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Using Web-based Management for the BayStack 380-24F Gigabit Switch

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Preface

Welcome to *Using Web-based Management for the BayStack 380-24F Gigabit Switch*.

Default values are defined for all Nortel Networks* BayStack* 380-24F Gigabit Switch features that allow the switch to begin forwarding packets as soon as it is powered up and connected to compatible devices.

The Web-based management interface is one of many tools specifically designed to assist the network manager in creating complex standalone or network configurations. For information on the default values defined within the BayStack 380-24F Gigabit Switch, or for information on additional products available to configure your switch, refer to *Using the BayStack 380-24F Gigabit Switch* (part number 214391-A).

This guide describes how to use the Web-based management interface to configure and maintain your BayStack 380-24F Gigabit Switch and the devices connected within its framework.

Before you begin

This guide is intended for network managers who are responsible for configuring BayStack switches. This guide assumes prior knowledge and understanding of the terminology, theories, and practices and specific knowledge about the networking devices, protocols, and interfaces that comprise your network.

You should have working knowledge of the Microsoft* Windows* operating system, graphical user interfaces (GUIs), and Web browsers.

Text conventions

This guide uses the following text conventions:

italic text	Indicates new terms and book titles.
separator (>)	Shows menu paths. Example: Configuration > Port Management identifies the Port Management option on the Configuration menu.

Related publications

For more information about using the Web-based management interface and the BayStack 380-24F Gigabit Switch, refer to the following publications:

- *Using the BayStack 380-24F Gigabit Switch* (part number 214391-A)

  Describes how to use the BayStack 380-24F Gigabit switch.

- *Installing the BayStack 380-24F Gigabit Switch* (part number 214390-A)

  Describes how to install the BayStack 380-24F Gigabit switch.

- *Release Notes for the BayStack 380-24F Gigabit switch* (part number 214395-A)

  Documents important changes about the software and hardware that are not covered in other related publications.

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Chapter 1
Using the Web-based management interface

This chapter describes the requirements for using the Web-based management interface and how to use it as a tool to configure your BayStack 380-24F Gigabit Switch.

Requirements

To use the Web-based management interface, you need the following items:

- A computer connected to any of the network ports
- One of the following Web browsers installed on the computer:
  - — Microsoft* Internet Explorer, version 4.0 or later on Windows 95, Windows 98, or Windows NT*.
  - — Netscape Navigator*, version 4.51 or later on Windows 95, Windows 98, Windows NT, and UNIX*)
- The IP address of the BayStack 380-24F Gigabit switch

Note: The Web-based management interface Web pages may load at different speeds depending on the Web browser you use.

Note: In order to use the BayStack 380-24F Gigabit Switch Web-based management functionality, such as downloading software, you must connect your management station to a BayStack 380-24F Gigabit Switch port.

Logging in to the Web-based management interface

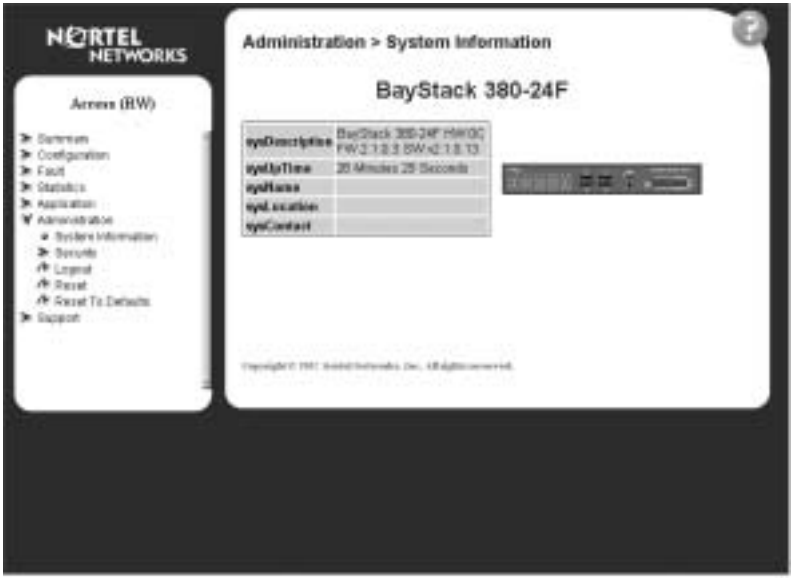
Before you log in to the Web-based management interface, use the console interface to verify the VLAN port assignments and to ensure that your switch CPU and your computer are assigned to the same VLAN. If the devices are not connected to the same VLAN, the IP address of the switch will not open the home page.

To log in to the Web-based management interface:

1. Start your Web browser.
2. In the Web address field, type the IP address for your host switch, for example, http://10.30.31.105, and press [Enter].

   The home page opens (Figure 1).

Figure 1 Web-based management interface home page



Network security does not yet exist the first time you access the Embedded Web Server. As the system administrator, you must create access parameters and passwords to protect the integrity of your network configuration(s).

Menu

The menu (Figure 2) is the same for all pages. It contains a list of seven main headings.

Figure 2 Menu

To navigate the Web-based management interface menu, click a menu title and then click one of its options. When you click an option, the corresponding page opens.

The first six headings provide options for viewing and configuring switch parameters. The Support heading provides options to open the online Help file and the Nortel Networks Web site.

Table 1 lists the main headings in the Web-based management user interface and their associated options.

Table 1 Main headings and options

Main menu titles	Option
Summary	Switch Information GBIC Information
Configuration	IP System Telnet Configuration SNMPv1 SNMPv3 SNMP Trap MAC Address Table Find MAC Address Port Management Flow Control Software Download Configuration File
Fault	RMON Threshold RMON Event Log System Log
Statistic	Port Interface Ethernet Errors Transparent Bridging RMON Ethernet RMON History
Application	Port Mirroring MAC Address Secuity VLAN Spanning Tree Multilink Trunk
Administration	System Information Security Logout Reset Reset to Defaults
Support	Help Release Notes Manuals Upgrades

Tools are provided in the menu to assist you in navigating the Web-based management interface.

Caution: Web browser capabilities such as page bookmarking, refresh, and page forward and page back, function as they would in any other Web site. However, these capabilities do not enhance the functionality of the Web-based management interface. Nortel Networks recommends that you use only the navigation tools provided in the management interface.

Table 2 describes the icons that appear on the menu.

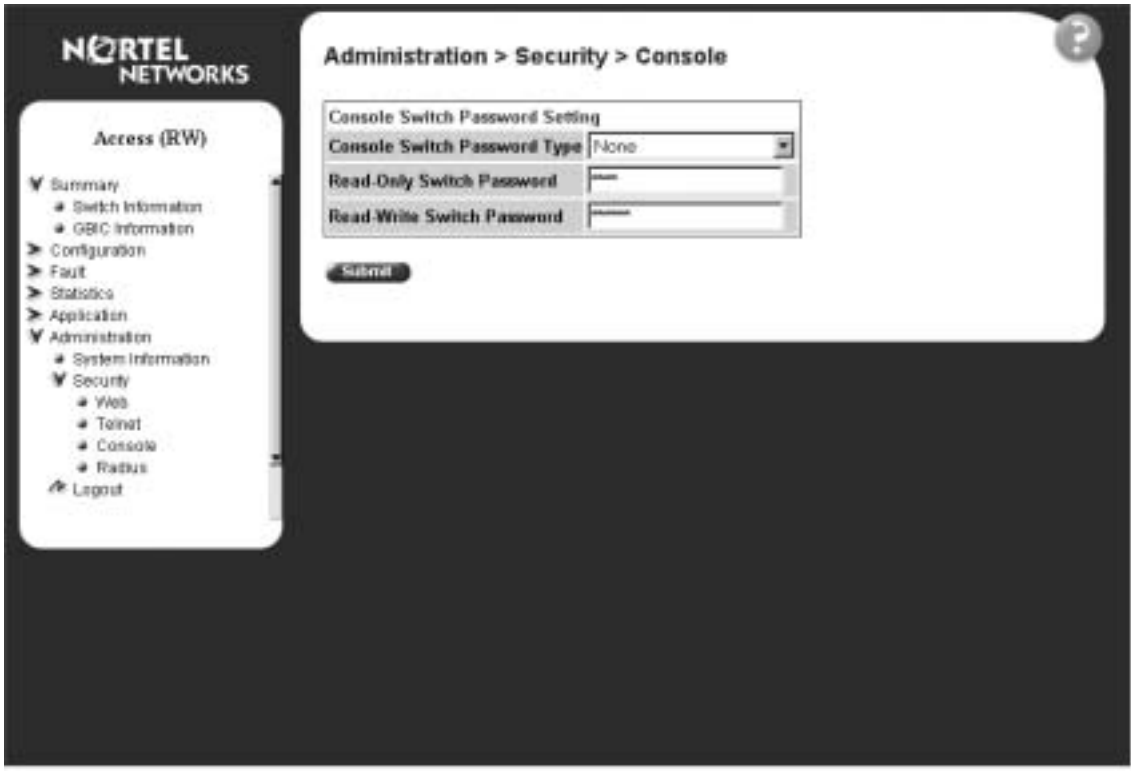
Table 2 Menu icons

Button or icon	Description
	This icon identifies a menu title. Click on this icon to display its options.
	This icon identifies a menu title option. Click on this icon to display the corresponding page.
	This icon identifies a menu title option with a hyperlink to related pages.
	This icon is linked to an action, for example, logout, reset, or reset to system defaults.
	Clicking on the Nortel Networks logo opens the corporate home page in a new Web browser.

Management page

When you click a menu option, the corresponding management page opens. Figure 3 shows the page displayed for the Administration > Security > Console option.

Figure 3 Console page



A page is composed of one or more of the following elements:

- Tables and input forms

  The gray cells in a page are display only, and white cells are input fields.
- Check boxes

You enable or disable a selection by clicking a check box. When a check mark is displayed in the box, that selection is enabled. You disable a selection by clicking the checked box.

- Icons and buttons

  Icons and buttons perform an action concerning the displayed page or the switch. Some pages include a button that opens another page or updates the values shown on the current page. Other pages include icons that initiate an action, such as reformatting the current displayed data as a bar or pie chart.

Table 3 describes the icons that allow you to modify information in a statistical table or to display statistics in chart format.

Table 3 Page icons

Icon	Name	Description
	Modify	Accesses a modification page for the selected row.
	Delete	Deletes a row.
	Pie Chart	Displays statistics information in a pie chart format.
	Bar Graph	Displays statistics information in a bar graph format.
	Line Graph	Displays statistics information in a line graph format.
	Help	Accesses the Help menu in a new Web browser.
		Note: Text within a table that is highlighted blue and underlined is a hyperlink to a related management page.

Chapter 2
Administering the switch

The administrative options available to you are:

Viewing system information

You can view an image of the BayStack 380-24F Gigabit switch configuration, information about the host device, and, if provided, the contact person or manager for the switch. The System Information page is also the Web-based management interface home page.

To view system information:

➔ From the main menu, choose Administration > System Information.

The System Information page opens (Figure 4).

Note: You may create or modify existing system information parameters using the System page. For more information on configuring system information, see “Modifying system settings” on page 44.

