - BOOTPC
    - BOOTPS
    - DISCARD
    - DNSIX
    - DOMAIN
    - ECHO
    - MOBILE-IP
    - NETBIOS-DGM
    - RIP
    - SNMP
    - SNMP-TRAP
    - TACACS
    - TALK
    - TFTP
    - TIME
- 3. Click Add .

The added port is displayed in the **Selected Forward Ports** pane, which displays the application ports that are enabled by default. To delete the forwarding port, click **Delete**. To reset the data entered in the configuration pane, click **Reset**.

To specify the UDP application by using an application UDP port number, perform the following steps.

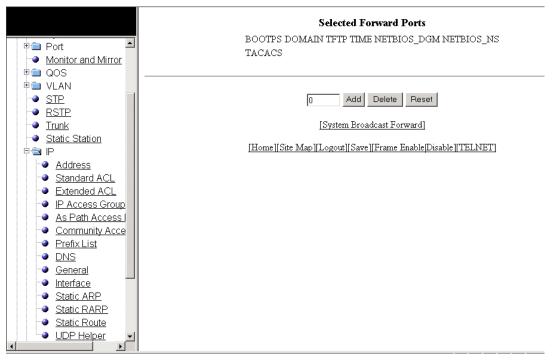
### Specifying the UDP application

To specify the UDP application by using an application UDP port number, perform the following steps.

1. Click User Broadcast Forward on the UDP Helper window.

The user broadcast forward window is displayed as shown in the figure below.

### FIGURE 143 Enabling user broadcast forward



- 2. Type the UDP port number in the field.
- 3. Click Add.

The added port is displayed in the **Selected Forward Ports** pane, which displays the application ports that are enabled by default. To delete the forwarding port, click **Delete**. To reset the data entered in the configuration pane, click **Reset**.

Specifying the UDP application

# **Configuring RIP**

Configuring the general RIP settings	
Configuring a RIP interface.	
Configuring a RIP neighbor filter	
Configuring a RIP route filter	
Configuring a RIP redistribution filter	

### **Configuring the general RIP settings**

To configure the general RIP settings, perform the following steps.

- 1. Click Configure on the left pane and select RIP .
- 2. Click General .

The **RIP** window is displayed as shown in the figure below.

FIGURE 144 Configuring the general RIP settings



3. Type the update interval from 1 through 1000 seconds in the **Update Time (seconds)** field. The default value is 30 seconds.

The update interval specifies how often the Layer 3 switch sends route advertisements to its RIP neighbors.

- 4. Click **Disable** or **Enable** for **Redistribution**. To configure a redistribution filter, click **Redistribution Filter**. For more information on how to configure a RIP redistribution filter, refer to Configuring a **RIP** redistribution filter on page 215.
- 5. Type the RIP cost from 1 through 15 in the **Redistribution Default Metric** field. The default is 1.
- Type the administrative distance of the RIP Layer 3 switches in the **Distance** field. The default value is 120.
- 7. Click Apply .

The message  ${\tt The\ change\ has\ been\ made\ is\ displayed.}$  To reset the data entered in the configuration pane, click Reset .

The **RIP** window provides links to configure other RIP parameters:

- To configure a RIP interface, click Interface. For more information, refer to Configuring a RIP interface on page 210.
- To configure a RIP route filter, click **Route Filter**. For more information, refer to Configuring a RIP route filter on page 213.
- To configure a RIP neighbor filter, click **Neighbor Filter**. For more information, refer to Configuring a RIP neighbor filter on page 212.

## **Configuring a RIP interface**

To configure a RIP interface, perform the following steps.

- 1. Click  $\ensuremath{\textbf{Configure}}$  on the left pane and select  $\ensuremath{\textbf{RIP}}$  .
- 2. Click Interface .

The RIP Interface window is displayed as shown in the figure below.