Figure 4 System Information page

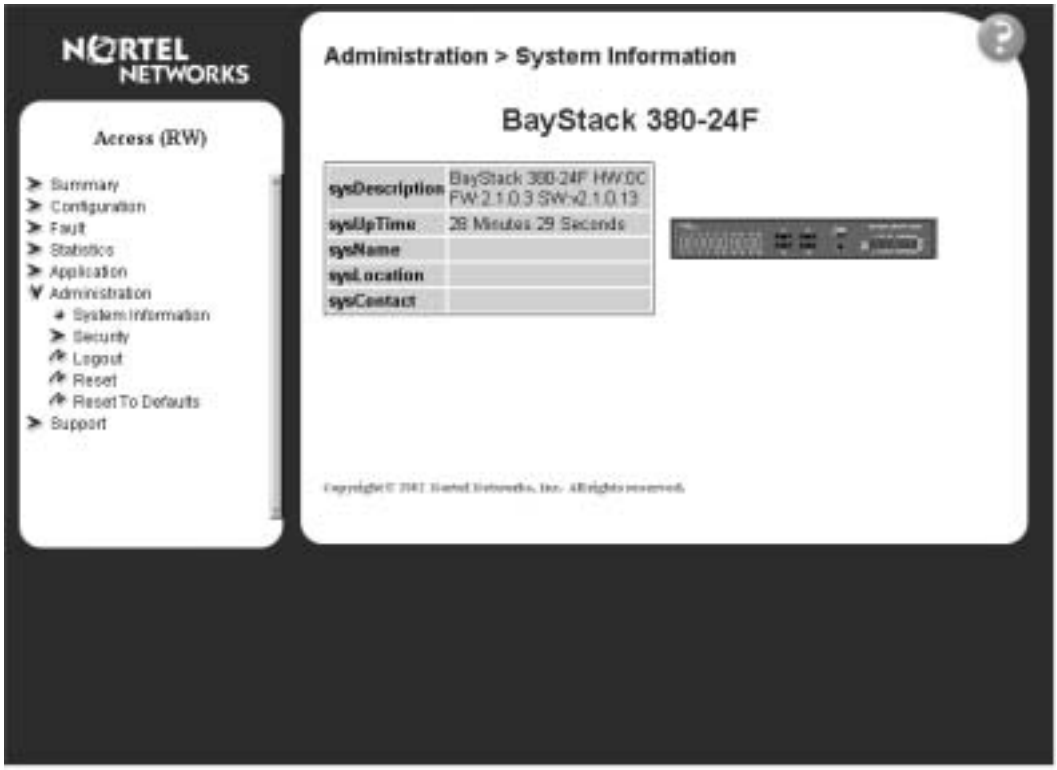


Table 4 describes the items on the System Information page.

Table 4 System Information page items

Item	Description
sysDescription	The default description of the BayStack 380-24F Gigabit Switch.
sysUpTime	The elapsed time since the last network management portion of the system was last re-initialized.
sysName	The name created by the network administrator to identify the switch, for example Finance Group.
sysLocation	The location name created by the network administrator to identify the switch location, for example, first floor.
sysContact	The name, email address and telephone number of the person to contact about switch operation.

Configuring system security

This section describes the steps you use to build and manage security using the Web-based management interface.

Setting console, Telnet, and Web passwords

To set console, Telnet, and Web passwords:

1 From the main menu, choose Administration > Security and Console, Telnet, or Web.

The selected password page opens (Figure 5).

Note: The title of the page corresponds to the menu selection you choose. In Figure 5, the network administrator selected Administration > Security > Console.

Figure 5 Console password setting page

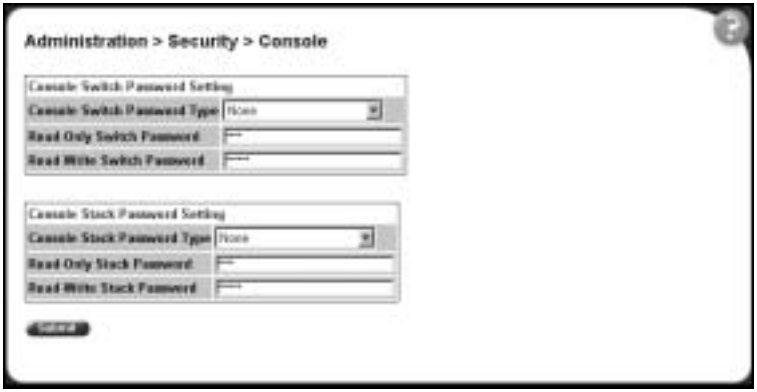


Table 5 describes the items on the Console page.

Table 5 Console page fields

Section	Fields	Setting	Description
Note: Console, Telnet, and Web settings share the same switch password type and password.			
Console Switch Password Setting	Console Switch Password Setting Type	(1) None (2) Local Password (3) RADIUS Authentication	Displays the switch password types. Note: The default is None.
	Read-Only Switch Password	1..15	Type the read-only password setting for the read-only access user.
	Read-Write Switch Password	1..15	Type the read-write password setting for the read-write access user.
Console Password Setting	Console Password Setting Type	(1) None (2) Local Password (3) RADIUS Authentication	Displays the switch password types. Note: The default is None.
	Read-Only Password	1..15	Type the read-only password setting for the read-only access user.
	Read-Write Password	1..15	Type the read-write password setting for the read-write access user.

2 Type the information, or make a selection from the list.

3 Click Submit.

Configuring remote dial-in access security

To configure remote dial-in access security parameters:

1 From the main menu, choose Administration > Security > RADIUS.

The RADIUS page opens (Figure 6).

Figure 6 RADIUS page

Table 6 describes the items on the RADIUS page.

Table 6 RADIUS page fields

Field	Setting	Description
Primary RADIUS Server	XXX.XXX.XXX.XXX	Type a Primary RADIUS server IP address in the appropriate format.
Secondary RADIUS Server	XXX.XXX.XXX.XXX	Type a Secondary RADIUS server IP address in the appropriate format.
UDP RADIUS Port	Integer	Type the UDP RADIUS port number.
RADIUS Shared Secret	1..16	Type a unique character string to create a secret password.

2 Type the information.

3 Click Submit.

Accessing the management interface

Once switch passwords and RADIUS authentication settings are integrated into the Web-based management user interface, anyone who attempts to use the application is presented with a log on page (Figure 7).

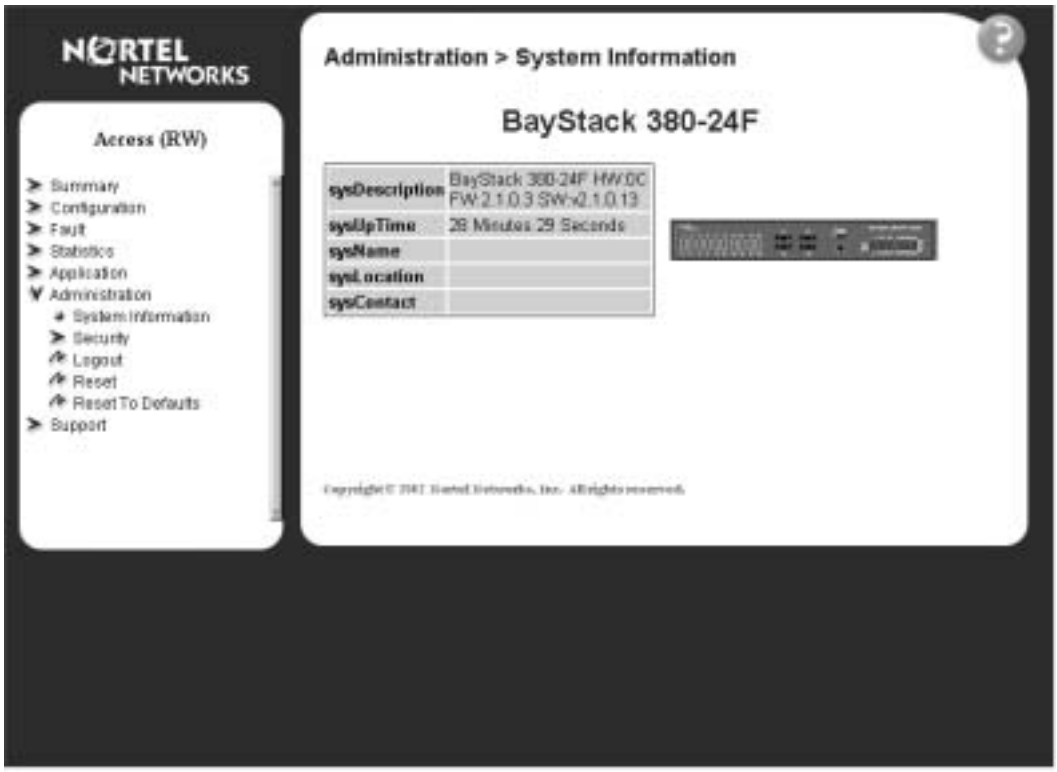
Figure 7 Web-based management interface log on page

To log on to the Web-based management interface:

1. In the Username text box, type **RO** (upper-case) for read-only access or **RW** (upper-case) for read-write access.
2. In the Password text box, type your password.
3. Click Log On.

   The System Information page opens (Figure 8).

Figure 8 System Information page



With Web access enabled, the switch can support up to four concurrent Web page users. Two pre-defined user levels are available and each user level has a corresponding username and password.

Table 7 shows an example of the two pre-defined user levels available and their access level within the Web-based management user interface.

Table 7 User levels and access levels

User level	User name for each level	Password for each user level	Access Level
Read-only	RO	XXXXXXXX	Read only
Read/write	RW	XXXXXXXX	Full read/write access

Resetting the BayStack 380-24F Gigabit Switch

You can reboot a BayStack 380-24F switch without erasing any configured switch parameters. While rebooting, the switch initiates a self-test that comprises various diagnostic routines and subtests. The LEDs display various patterns to indicate that the subtests are in progress.

To reboot the BayStack 380-24F Gigabit Switch without making changes (since your last Submit request):

1 From the main menu, choose Administration > Reset.

The system prompts you to select ok to reset the switch or cancel.

2 Click ok to reset the switch.

Changing the BayStack 380-24F Gigabit Switch to system defaults

You can change a switch and replace all configured switch parameters with the factory default values.

Caution: If you choose change to default settings, all configured settings are replaced with factory default settings when you click Submit. For more information on factory default settings, see *Using the BayStack 380-24F Gigabit Switch* (214391-A).

During the process of changing to default settings, the switch initiates a self-test that comprises various diagnostic routines and subtests. The LEDs display various patterns to indicate that the subtests are in progress.

To change the BayStack 380-24F Gigabit Switch to system defaults:

1 From the main menu, choose Administration > Reset to Default.

The system prompts you select Ok to reset the switch to the system defaults or cancel.

2 Click Ok to reset to system defaults.

Logging out of the management interface

To log out of the Web-based management user interface:

1 From the main menu, choose Administration > Logout.

A message opens prompting you to confirm your request

2 Do one of the following:

- Click OK to log out.
- Click Cancel to return to the Web-based management interface home page.

Chapter 3
Viewing summary information

The summary information options are:

- “Viewing information,” (next)
- “Viewing GBIC information” on page 39

Viewing information

You can view a summary of your switch framework, for example, the current version of the running software and the IP address of the Web-based management interface.

Note: The Web-based management user interface automatically detects the operational mode of your system.

To view switch information:

1. From the main menu, choose Summary > Switch Information.

   The Switch Information page opens (Figure 9).

Figure 9 Switch Information page

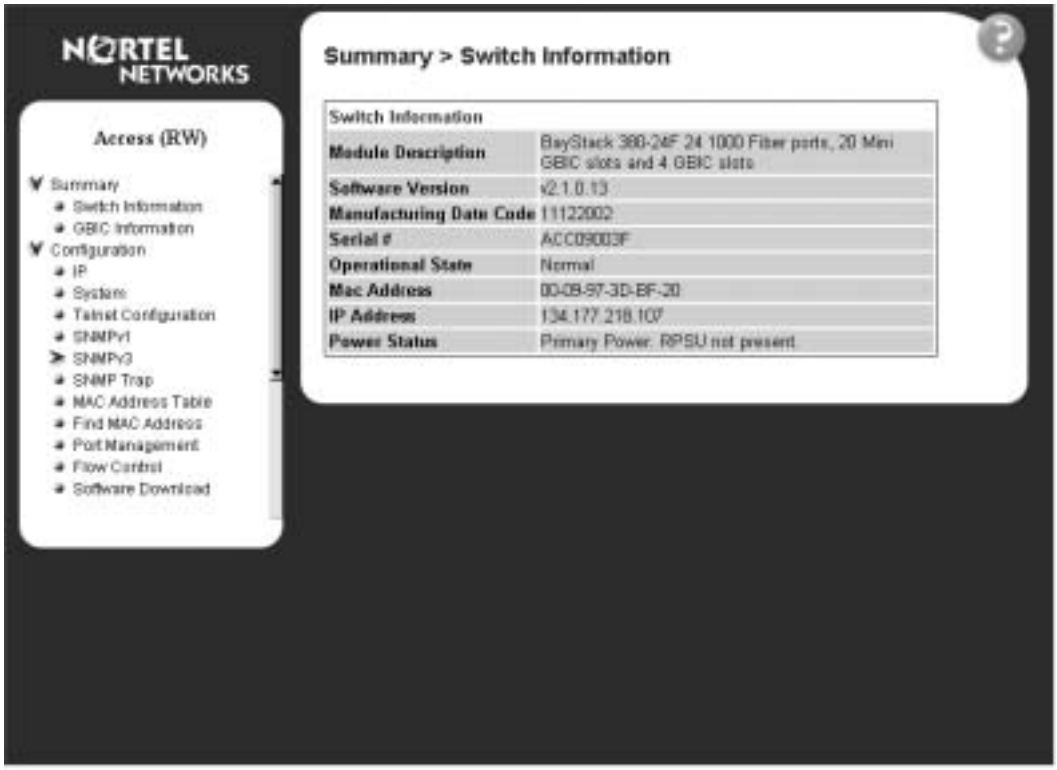


Table 8 describes the fields on the Switch Information and Switch Inventory sections of the Switch Information page.

Table 8 Switch Information page fields

Section	Field	Description
Switch Information	System Description	The name created in the configuration process to identify the switch.
	Software Version	The version of the running software.
	MAC Address	The MAC address of the switch.
	IP Address	The IP address of the switch.
	Manufacturing Date Code	The date of manufacture of the board in ASCII format: YYYYMMDD.
	Serial Number	The serial number of the switch.
	Operational State	The current operational state of the device. The operational states are: Other, Not Available, Removed, Disabled, Normal, Reset in Progress, Testing, Warning, Non Fatal Errors, Fatal Error, and Not Configured
	Description	The description of the device or its subcomponent.

2 In the upper-left corner of the Switch Information page, click the number of the device you want to view.

The Switch Information page is updated with information about the selected switch.

Viewing GBIC information

You can view GBIC information about the switch.

To view GBIC information:

1 From the main menu, choose Summary > GBIC Information.

The GBIC Information page opens (Figure 10).

Figure 10 Summary > GBIC Information

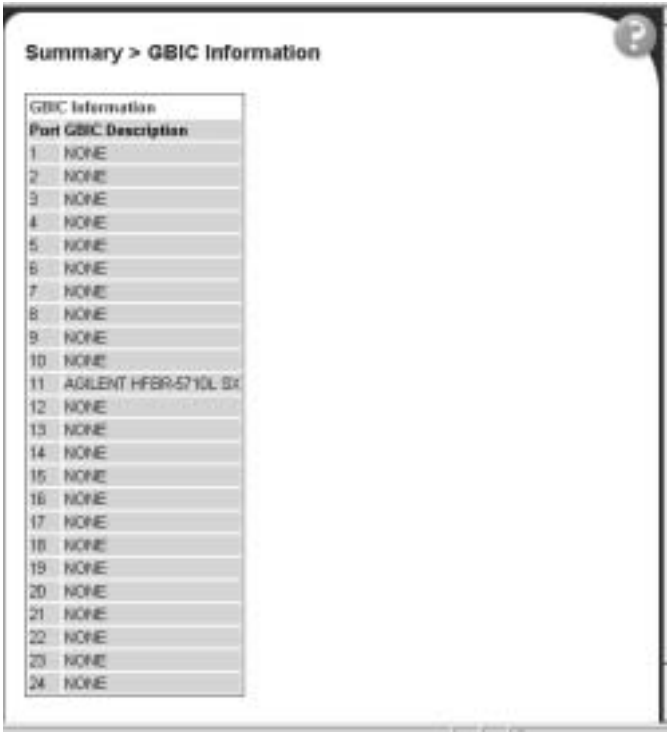


Table 9 describes the fields on the GBIC Information page.

Table 9 GBIC Information page fields

Item	Description
Port	Specifies the number of the GBIC port.
GBIC Description	Specifies the type of GBIC

Chapter 4
Configuring the switch

The switch configuration options available to you are:

Note: In order to use all the BayStack 380-24F Gigabit Switch management features, you must connect your management station into a BayStack 380-24F Gigabit Switch port.

Configuring BootP, IP, and gateway settings

You can configure the BootP mode settings, create and modify the in-band switch IP addresses and in-band subnet mask parameters, and configure the IP address of your default gateway.

Note: Settings take effect immediately when you click Submit.

To configure BootP, IP, and gateway settings:

1 From the main menu, choose Configuration > IP.

The IP page opens (Figure 11).

Figure 11 Configuration IP page

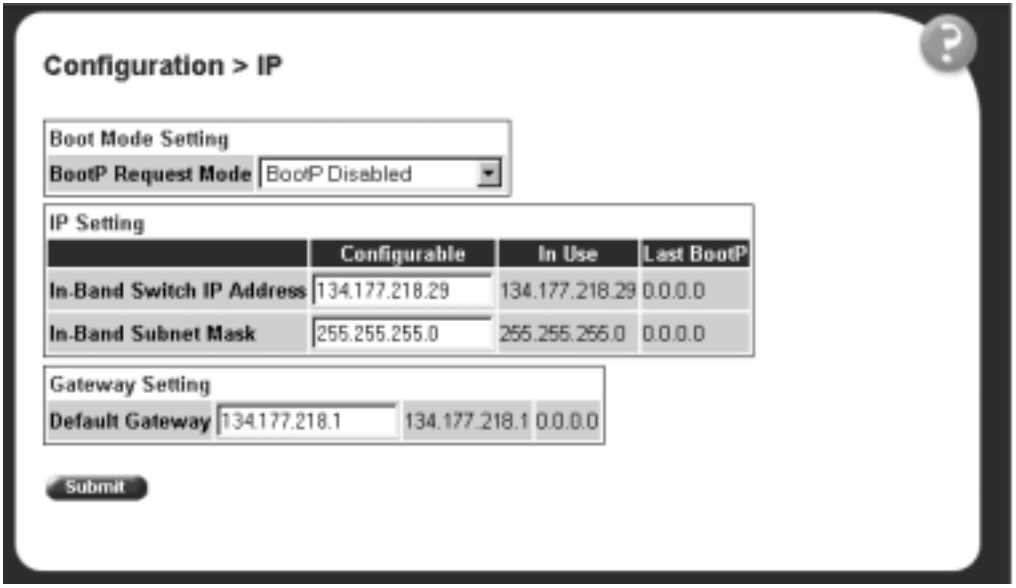


Table 10 describes the items on the IP page.

Table 10 IP page items

Section	Item	Range	Description
Boot Mode Setting	BootP Request Mode	BootP When Needed	Choose this mode to inform the switch to send a BootP request when the switch IP address stored in nonvolatile memory is the factory default value. If the stored IP address differs from the factory default value, the switch uses the stored network parameters. If the switch cannot find a BootP server, it tries five more times to find one and then defaults to the factory settings
		BootP Always	Choose this mode to inform the switch, each time the switch boots, to ignore any stored network parameters and send a BootP request. If the BootP request fails, the switch boots with the factory default IP configuration. This setting disables remote management if no BootP server is set up for the switch, but it allows the switch to boot normally.
		BootP Disabled	Choose this mode to inform the switch, each time the switch boots, to use the IP configuration parameters stored in non-volatile memory. If a BootP configuration is in progress when you issue this command, the BootP configuration stops.
		BootP or Last Address	Choose this mode to inform the switch, at each startup, to obtain its IP configuration using BootP. If the BootP request fails, the switch uses the network parameters stored in its non-volatile memory. Note: Valid parameters obtained in using BootP always replace current information stored in the non-volatile memory.
		Note: Whenever the switch is broadcasting BootP requests one of the three modes, the BootP process times out if a reply is not received within (approximately) 7 minutes. When the process times out, the BootP request mode automatically changes to BootP Disabled mode. To restart the BootP process, change the BootP request mode to any of the three following modes: BootP When Needed, BootP Always, or to BootP or Last Address.	
IP Setting			
	In-Band Switch IP Address	XXX.XXX.XXX.XXX	Type a new switch IP address in the appropriate format. Note: When the IP address is entered in the In-Band IP Address field, and the In-Band Subnet Mask field value is not present, the software provides an *in-use* default value for the In-Band Subnet Mask field that is based on the class of the IP address entered in the In-Band IP Address field.
	In-Band Subnet Mast	XXX.XXX.XXX.XXX	Type a new subnet mask in the appropriate format.
	In-Use		The column header for the read-only fields in this screen. The data displayed in this column represents data that is currently in use.
	Last BootP		The column header for the read-only fields in this screen. The read-only data displayed in this column represents data obtained from the last BootP reply received.
Gateway Setting	Default Gateway	XXX.XXX.XXX.XXX	Type an IP address for the default gateway in the appropriate format.

2 Type information in the text boxes, or select from a list.

3 Click Submit.

Modifying system settings

You can create or modify the system name, system location, and network manager contact information.

Note: The configurable parameters on the System page are displayed in a read only format on the System Information home page.

To configure system settings:

1 From the main menu, choose Configuration > System.

The System page opens (Figure 12).