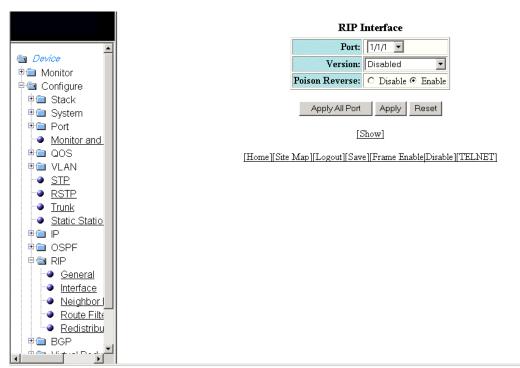
### FIGURE 145 RIP interface

	RIP Interface		
Po	rt Version	Poison Reverse	
1/1/	/1 Disabled	Enabled	Modify
1/1/	/2 Disabled	Enabled	Modify
1/1/	/3 Disabled	Enabled	Modify
1/1/			Modify
1/1/			Modify
1/1/			Modify
1/1/			Modify
1/1/	/8 Disabled	Enabled	Modify
1/1/	/9 Disabled	Enabled	Modify
1/1/	/10 Disabled	Enabled	Modify
1/1/	/11 Disabled	Enabled	Modify
1/1/	/12 Disabled	Enabled	Modify
1/1/	/13 Disabled	Enabled	Modify
1/1/	/14 Disabled	Enabled	Modify
1/1/	/15 Disabled	Enabled	Modify
./1/	/16 Disabled	Enabled	Modify
1/1/	/17 Disabled	Enabled	Modify
1/1/	/18 Disabled	Enabled	Modify
1/1/	/19 Disabled	Enabled	Modify
1/1/	/20 Disabled	Enabled	Modify
1/1/	/21 Disabled	Enabled	Modify
1/1/	/22 Disabled	Enabled	Modify
1/1/	/23 Disabled	Enabled	Modify
1/1/	/24 Disabled	Enabled	Modify
mgn	mt1 Disabled	Enabled	Modify
1/2/	/1 Disabled	Enabled	Modify
/2/	/2 Disabled	Enabled	Modify
Po	rt Version	Poison Reverse	
	[Confi;	gure RIP Interface]	l
a	p][Logout][	Save][Frame Enab	le Disab

3. Click **Configure RIP Interface** or **Modify** to change the RIP interface parameters for the respective port.

The **RIP Interface** window is displayed as shown in the figure below.

### FIGURE 146 Configuring a RIP interface



- 4. Select a port in the Port list. The port number varies based on the product:
  - For Brocade FCX and Brocade ICX devices stack-unit/slotnum/portnum
    - For Brocade FastIron SX devices slotnum/portnum

5. Select one of the following options for Version :

- Disabled
  - V1 Only
  - V2 Only
  - V1-Compatible-V2
- 6. Click Disable or Enable for Poison Reverse .

Poison reverse is the method a Layer 3 switch uses to prevent routing loops caused by advertising a route on the same interface as the one on which the Layer 3 switch learned the route.

7. Click **Apply** to configure the RIP interface to the specified port or click **Apply All Port** to configure the RIP interface on all the ports.

The message The change has been made is displayed. To display the configured RIP interface, click **Show**. To reset the data entered in the configuration pane, click **Reset**.

### **Configuring a RIP neighbor filter**

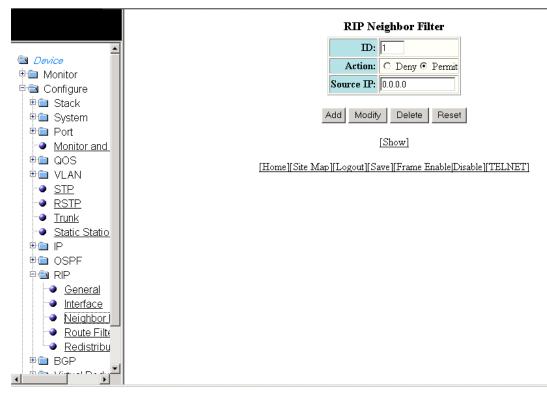
By default, a Brocade Layer 3 switch learns RIP routes from all its RIP neighbors. Neighbor filters allow you to specify the neighbor Layer 3 switches from which the Brocade device can receive RIP routes. Neighbor filters apply globally to all ports.

To configure a RIP neighbor filter, perform the following steps.

- 1. Click Configure on the left pane and select RIP .
- 2. Click Neighbor Filter .

The **RIP Neighbor Filter** window is displayed as shown in the figure below.

FIGURE 147 Configuring a RIP neighbor filter



- 3. Type a filter number in the **ID** field.
- 4. Click Deny or Permit for Action .
- 5. Type a source IP address in the **Source IP** field.
- 6. Click Add .