Figure 12 Configuration > System page

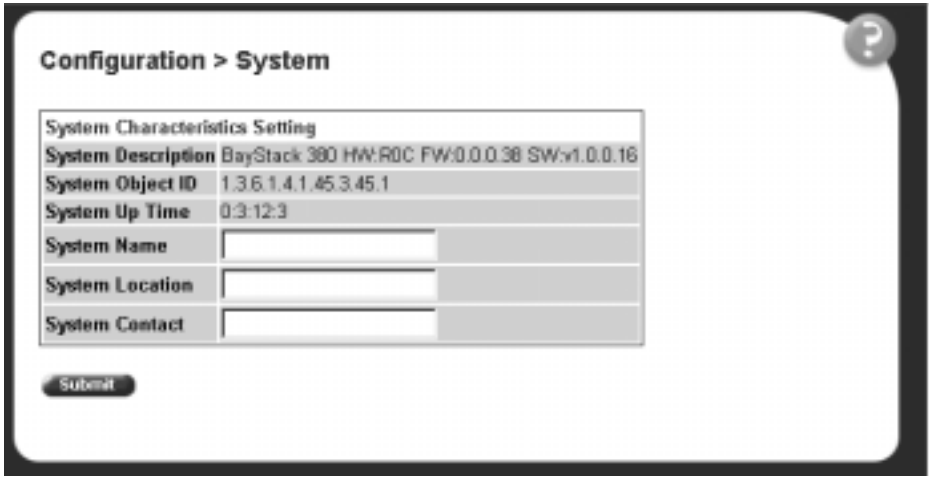


Table 11 describes the items on the System page.

Table 11 System page items

Item	Range	Description
System Description		The factory set description of the hardware and software versions.
System Object ID		The character string that the vendor created to uniquely identify this device.
System Up Time		The elapsed time since the last network management portion of the system was last re-initialized. Note: This field is updated only when the screen is redisplayed.
System Name	0..255	Type a character string to create a name to identify the switch, for example Finance Group.
System Location	0..255	Type a character string to create a name for the switch location, for example, First Floor.
System Contact	0..255	Type a character string to create the contact information for the network manager or the selected person to contact regarding switch operation, for example, mcarlson@company.com Note: To operate correctly with the Web interface, the system contact should be an e-mail address.

2 Type information in the text boxes.

3 Click Submit.

TELNET Configuration screen

The TELNET Configuration screen (Figure 13) allows a user at a remote console terminal to communicate with the BayStack 380-24F Gigabit Switch as if the console terminal were directly connected to it. You can have up to four active Telnet sessions at one time.

To open the TELNET Configuration screen:

➔ Choose TELNET Configuration (or press t) from the main menu.

Figure 13 TELNET Configuration screen

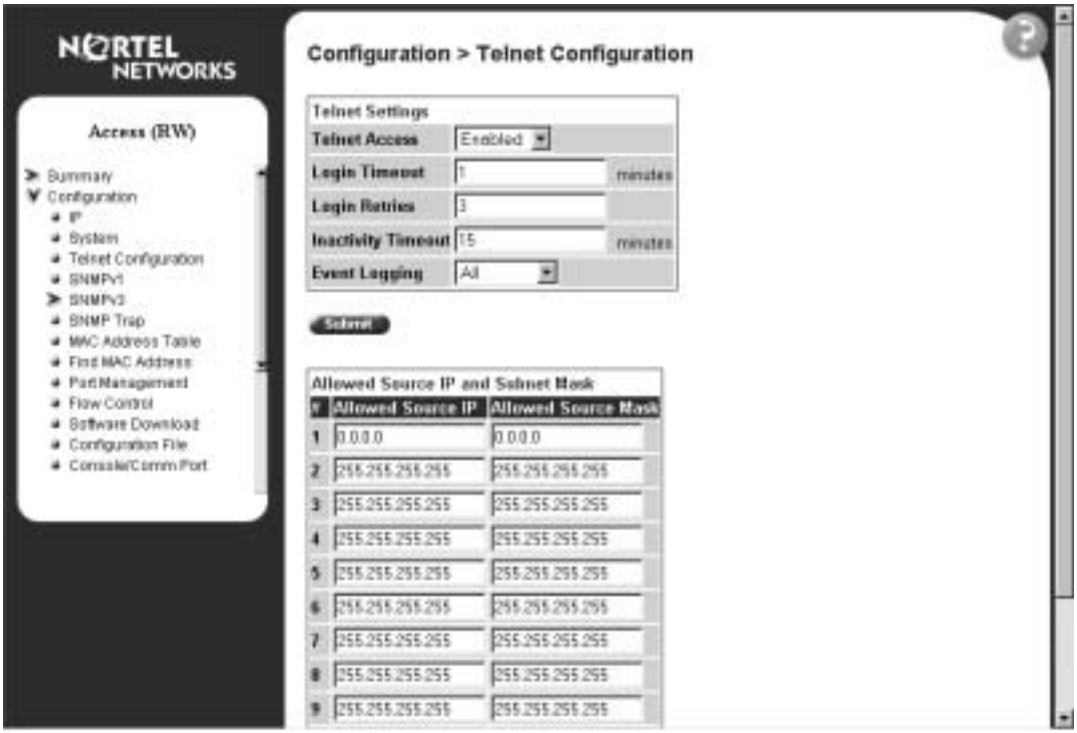


Table 12 TELNET Configuration screen fields

Field	Description
TELNET Access	Allows a user remote access to the CI through a Telnet session. Default Value: Enabled Range: Enabled, Disabled
Login Timeout	Specifies the amount of time a user has to enter the correct password at the console-terminal prompt. Default Value: 1 minute Range: 0 to 10 minutes (0 indicates “no timeout”)
Login Retries	Specifies the number of times a user can enter an incorrect password at the console-terminal prompt before terminating the session. Default Value: 3 Range: 1 to 100
Inactivity Timeout	Specifies the amount of time the session can be inactive before it is terminated. Default Value: 15 minutes Range: 0 to 60 minutes (0 indicates “no timeout”)
Event Logging	Specifies the types of events that will be displayed in the Event Log screen. Default Value: All Range: All, None, Accesses, Failures Description: *All:* Logs the following Telnet events to the Event Log screen: • TELNET connect: Indicates the IP address and access mode of a Telnet session. • TELNET disconnect: Indicates the IP address of the remote host and the access mode, due to either a logout or inactivity. • Failed TELNET connection attempts: Indicates the IP address of the remote host whose IP address is not on the list of allowed addresses, or indicates the IP address of the remote host that did not supply the correct password. *None:* Indicates that no Telnet events will be logged in the Event Log screen. *Accesses*: Logs only Telnet connect and disconnect events in the Event Log screen. *Failures:* Logs only failed Telnet connection attempts in the Event Log screen.

Table 12 TELNET Configuration screen fields (continued)

Field	Description
Allowed Source IP Address	Specifies up to 10 user-assigned host IP addresses that are allowed Telnet access to the CI. Default Value: 0.0.0.0 (no IP address assigned) Range: Four-octet dotted-decimal notation, where each octet is represented as a decimal value, separated by a decimal point
Allowed Source Mask	Specifies up to 10 user-assigned allowed source address masks. The remote IP address is masked with the Allowed Source Mask and, if the resulting value equals the Allowed Source IP address, the connection is allowed. For example, a connection would be allowed with the following settings: Remote IP address = 192.0.1.5 Allowed Source IP Address = 192.0.1.0 Allowed Source Mask = 255.255.255.0 Default Value: 0.0.0.0 (no IP mask assigned) Range: Four-octet dotted-decimal notation, where each octet is represented as a decimal value, separated by a decimal point

About SNMP

Simple Network Management Protocol (SNMP) is the standard for network management that uses a common software agent to manage local and wide area network equipment from different vendors; part of the Transmission Control Protocol/Internet Protocol (TCP/IP) suite and defined in RFC1157. SNMPv1 is version one, or the original standard protocol. SNMPv3 is a combination of proposal updates to SNMP, most of which deal with security.

Configuring SNMPv1

You can configure SNMPv1 read/write and read-only community strings, enable or disable trap mode settings, and/or enable or disable the autotopology feature. The autotopology feature, when enabled, performs a process that recognizes any device on the managed network and defines and maps its relation to other network devices in real time.

To configure the community string, trap mode, and autotopology settings and features:

1 From the main menu, choose Configuration > SNMPv1.

The SNMPv1 page opens (Figure 14).

Figure 14 SNMPv1 page

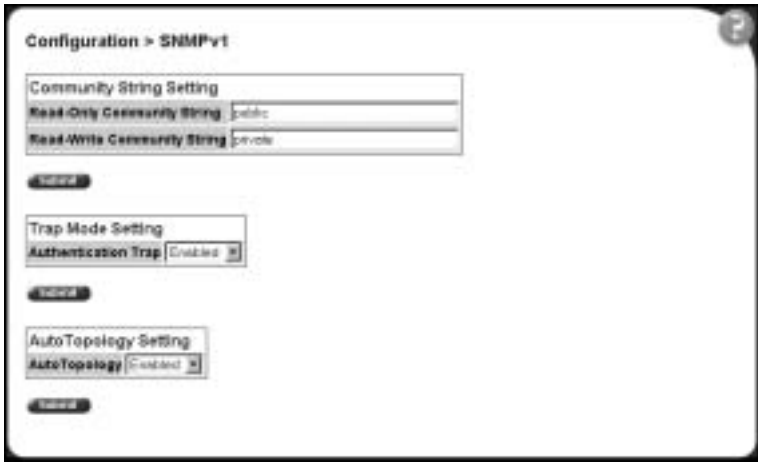


Table 13 describes the items on the SNMPv1 page.

Table 13 SNMPv1 page items

Section	Item	Range	Description
Community String Setting	Read-Only Community String	1..32	Type a character string to identify the community string for the SNMPv1 read-only community, for example, public or private. The default value is public.
	Read-Write Community String	1..32	Type a character string to identify the community string for the SNMPv1 read-write community, for example, public or private. The default value is private.
Trap Mode Setting	Authentication Trap	(1) Enable (2) Disable	Choose to enable or disable the authentication trap.
AutoTopology Setting	AutoTopology	(1) Enable (2) Disable	Choose to enable or disable the autotopology feature.

2 Type information in the text boxes, or select from a list.

3 Click Submit in any section to save your changes.

Configuring SNMPv3

This section describes the steps to build and manage SNMPv3 in the Web-based management user interface.

Viewing SNMPv3 system information

You can view information about the SNMPv3 engine that exists and the private protocols that are supported in your network configuration. You can also view information about packets received by the system having particular errors, such as unavailable contexts, unknown contexts, decrypting errors, or unknown user names.

To view SNMPv3 system information:

1 From the main menu, choose Configuration > SNMPv3 > System Information.

The System Information page opens (Figure 15).

Figure 15 System Information page

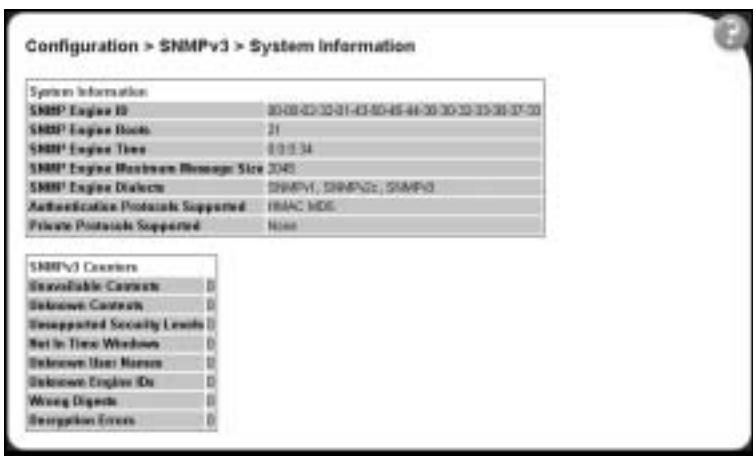


Table 14 describes the fields on the System Information section of the SNMPv3 System Information page.

Table 14 System Information section fields

Item	Description
SNMP Engine ID	The SNMP engine's identification number.
SNMP Engine Boots	The number of times that the SNMP engine has re-initialized itself since its initial configuration.
SNMP Engine Time	The number of seconds since the SNMP engine last incremented the snmpEngineBoots object.
SNMP Engine Maximum Message Size	The maximum length, in octets, of an SNMP message which this SNMP engine can send or receive and process determined as the minimum of the maximum message size values supported among all transports available to and supported by the engine.
SNMP Engine Dialects	The SNMP dialect the engine recognizes. The dialects are:SNMP1v1, SNMPv2C, and SNMPv3.
Authentication Protocols Supported	The registration point for standards-track authentication protocols used in SNMP Management Frameworks. The registration points are: None, HMAC MD5, HMAC SHA, HMAC MD5. Note: The BayStack 380-24F Gigabit Switch supports only the MD5 authentication protocol.
Private Protocols Supported	The registration point for standards-track privacy protocols used in SNMP Management Frameworks. The registration points are: None or CBC-DES. Note: The BayStack 380-24F Gigabit Switch does not support privacy protocols.

Table 15 describes the fields on the SNMPv3 Counters section of the SNMPv3 System Information page.

Table 15 SNMPv3 Counters section fields

Item	Description
Unavailable Contexts	The total number of packets dropped by the SNMP engine because the context contained in the message was unavailable.
Unknown Contexts	The total number of packets dropped by the SNMP engine because the context contained in the message was unknown.
Unsupported Security Levels	The total number of packets dropped by the SNMP engine because they requested a security level that was unknown to the SNMP engine or otherwise unavailable.
Not in Time Windows	The total number of packets dropped by the SNMP engine because they appeared outside of the authoritative SNMP engine's window.
Unknown User Names	The total number of packets dropped by the SNMP engine because they referenced an unknown user.
Unknown Engine IDs	The total number of packets dropped by the SNMP engine because they referenced an snmpEngineID that was not known to the SNMP engine.

Table 15 SNMPv3 Counters section fields

Item	Description
Wrong Digests	The total number of packets dropped by the SNMP engine because they did not contain the expected digest value.
Decryption Errors	The total number of packets dropped by the SNMP engine because they could not be decrypted.

Configuring user access to SNMPv3

You can view a table of all current SNMPv3 user security information such as authentication/privacy protocols in use, and create or delete SNMPv3 system user configurations.

Creating an SNMPv3 system user configuration

To create an SNMPv3 system user configuration:

1 From the main menu choose Configuration > SNMPv3 > User Specification.

The User Specification page opens (Figure 16).

Figure 16 User Specification page

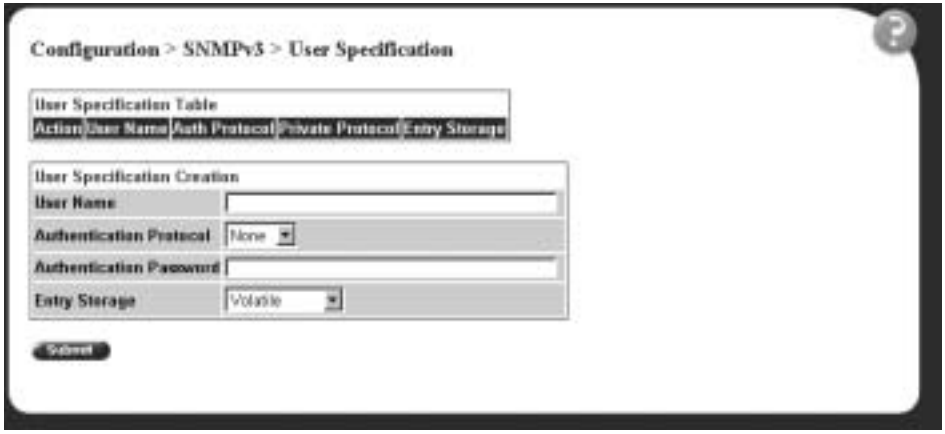


Table 16 describes the items on the User Specification Table section of the User Specification page.

Table 16 User Specification Table section items

Item and MIB association	Description
	Deletes the row.
User Name (usmUserSecurityName)	The name of an existing SNMPv3 user.
Authentication Protocol (usmUserAuthProtocol)	Indicates whether the message sent on behalf of this user to/from the SNMP engine identified UserEngineID can be authenticated by the MD5 authentication protocol. Note: The BayStack 380-24F Switch supports only the MD5 authentication protocol.
Private Protocol (usmUserPrivProtocol)	Displays whether or not messages sent on behalf of this user to or from the SNMP engine identified by usmUserEngineID can be protected from disclosure, and if so, the type of privacy protocol which is used.
Entry Storage	The current storage type for this row. If “Volatile” is displayed, information is dropped (lost) when you turn the power off. If non-volatile is displayed, information is saved in NVRAM when you turn the power off

Table 17 describes the items on the User Specification Creation section of the User Specification page.

Table 17 User Specification Creation section items

Item and MIB association	Range	Description
User Name	1..32	Type a string of characters to create an identity for the user.
Authentication Protocol (usmUserAuthProtocol)	None MD5	Choose whether or not the message sent on behalf of this user to/from the SNMP engine identified UserEngineID can be authenticated with the MD5 protocol. Note: The BayStack 380-24F Switch supports only the MD5 authentication protocol.
Authentication Password (usmUserAuthPassword)	1..32	Type a string of character to create a password to use in conjunction with the authorization protocol.
Creation Mode	Create Entry	Choose to create a new, unique user specification entry.
Entry Storage (usmUserStorageType)	(1) Volatile (2) Non-Volatile	Choose your storage preference. Selecting Volatile requests information to be dropped (lost) when you turn the power off. Selecting Non-Volatile requests information to be saved in NVRAM when you turn the power off.

2 In the User Specification Creation section, type information in the text boxes, or select from a list.

3 Click Submit.

The new configuration is displayed in the User Specification Table (Figure 16 on page 53).

Deleting an SNMPv3 system user configuration

To delete an existing SNMPv3 user configuration:

1 From the main menu, choose Configuration > SNMPv3 > User Specification.

The User Specification page opens (Figure 16 on page 53.)

2 In the User Specification Table, click the Delete icon for the entry you want to delete.

A message opens prompting you to confirm your request.

3 Do one of the following:

- Click Yes to delete the SNMPv3 user configuration.
- Click Cancel to return to the User Specification page without making changes.

Configuring an SNMPv3 system user group membership

You can view a table of existing SNMPv3 group membership configurations and map or delete an SNMPv3 user to group configuration.

Mapping an SNMPv3 system user to a group

To map an SNMPv3 system user to a group:

1 From the main menu, choose Configuration > SNMPv3 > Group Membership.

The Group Membership page opens (Figure 17).

Figure 17 Group Membership page

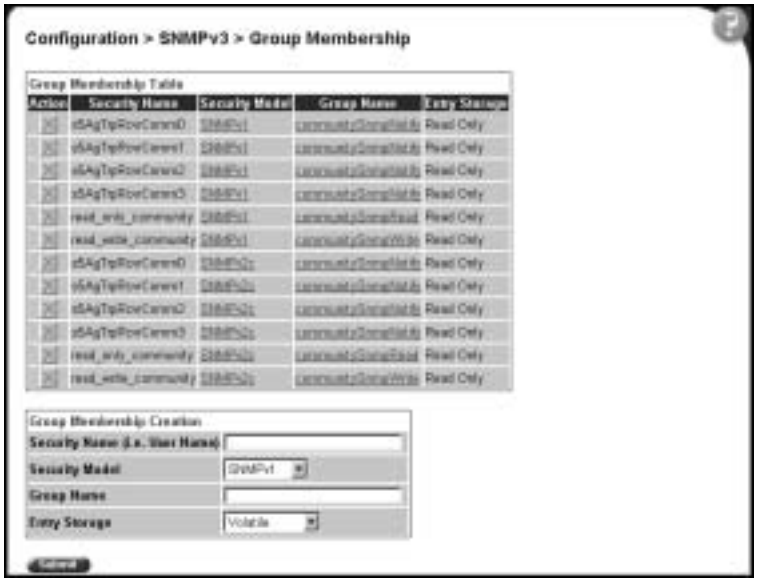


Table 18 describes the items on the Group Membership page.

Table 18 Group Membership page items

Item and MIB association	Range	Description
		Deletes the row.
Security Name (vacmSecurityToGroupStatus)	1..32	Type a string of character to create a security name for the principal which is mapped by this entry to a group name.
Security Model (vacmSecurityToGroupStatus)	(1) SNMPv1 (2) SNMPv2c (3) USM	Choose the security model within which the security name to group name mapping is valid.
Group Name (vacmGroupName)	1..32	Type a string of character to specify the group name.
Entry Storage (vacmSecurityToGroupStorageType)	(1) Volatile (2) Non-Volatile	Choose your storage preference. Selecting Volatile requests information to be dropped (lost) when you turn the power off. Selecting Non-Volatile requests information to be saved in NVRAM when you turn the power off.

2 In the Group Membership Creation section, type information in the text boxes, or select from a list.

3 Click Submit.

The new entry is displayed in the Group Membership Table (Figure 17 on page 56).

Deleting an SNMPv3 group membership configuration

To delete an SNMPv3 group membership configuration:

1 From the main menu, choose Configuration > SNMPv3 > Group Membership.

The Group Membership page opens (Figure 17 on page 56).

2 In the Group Membership Table, click the Delete icon for the entry you want to delete.

A message opens prompting you to confirm your request.

3 Do one of the following:

- Click Yes to delete the group membership configuration.
- Click Cancel to return to the Group Membership page without making changes.

Note: This Group Membership Table section of the Group Membership page contains hyperlinks to the SNMPv3 User Specification and Group Access Rights pages. For more information on these pages, see "Configuring user access to SNMPv3" on page 53 and "Configuring SNMPv3 group access rights" on page 58.

Configuring SNMPv3 group access rights

You can view a table of existing SNMPv3 group access rights configurations, and you can create or delete a group's SNMPv3 system-level access rights.

Creating an SNMPv3 group access rights configuration

To create a group's SNMPv3 system-level access right configuration:

1 From the main menu, choose Configuration > SNMPv3 > Group Access Rights.

The Group Access Rights page opens (Figure 18).