The message  ${\tt The \ change \ has \ been \ made \ is \ displayed.}$  To display the configured RIP neighbor filter, click Show .

To modify the configured RIP neighbor filter, click **Modify**. To reset the data entered in the configuration pane, click **Reset**. You can also delete the configured RIP neighbor filter by clicking **Delete**.

## **Configuring a RIP route filter**

To configure a RIP route filter to permit or deny learning or advertising of specific routes, perform the following steps.

- 1. Click Configure on the left pane and select RIP .
- 2. Click Route Filter .

The RIP Route Filter window is displayed as shown in the figure below.

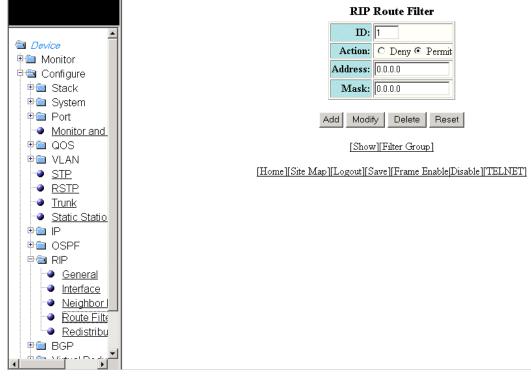


FIGURE 148 Configuring a RIP route filter

- 3. Type a filter number in the **ID** field.
- 4. Click Deny or Permit for Action .
- 5. Type a source IP address in the Address field.
- 6. Type a source mask in the Mask field.
- 7. Click Add .

The message  ${\tt The\ change\ has\ been\ made\ is\ displayed.}$  To display the configured RIP route filter, click Show .

To modify the configured RIP route filter, click **Modify**. To reset the data entered in the configuration pane, click **Reset**. You can also delete the configured RIP route filter by clicking **Delete**.

### Configuring a filter group

After you define RIP route filters, you must assign them to individual interfaces. The filters do not take effect until you apply them to the interfaces. To apply a RIP route filter to an interface, perform the following steps.

1. Click Filter Group on the RIP Route Filter window.

The Filter Group window is displayed as shown in the figure below.

#### FIGURE 149 Configuring a filter group

		Filter Group
		Port: 1/1/1
		Direction: 🗆 In Filter 🗆 Out Filter
🖻 🚞 Monitor		Filter ID List:
🗎 🛄 Stack		Add Delete Reset
🖲 🧰 System		Add Delete Heset
🖲 🧰 Port		[Show]
Monitor and Mirror		
		[Home][Site Map][Logout][Save][Frame Enable Disable][TELNET]
E VLAN		
• <u>STP</u>		
- <u>RSTP</u>		
<u> </u>		
Static Station		
₽ 📾 RIP		
General		
Neighbor Filter		
Route Filter		
Redistribution Filter		
₽ 💼 BGP		
🖲 🗎 Virtual Redundant Router	-	

- 2. Select an Ethernet port in the Port list. The port number varies based on the product:
  - For Brocade FCX and Brocade ICX devices stack-unit/slotnum/portnum
    - For Brocade FastIron SX devices slotnum/portnum
- 3. Select one of the following for Directions :
  - - In filters -- Applies to routes the Layer 3 switch learns from its neighbor on the interface.
    - **Out filters** --Applies to routes the Layer 3 switch advertises to its neighbor on the interface.
- 4. Type the RIP route filters that you want to apply for an interface in the Filter ID List field.
- 5. Click Add .

The message  ${\tt The \ change \ has \ been \ made \ is displayed.}$  To display the configured RIP route filter group, click Show .

To delete the configured RIP route filter group, click Delete . To reset the data entered in the configuration pane, click Reset .

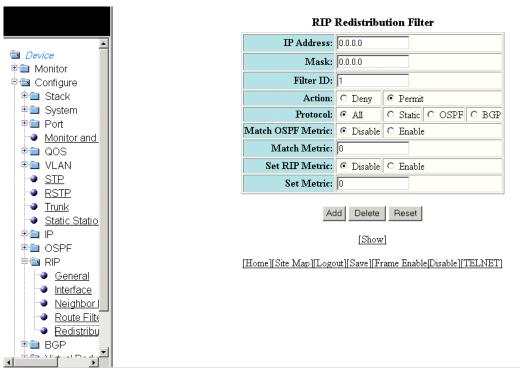
### **Configuring a RIP redistribution filter**

To configure a RIP redistribution filter, perform the following steps.