Figure 18 Group Access Rights page

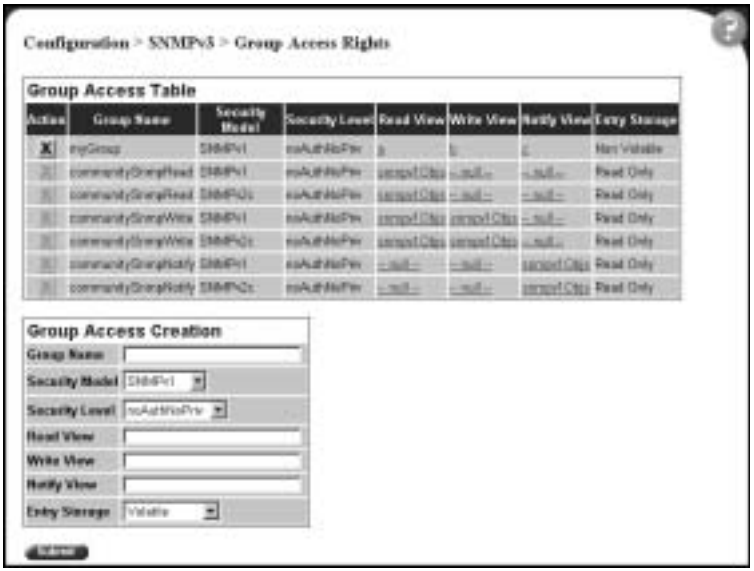


Table 19 describes the items on the Group Access Rights page.

Table 19 Group Access Rights page items

Item and MIB association	Range	Description
✕		Deletes the row.
Group Name (vacmAccessToGroupStatus)	1..32	Type a character string to specify the group name to which access is granted.
Security Model (vacmAccessSecurityModel)l	(1) SNMPv1 (2) SNMPv2c (3) USM	Choose the security model to which access is granted.
Security Level (vacmAccessSecurityLevel)	(1) noAuthNoPriv (2) authNoPriv	Choose the minimum level of security required in order to gain the access rights allowed to the group.
Read View (vacmAccessReadViewName)	1..32	Type a character string to identify the MIB view of the SNMP context to which this entry authorizes read access.
Write View (vacmAccessWriteViewName)	1..32	Type a character string to identify the MIB view of the SNMP context to which this entry authorizes write access.
Notify View (vacmAccessNotifyViewName)	1..32	Type a character string to identify the MIB view to which this entry authorizes access to notifications.
Entry Storage (vacmSecurityToGroupStorageType)	(1) Volatile (2) Non-Volatile	Choose your storage preference. Selecting Volatile requests information to be dropped (lost) when you turn the power off. Selecting Non-Volatile requests information to be saved in NVRAM when you turn the power off.

2 In the Group Access Creation section, type information in the text boxes, or select from a list.

3 Click Submit.

The new entry is displayed in the Group Access Table (Figure 18 on page 59).

Deleting an SNMPv3 group access rights configuration

To delete a n SNMPv3 group access configuration:

1 From the main menu, choose Configuration > SNMPv3 > Group Access Rights.

The Group Access Rights page opens (Figure 18 on page 59).

2 In the Group Access Table, click the Delete icon for the entry you want to delete.

A message opens prompting you to confirm your request.

3 Do one of the following:

- Click Yes to delete the group access configuration.
- Click Cancel to return to the Group Access Rights page without making changes.

Note: This Group Access Table section of the Group Access Rights page contains hyperlinks to the Management Information View page.

Configuring an SNMPv3 management information view

You can view a table of existing SNMPv3 management information view configurations, and you can create or delete SNMPv3 management information view configurations.

Note: A view may consist of multiple entries in the table, each with the same view name, but a different view subtree.

Creating an SNMPv3 management information view configuration

To create an SNMPv3 management information view configuration:

1 From the main menu, choose Configuration > SNMPv3 > Management Info View.

The Management Information View page opens (Figure 19).

Figure 19 Management Information View page

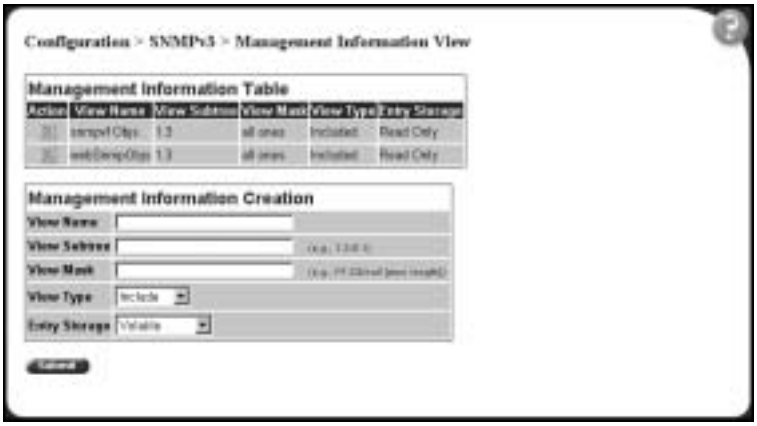


Table 20 describes the fields on the Management Information View page.

Table 20 Management Information View page fields

Fields and MIB association	Range	Description
		Deletes the row.
View Name (vacmViewTreeFamilyViewName)	1..32	Type a character string to create a name for a family of view subtrees.
View Subtree (vacmViewTreeFamilySubtree)	X.X.X.X.X...	Type an object identifier (OID) to specify the MIB subtree which, when combined with the corresponding instance of vacmViewTreeFamilyMask, defines a family of view subtrees. Note: If no OID is entered and the field is blank, a default mask value consisting of “1s” is recognized.
View Mask (vacmViewTreeFamilyMask)	Octet String (0..16)	Type the bit mask which, in combination with the corresponding instance of vacmViewFamilySubtree, defines a family of view subtrees.
View Type (vacmViewTreeFamilyType)	(1) Included (2) Excluded	Choose to include or exclude a family of view subtrees.
Entry Storage (vacmSecurityToGroupStorageType)	(1) Volatile (2) Non-Volatile	Choose your storage preference. Selecting Volatile requests information to be dropped (lost) when you turn the power off. Selecting Non-Volatile requests information to be saved in NVRAM when you turn the power off.

2 In the Management Information Creation section, type information in the text boxes, or select from a list.

3 Click Submit.

The new entry appears in the Management Information Table (Figure 19 on page 61).

Deleting an SNMPv3 management information view configuration

To delete an existing SNMPv3 management information view configuration:

1 From the main menu, choose Configuration > SNMPv3 > Management Info View.

The Management Information page opens (Figure 19 on page 61).

2 In the Management Information Table, click the Delete icon for the entry you want to delete.

A message opens prompting you to confirm your request.

3 Do one of the following:

- Click Yes to delete the management information view configuration.
- Click Cancel to return to the table without making changes.

Configuring an SNMPv3 system notification entry

You can view a table of existing SNMPv3 system notification configurations, and you can configure specific SNMPv3 system notification types with particular message recipients and delete SNMPv3 notification configurations.

Creating an SNMPv3 system notification configuration

To create an SNMPv3 system notification configuration:

1 From the main menu, choose Configuration > SNMPv3 > Notification.

The Notification page opens (Figure 20).

Figure 20 Notification page

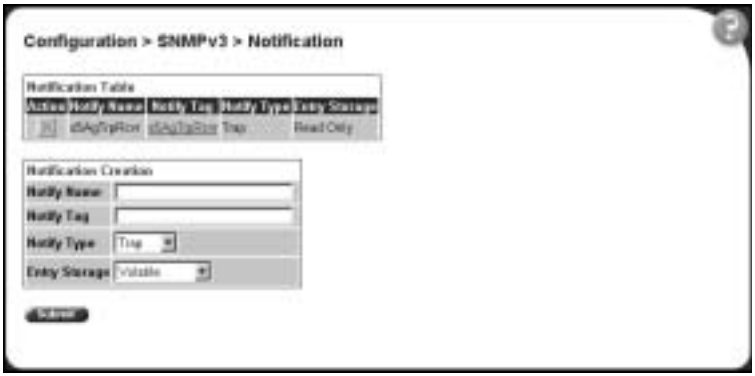


Table 21 describes the items on the Notification page.

Table 21 Notification page items

Item and MIB association	Range	Description
		Deletes the row.
Notify Name (snmpNotifyRowStatus)	1..32	Type a character string to identify the entry.
Notify Tag (snmpNotifyTag)	1..32	Type a value which to use to select entries in the snmpTargetAddrTable. Any entry in the snmpTargetAddrTable which contains a tag value which is equal to the value of an instance of this object is selected. If this object carries a zero length, no entries are selected
Notify Type (snmpNotifyType)	(1) Trap (2) Inform	Choose the type of notification to generate.
Entry Storage (snmpNotifyStorageType)	(1) Volatile (2) Non-Volatile	Choose your storage preference. Selecting Volatile requests information to be dropped (lost) when you turn the power off. Selecting Non-Volatile requests information to be saved in NVRAM when you turn the power off.

2 In the Notification Creation section, type information in the text boxes, or select from a list.

3 Click Submit.

The new entry is displayed in the Notification Table (Figure 20).

Note: This Notification Table section of the Notification page contains hyperlinks to the Target Parameter page.

Deleting an SNMPv3 system notification configuration

To delete an SNMPv3 notification configuration:

1 From the main menu, choose Configuration > SNMPv3 > Notification.

The Notification page opens (Figure 20 on page 63).

2 In the Notification Table, click the Delete icon for the entry you want to delete.

A message opens prompting you to confirm your request.

3 Do one of the following:

- Click Yes to delete the notification configuration.
- Click Cancel to return to the table without making changes.

Configuring an SNMPv3 management target address

You can view a table of existing SNMPv3 management target configurations, create SNMPv3 management target address configurations that associate notifications with particular recipients and delete SNMPv3 target address configurations.

Creating an SNMPv3 target address configuration

To create an SNMPv3 target address configuration:

1 From the main menu, choose Configuration > SNMPv3 > Target Address.

The Target Address page opens (Figure 21).

Figure 21 Target Address page

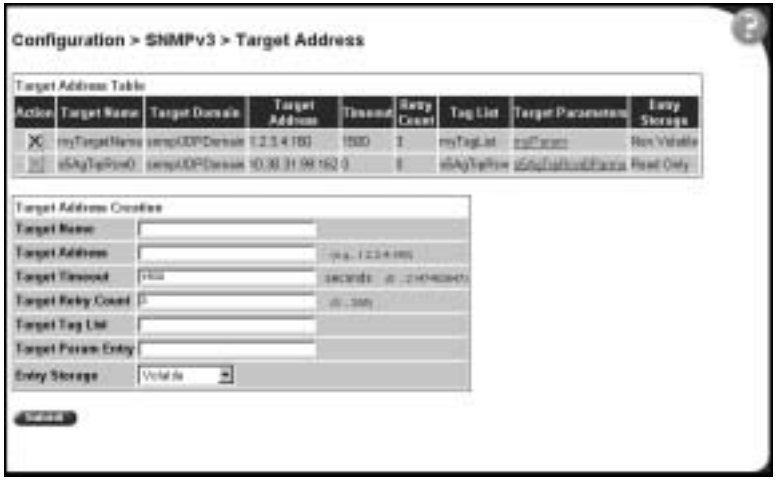


Table 22 describes the items on the Target Address page.