- 1. Click Configure on the left pane and select RIP .
- 2. Click Redistribution Filter .

The **RIP Redistribution Filter** window is displayed as shown in the figure below.

#### FIGURE 150 Configuring the RIP redistribution filter



- 3. Type a network IP address in the IP Address field.
- 4. Type an IP subnet mask in the Mask field.
- 5. Type a redistribution filter identifier in the **Filter ID** field.
- 6. Click Deny or Permit for Action .
- 7. Select one of the following options for Protocol :
  - All --Applies redistribution to all route types.
    - **Static** -- Applies redistribution to IP static routes only.
    - **OSPF** -- Applies redistribution to OSPF routes only.
    - **BGP** --Applies redistribution to BGP routes only.
- 8. Click Disable or Enable for Set OSPF Metric .
- 9. Type the match metric value from 1 through 15 in the **Match Metric** field. The match metric parameter applies the redistribution filter only to those routes with the specified metric value.

#### 10.Click Disable or Enable for Set RIP Metric .

11.Type the RIP metric value in the Set Metric field.

12.Click Add .

The message The change has been made is displayed. To display the configured RIP redistribution filter, click Show .

To delete the configured RIP redistribution filter, click Delete . To reset the data entered in the configuration pane, click Reset .

# **Basic Device Commands**

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# **Clearing information for a Layer 2 switch**

To clear specific data related to a Layer 2 switch, perform the following steps.

- 1. Click Command on the left pane and select Clear.
  - The Clear window is displayed as shown in the figure below.

### FIGURE 151 Clear window



MAC Address
Port Statistic
IP ARP Cache
System Logging

[Home][Site Map][Logout][Save][Frame Enable]Disable][TELNET]

- 2. Select the following check boxes to clear information:
  - MAC Address
    - Port Statistic
    - IP ARP Cache
    - System Logging
- 3. Click Apply.

All the current entries will be deleted.

# **Clearing information for a Layer 3 switch**

To clear specific data related to a Layer 3 switch, perform the following steps.

1. Click Command on the left pane and select Clear.

The Clear window is displayed as shown in the figure below .

### FIGURE 152 Clear window

	Clear
<ul> <li>Device</li> <li>Monitor</li> <li>Configure</li> <li>Configure</li> <li>Clear</li> <li>Disable Frame</li> <li>Logout</li> <li>Reload</li> <li>Save to Flash</li> <li>Switch-over-ac</li> <li>Telnet</li> <li>Trace Route</li> <li>TFTP</li> </ul>	MAC Address         Port Statistic         IP ARP Cache         System Logging         VRRP         IP Cache         IP Cache         IP Cache         IP Cache         IP Cache         IP Route         IP Route         IP To Statistic
	1

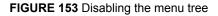
- 2. Select the following check boxes to clear information:
  - MAC Address
  - Port Statistic
  - IP ARP Cache
  - System Logging
  - VRRP
  - IP Cache
  - IP Route
  - **BGP Neighbor Traffic IP** --Select **All** in the list to clear the BGP message counter for all neighbors.
  - BGP Neighbor IP --Select All in the list to close all neighbor sessions and clear all the routes exchanged by the Layer 3 switch and the neighbors.
  - BGP Neighbor Soft-Outbound IP --Select All in the list to update all outbound routes by applying the new or changed filters.
  - BGP Neighbor Last Pkt with Error IP --Select All in the list to clear the last packet from the neighbors that contained an error.
  - **BGP Neighbor Notification Error IP** --Select **All** in the list to clear the buffer for all neighbors containing the last NOTIFICATION message sent or received.
  - BGP Dampening -- Perform one of the following tasks:
    - Click All to clear all the route dampening statistics.
    - Click **IP** and type the network IP address in the **IP** field and the network mask in the **Mask** field.

### 3. Click Apply.

All the current entries will be deleted.

### Disabling or enabling the menu view

To enable or disable the menu view, click **Command** on the left pane and select **Disable Frame**. The menu tree from the left panel is hidden as shown in the figure below. Click **Frame Enable** to view the menu tree.