Table 22 Target Address page items

Item and MIB association	Range	Description
		Deletes the row.
Target Name (snmpTargetAddrName)	1..32	Type a character string to create a target name.
Target Domain (snmpTargetAddrTDomain)	1..32	The transport type of the address contained in the snmpTargetAddrTAddress object.
Target Address (snmpTargetAddrTAddress)	XXX.XXX.XXX.XXX:XXX	Type a transport address in the format of an IP address, colon, and UDP port number. For example: 10.30.31.99:162.
Target Timeout (snmpTargetAddrTimeout)	Integer	Type the number, in seconds, to designate as the maximum time to wait for a response to an inform notification before re-sending the “Inform” notification.
Target Retry Count (snmpTargetAddrRetryCount)	0..255	Type the default number of retires to be attempted when a response is not received for a generated message. An application may provide its own retry count, in which case the value of this object is ignored.
Target Tag List (snmpTargetAddrTagList)	1..20	Type the space-separated list of tag values to be used to select target addresses for a particular operation.
Target Parameter Entry (snmpTargetAddr)	1..32	Type a numeric string to identify an entry in the snmpTargetParamsTable. The identified entry contains SNMP parameters to be used when generated messages to be sent to this transport address
Entry Storage	(1) Volatile (2) Non-Volatile	Choose your storage preference. Selecting Volatile requests information to be dropped (lost) when you turn the power off. Selecting Non-Volatile requests information to be saved in NVRAM when you turn the power off.

2 In the Target Address Creation section, type information in the text boxes, or select from a list.

3 Click Submit.

The new entry is displayed in the Target Address Table (Figure 21 on page 65).

Note: This Target Address Table section of the Target Address page contains hyperlinks to the Target Parameter page.

Deleting an SNMPv3 target address configuration

To delete an SNMPv3 target address configuration:

1. From the main menu, choose Configuration > SNMPv3 > Target Address.

   The Target Address page opens (Figure 21 on page 65).

2. In the Target Address Table, click the Delete icon for the entry you want to delete.

   A message opens prompting you to confirm your request.

3. Do one of the following:
   - Click Yes to delete the target address configuration.
   - Click Cancel to return to the table without making changes.

Configuring an SNMPv3 management target parameter

SNMPv3 management target parameters are used during notification generation to specify the communication parameters used for exchanges with notification recipients.

You can view a table of existing SNMPv3 target parameter configurations, create SNMPv3 target parameters that associate notifications with particular recipients, and delete existing SNMPv3 target parameter configurations.

Creating an SNMPv3 target parameter configuration

To create an SNMPv3 target parameter configuration:

1. From the main menu, choose Configuration > SNMPv3 > Target Parameter.

   The Target Parameter page opens (Figure 22).

Figure 22 Target Parameter page

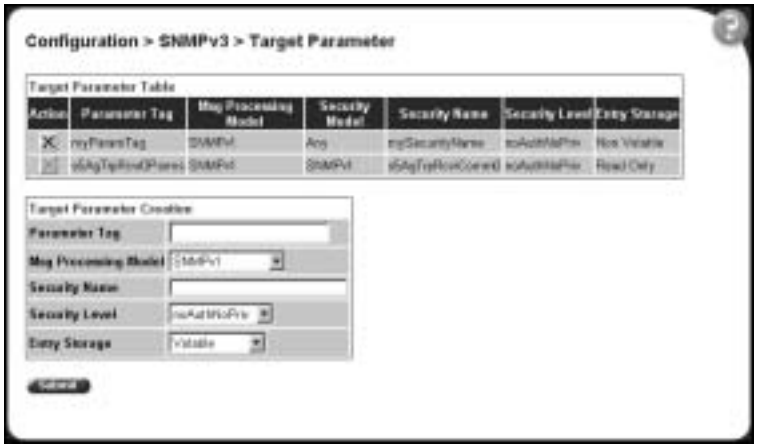


Table 23 describes the items on the Target Parameter page.

Table 23 Target Parameter page items

Item	Range	Description
✕		Deletes the row.
Parameter Tag (snmpTargetParamsRowStatus)	1..32	Type a unique character string to identify the parameter tag.
Msg Processing Model (snmpTargetParamsMPModel)	(0) SNMPv1 (1) SNMPv2c (2) SNMPv2* (3) SNMPv3 /USM	Choose the message processing model to be used when generating SNMP messages using this entry
Security Name (snmpTargetParamsSecuirtyName)	1..32	Type the principal on whose behalf SNMP messages are generated using this entry
Security Level (snmpTargetParamsSecuirtyLevel)	(1) noAuthNoPriv (2) authNoPriv	Choose the level of security to be used when generating SNMP messages using this entry
Entry Storage (snmpTargetParamsStorageType)	(1) Volatile (2) Non-Volatile	Choose your storage preference. Selecting Volatile requests information to be dropped (lost) when you turn the power off. Selecting Non-Volatile requests information to be saved in NVRAM when you turn the power off.

2 In the Target Parameter Creation section, type information in the text boxes, or select from a list.

3 Click Submit.

The new entry appears in the Target Parameter Table (Figure 22 on page 68).

Deleting an SNMPv3 target parameter configuration

To delete an SNMPv3 target parameter configuration:

1. From the main menu, choose Configuration > SNMPv3 > Target Address.

   The Target Address page opens (Figure 21 on page 65).

2. In the Target Parameter Table, click the Delete icon for the entry you want to delete.

   A message opens prompting you to confirm your request.

3. Do one of the following:
   - Click Yes to delete the target parameter configuration.
   - Click Cancel to return to the table without making changes.

Configuring an SNMP trap receiver

You can configure the IP address and community string for a new SNMP trap receiver, view a table of existing SNMP trap receiver configurations, or delete an existing SNMP trap receiver configuration(s).

Note: The SNMP Trap Receiver Table is an alternative to using the SNMPv3 Target Table and SNMPv3 Parameter Table. However, only SNMPv1 traps are configurable using this table.

Creating an SNMP trap receiver configuration

To create an SNMP trap receiver configuration:

1. From the main menu, choose Configuration > SNMP Trap Receiver.

   The SNMP Trap Receiver page opens (Figure 23).

Figure 23 SNMP Trap Receiver page

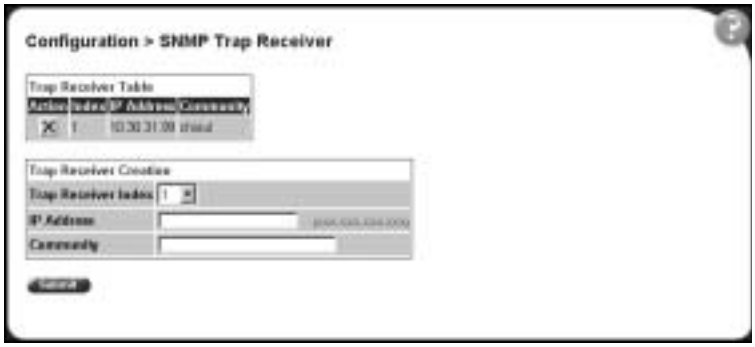


Table 24 describes the fields on the Trap Receiver Table and Trap Receiver Creation sections of the SNMP Trap Receiver page.

Table 24 SNMP Trap Receiver page fields

Fields	Range	Description
✕		Deletes the row.
Trap Receiver Index	1..4	Choose the number of the trap receiver to create or modify.
IP Address	XXX.XXX.XXX.XXX	Type the network address for the SNMP manager that is to receive the specified trap.
Community	0..32	Type the community string for the specified trap receiver.

2 In the Trap Receiver Creation section, type information in the text boxes, or select from a list.

3 Click Submit.

The new entry is displayed in the Trap Receiver Table (Figure 23).

Deleting an SNMP trap receiver configuration

To delete SNMP trap receiver configurations:

1 From the main menu, choose Configuration > SNMP Trap Receiver.

The SNMP Trap Receiver page opens (Figure 23).

2 In the Trap Receiver Table, click the Delete icon for the entry you want to delete.

A message opens prompting you to confirm your request.

3 Do one of the following:

- Click Yes to delete the SNMP trap receiver configuration.
- Click Cancel to return to the table without making changes.

Viewing learned MAC addresses by VLAN

You can view MAC addresses and their associated port or trunk that the switch configuration has learned, based on the VLAN you select.

To view learned MAC addresses and their associated port or trunk:

1 From the main menu, choose Configuration > MAC Address Table.

The MAC Address Table page opens (Figure 24).

Figure 24 MAC Address Table page

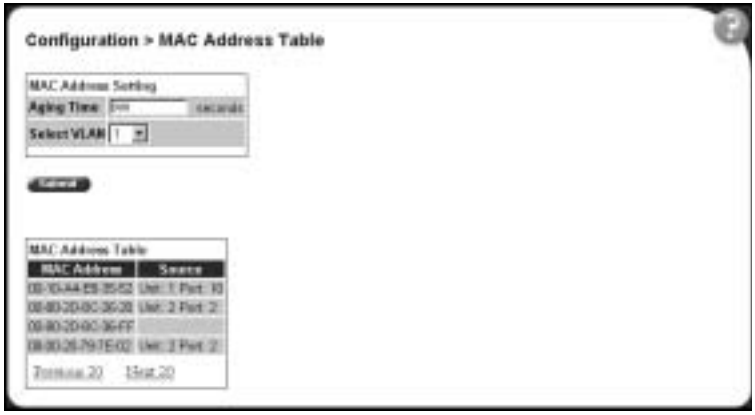


Table 25 describes the fields on the MAC Address Table page.

Table 25 MAC Address Table page fields

Section	Field	Range	Description
MAC Address Setting	Aging Time	10..1000000	Type the timeout period, in seconds, for aging out dynamically learned forwarding information. If the entry is inactive for a period of time that exceeds the specified aging time, the address is removed. Note: Nortel Networks recommends that you use the default value of 300 seconds.
	Select VLAN	1..64	Choose the VLAN on which to view learned MAC addresses.
MAC Address Table	MAC Address		The unicast MAC address for which the bridge has forwarding and/or filtering information.
	Source		The source of the discovered MAC address.

2 In the MAC Address Setting section, choose the aging time and VLAN you want to view learned MAC addresses on.

3 Click Submit.

Your request is displayed in the MAC Address Table (Figure 24 on page 71).

Locating a specific MAC address

You can search for a specific MAC address among all the MAC addresses learned from all the VLANs. This is a useful tool for finding whether or not a switch has learned a particular address.

To locate a specific MAC addresses:

1 From the main menu, choose Configuration > Find MAC Address.

The Find MAC Address Table page opens (Figure 25).