General System Configuration		
Identification		
IP Address		
DNS	Policy Based VLANs 🔽 Port	
DHCP Gatewa	Spanning Tree O Disable 💿 Enable 🗆 Single 🗹 Fast	
Clock	QOS O Strict © Weighted	
NTP	ACL Per Port Per VLAN O Disable © Enable	
MAC Filter	IP Multicast 💿 Disable 🔿 Enable	
Config Module	IGMP O Passive O Active	
Max-Paramete	Advance Apply Reset	
RADIUS		
TACACS		
Management		
[Hon	e][Site Map][Logout][Save][Frame Enable Disable][TELNET]	
		×1
	· · · · · · · · · · · · · · · · · · ·	

### Logging out

To exit the Web Management Interface, click **Command** on the left pane and select **Logout**. The login window is displayed as shown in the figure below. To re-log in, click **Login** on the window.

FIGURE 154 Logging out



[Login]

### **Reloading units in a stack**

#### NOTE

This section is applicable to the Brocade FCX-ADV and Brocade ICX devices.

To reload any or all of the units within a device, perform the following steps.

1. Click Command on the left pane and select Reload .

The **Reset Stack Units** window is displayed as shown in the figure below.

FIGURE 155 Reloading the units



2. Click Yes to start the process.

#### NOTE

For the Brocade FCX and Brocade ICX devices, if the Active Controller is reset or removed from the stack, the entire stack reloads and Active Controller and Standby Controller elections are started. If the unit functioning as the previous Active Controller is no longer part of the stack, the Standby Controller unit becomes the new Active Controller. After a reset, if no stack member qualifies as the Active Controller, the existing Standby Controller waits 30 seconds and then assumes the role of the Active Controller. If both the Active Controller and the Standby Controllers are removed, the rest of the stack continues to function. The stack members will not be able to learn any new addresses.

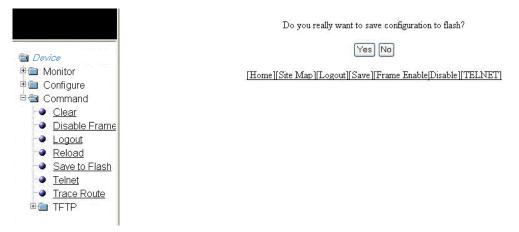
### Saving the configuration to flash

To save the configuration changes to flash, perform the following tasks.

1. Click Command on the left pane and select Save To Flash .

The save configuration window is displayed as shown in the figure below.

### FIGURE 156 Saving the configuration to flash



2. Click **Yes** to confirm saving the configuration.

#### NOTE

To apply the changes to memory allocation, reload the software after you save the changes to the startup-configuration file.

### Switching over to the active role

To switch a standby module to become an Active Controller, perform the following steps.

1. Click Command on the left pane and select Switch-over-active-controller .

#### NOTE

For the Brocade FastIron SX devices, select Switch-over-active-role .

The switch over window is displayed as shown in the figure below.

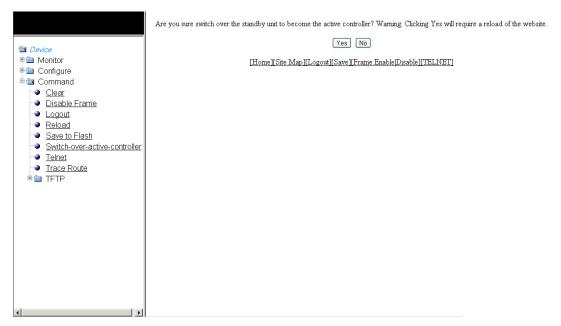


FIGURE 157 Switching over to an Active Controller

2. Click **Yes** to switch the standby module to become an Active Controller or click **No** to cancel the operation.

# Performing hitless-reload from primary images

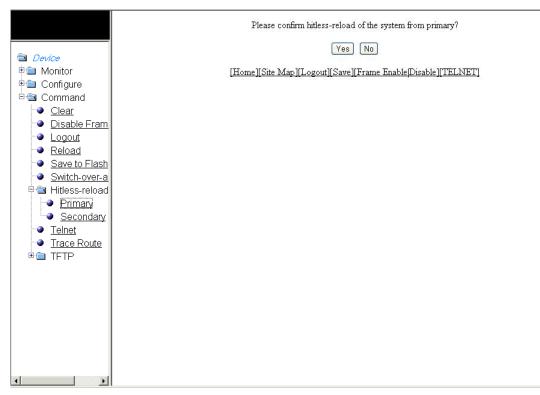
#### NOTE

Hitless-reload is supported on the Brocade FastIron SX devices and applies to both Layer 2 and Layer 3 protocols. Hitless-reload is not supported on the Brocade FCX and Brocade ICX devices.

To perform a hitless-reload of the system from a primary image, perform the following steps.

- 1. Click Command on the left pane and select Hitless-reload .
- 2. Click Primary .

The primary hitless-reload window is displayed as shown in the figure below.



### FIGURE 158 Hitless-reload from the primary image

3. Click **Yes** to reload the system from the primary image or click **No** to cancel the operation.

### Performing hitless-reload from secondary images

#### NOTE

Hitless-reload is supported on the Brocade FastIron SX devices and applies to both Layer 2 and Layer 3 protocols. Hitless-reload is not supported on the Brocade FCX and Brocade ICX devices.

To perform a hitless-reload of the system from a secondary image, perform the following steps.

- 1. Click Command on the left pane and select Hitless-reload .
- 2. Click Secondary .

The secondary hitless-reload window is displayed as shown in the figure below.

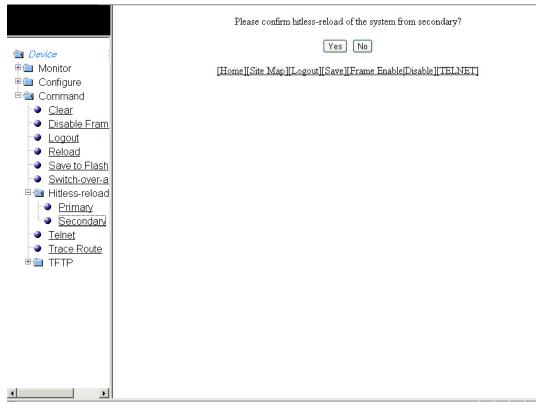


FIGURE 159 Hitless-reload from a secondary image

3. Click Yes to reload the system from the secondary image or click No to cancel the operation.

# Accessing the Telnet command prompt

To open a Telnet CLI window, click  $\ensuremath{\textbf{Command}}$  on the left pane and select  $\ensuremath{\textbf{Telnet}}$  .

The **Telnet** window is displayed as shown in the figure below.

FIGURE 160 Accessing Telnet



# **Performing a trace**

Trace Route allows you to trace a path from the Brocade device to an IPv4 host. Trace route requests show all responses to a minimum Time To Live (TTL) of 1 second and a maximum TTL of 30 seconds. In addition, if there are multiple equal-cost routes to the destination, the Brocade device displays up to three responses. To run a trace, perform the following steps.

1. Click Command on the left pane and select Trace Route .

The Trace Route window is displayed as shown in the figure below.

FIGURE 161 Performing a trace

	Trace Route
And Addition of the second	Target Address:
■ <i>Device</i> ∃ ■ Monitor	Minimum TTL: 1
⊉	Maximum TTL: 30
Command	Timeout(Sec): 2
<ul> <li><u>Clear</u></li> <li>Disable Frame</li> </ul>	Numeric:
<ul> <li>Logout</li> <li>Reload</li> <li>Save to Flash</li> <li>Telnet</li> </ul>	[Home][Site Map][Logout][Save][Frame Enable]Disable][TEI
International I	

- 2. Type the IP address of the host at the other end of the route in the Target Address field.
- 3. Type the minimum value of TTL in the **Minimum TTL** field. The default is 1.
- 4. Type the maximum value of TTL in the Maximum TTL field. The default is 30.

- 5. Type the number of seconds the router waits for a reply from the pinged device in the **Timeout (Sec)** field.
- 6. Select the Numeric check box so that, for parameters that require a numeric value, the trace route does not check that the value you enter is within the allowed range. Instead, if you do exceed the range for a numeric value, the software rounds the value to the nearest valid value.
- 7. Click Start to begin the trace process or click Abort to exit without performing the trace.

Performing a trace

# **Using TFTP**

Configuring TFTP	
Configuring a TFTP image	

### **Configuring TFTP**

When the device reboots, or the auto-configuration feature has been disabled and then re-enabled, the device uses information from the Dynamic Host Configuration Protocol (DHCP) server to contact the Trivial File Transfer Protocol (TFTP) server to update the running configuration file. If the DHCP server provides a TFTP server name or IP address, the device uses this information to request files from the TFTP server. If the DHCP server does not provide a TFTP server name or IP address, the device requests the configuration files from the DHCP server.

The device requests the configuration files from the TFTP server in the following order:

- · Boot file name provided by the DHCP server (if configured)
- Host name MAC address configuration file
- Brocade configuration file

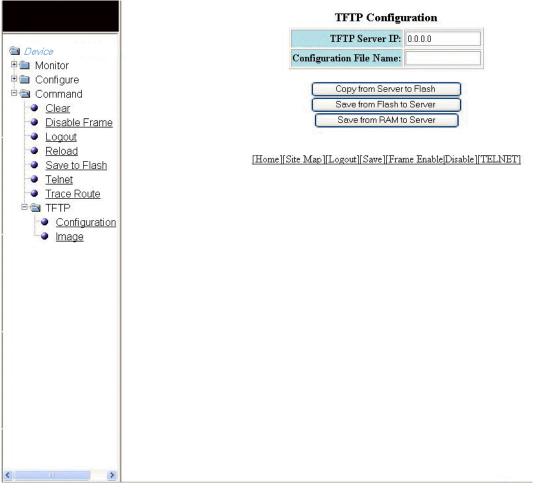
If the device is successful in contacting the TFTP server and the server has the configuration files, the files are merged. If there is a conflict, the server file takes precedence. If the device is unable to contact the TFTP server or if the files are not found on the server, the TFTP part of the configuration download process ends.

To access the TFTP configuration, perform the following steps.

- 1. Click Command on the left pane and select TFTP .
- 2. Click Configuration .

The TFTP Configuration window is displayed as shown in the figure below.

### FIGURE 162 Configuring TFTP



- 3. Type the IP address of the most recently contacted TFTP server (if the switch has contacted a TFTP server since the last time the software was reloaded or the switch was rebooted) in the **TFTP Server IP** field.
- Type the name under which the startup-config file of the Layer 2 switch or Layer 3 switch was uploaded or downloaded during the most recent TFTP access in the Configuration File Name field.
- 5. You can perform one of the following tasks with the configuration file:
  - Click Copy from Server to Flash to copy the file from a TFTP server to the device flash memory.
    - Click Save from Flash to Server to save the file from the device flash memory to a TFTP server.
    - Click **Save from RAM to Server** to save the file from the device RAM memory to a TFTP server.

# **Configuring a TFTP image**

To access a TFTP image, perform the following steps.

- 1. Click Command on the left pane and select TFTP .
- 2. Click Image .

The TFTP Image window is displayed as shown in the figure below.

FIGURE 163 Configuring a TFTP image

	TFTP Image	
in waren - die officie die die die	<b>TFTP Server IP:</b> 0.0.0.0	
evice	Image File Name:	
I Monitor	Flash: O Primary O Secondary	
I Configure		
Clear	Copy from Server Save to Server	
Disable Frame		
<ul> <li>Logout</li> </ul>		
Reload	[Home][Site Map][Logout][Save][Frame Enable Disable]["	
Save to Flash		
Telnet		
Trace Route		
TFTP		
Configuration		
Image		
N		

- 3. Type the IP address of the most recently contacted TFTP server (if the switch has contacted a TFTP server since the last time the software was reloaded or the switch was rebooted) in the **TFTP Server IP** field.
- 4. Type the name of the Layer 2 switch or Layer 3 switch flash image (system software file) that was uploaded or downloaded during the most recent TFTP access in the **Image File Name** field.
- 5. Click one of the following for **Flash** :
  - - Primary -- The default local storage device for image files and configuration files.
    - Secondary -- The second flash storage device you can use to store redundant images for additional booting reliability or to preserve one software image while testing another one.
- 6. You can perform one of the following tasks with the TFTP image:
  - Click Copy from Server to copy a boot image from a TFTP server to the primary or secondary storage location in the device flash memory.
    - Click **Save to Server** to save the boot image from the primary or secondary storage location of the device flash memory to a TFTP server.

Configuring a TFTP image