Figure 25 Find MAC Address Table page

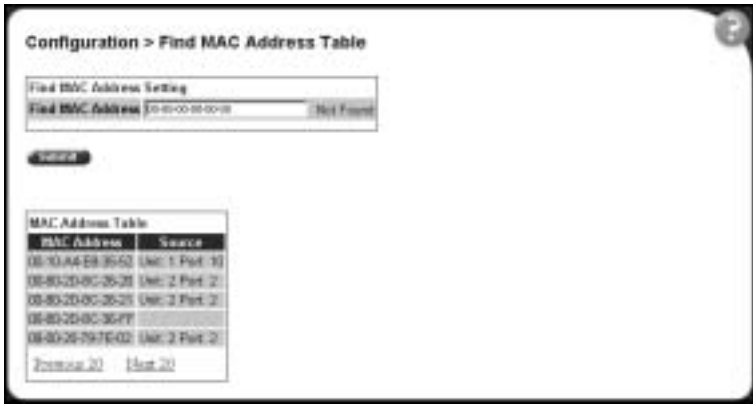


Table 25 on page 72 describes the items on the MAC Address Table page fields.

2 In the MAC Address Setting section, type the MAC address you want to search for.

3 Click Submit to enter the request.

If the address is located, it is shown in the first row in the MAC Address Table section. If the address is not located, the system response “Not Found” is shown to the right of the Find MAC Address input field.

Configuring switch port autonegotiation speed

You can configure a specific switch port or all switch ports to autonegotiate for the highest available speed of the connected station or you can set the speed for selected switch ports.

To configure a switch port's autonegotiation speed:

1 From the main menu, choose Configuration > Port Management.

The Port Management page opens (Figure 26).

Figure 26 Port Management page

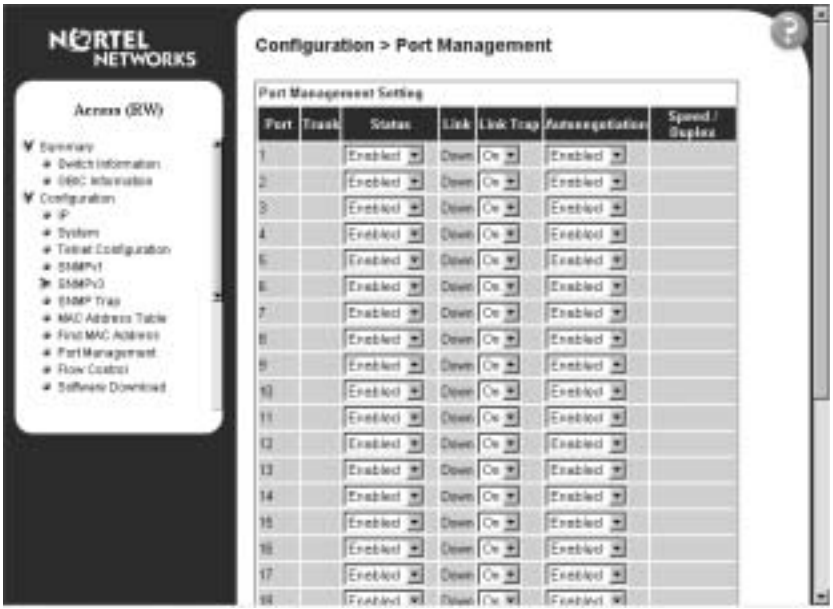


Table 26 describes the items on the Port Management page.

Table 26 Port Management page items

Item	Range	Description
Port		The switch port number of the corresponding row. The values that you set in each switch row affect all switch ports.
Trunk		The trunk group that the switch port belongs to as specified in the Trunk Member fields on the MultiLink Trunk page.

Table 26 Port Management page items

Item	Range	Description
Status	(1) Enabled (2) Disabled	Choose to enable or disable the port. You can also use this field to control access to any switch port. The default setting is Enabled.
Link		The current link state of the corresponding port as follows: • Up: The port is connected and operational • Down: The port is not connected or is not operational.
Link/Trap	(1) On (2) Off	Choose to control whether link up/down traps are sent to the configured trap sink from the switch. The default setting is On.
Autonegotiation	(1) Enabled (2) Disabled	Choose to enable or disable the autonegotiation feature. Choosing to enable autonegotiation sets the corresponding port to match the best service provided by the connected station. The default setting is Enabled.
Speed / Duplex	1000Mbs / Full	The default setting.

2 In the port row of your choice, select from the lists.

3 Click Submit.

Configuring flow control

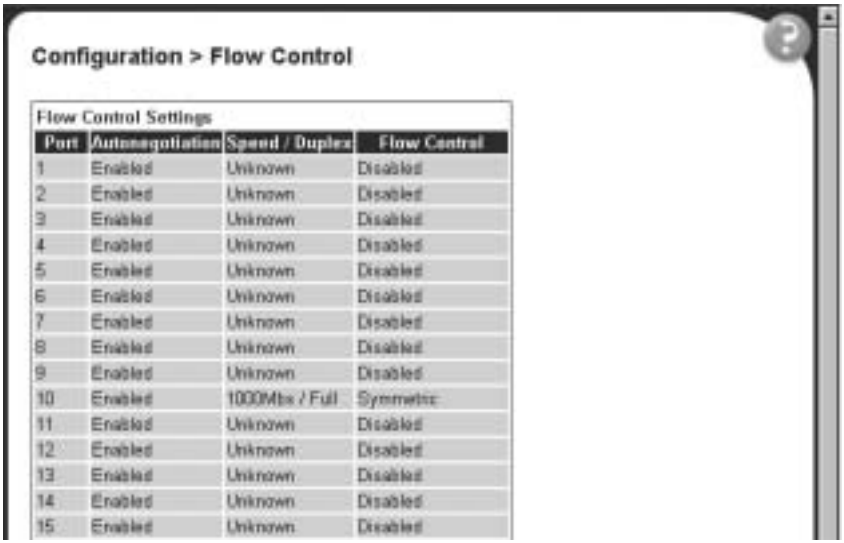
You can set switch port parameters for GBICs for flow control.

To configure flow control:

1 From the main menu, choose Configuration > Flow Control.

The Flow Control page opens (Figure 27).

Figure 27 Flow Control page



Configuration > Flow Control

Flow Control Settings

Port	Autonegotiation	Speed / Duplex	Flow Control
1	Enabled	Unknown	Disabled
2	Enabled	Unknown	Disabled
3	Enabled	Unknown	Disabled
4	Enabled	Unknown	Disabled
5	Enabled	Unknown	Disabled
6	Enabled	Unknown	Disabled
7	Enabled	Unknown	Disabled
8	Enabled	Unknown	Disabled
9	Enabled	Unknown	Disabled
10	Enabled	1000Mbs / Full	Symmetric
11	Enabled	Unknown	Disabled
12	Enabled	Unknown	Disabled
13	Enabled	Unknown	Disabled
14	Enabled	Unknown	Disabled
15	Enabled	Unknown	Disabled

Table 27 describes the items on the High Speed Flow Control page.

Table 27 High Speed Flow Control page items

Item	Range	Description
Autonegotiation	(1) Enabled (2) Disabled	Choose to enable or disable the autonegotiation feature. When enabled, the port supports 1000Mb/s operation in full-duplex mode.
Flow Control	(1) Enabled (2) Symmetric (3) Asymmetric	Choose your flow control preference to control traffic and avoid congestion on the GBIC port.

2 Select from the lists.

3 Click Submit.

Downloading switch images

You can download the BayStack 380-24F Gigabit Switch software image that is located in non-volatile flash memory. To download the BayStack 380-24F Gigabit Switch software image, a properly configured Trivial File Transfer Protocol (TFTP) server must be present in your network, and the policy switch must have an IP address.

To learn how to configure the switch IP address, refer to “Configuring BootP, IP, and gateway settings” on page 42.

Caution: Do not interrupt power to the device during the software download process. A power interruption can corrupt the firmware image.

To download a switch image:

1 From the main menu, choose Configuration > Software Download.

The Software Download page opens (Figure 28).

Figure 28 Software Download page

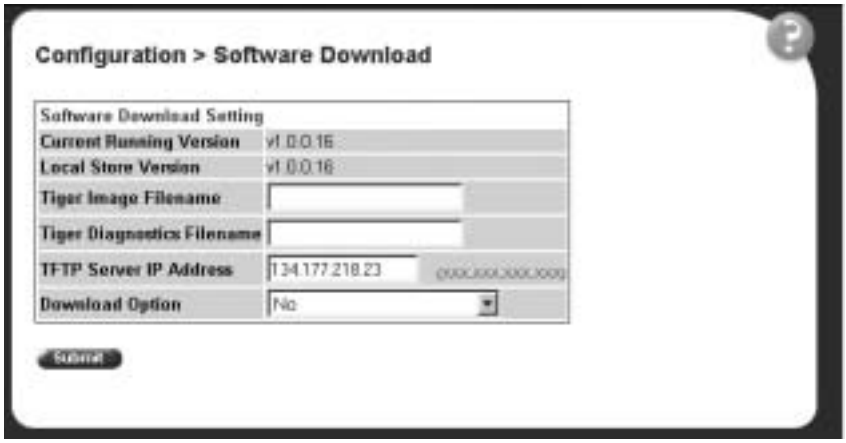


Table 28 describes the fields on the Software Download page.

Table 28 Software Download page fields

Fields	Range	Description
Current Running Version		The version of the current running software.
Local Store Version		The local version of the software in the flash memory.
BS380-24F Image Filename	1..30	Type the software image load filename.
BS380-24F Diagnostics Filename	1..30	Type the diagnostics filename.
Image Filename	1..30	Type the image filename.
TFTP Server IP Address	XXX.XXX.XXX.XXX	Type the IP address of your TFTP load host.
Download Option	**(1) No** **(2) BS380-24F Image** **(3) BS380-24FDiagnostics**	Choose the software image to load.

2 Type information in the text boxes, or select from a list.

3 Click Submit.

The software download process automatically completes without user intervention. The process erases the contents of flash memory and replaces it with a new software image. Take care not to interrupt the download process until after it runs to completion (the process can take up to 10 minutes, depending on network conditions).

When the download process is complete, the switch automatically resets and the new software image initiates a self-test.

During the download process, the BayStack 380-24F Gigabit Switch is not operational. You can monitor the progress of the download process by observing the LED indications.

Table 29 describes the LED indications during the software download process.

Note: The LED indications described in Table 29 apply to a 24-port switch model.

Table 29 LED Indications during the software download process

Phase	Description	LED Indications
1	The switch downloads the new software image.	**1000 Mb/s port status LEDs:** The LEDs begin to turn on in succession beginning with port 1 on one side and port 24 on the other side.
2	The switch erases the flash memory.	**1000 Mb/s port status LEDs:** The LEDs begin to turn on in succession beginning with port 1 on one side and port 24 on the other side.
3	The switch programs the new software image into the flash memory.	**1000 Mb/s port status LEDs:** The LEDs begin to turn on in succession beginning with port 1 on one side and port 24 on the other side.
4	The switch resets automatically.	After the reset completes, the new software image initiates the switch self-test, which comprises various diagnostic routines and subtests. All of the LEDs will display solid green. The LEDs display various patterns to indicate that the subtests are in progress.

Storing or retrieving a configuration file from a TFTP server

You can store switch configuration parameters on a TFTP server. You can retrieve the configuration parameters of a switch and use the retrieved parameters to automatically configure a replacement switch.

To store a switch configuration, you must set up the file on your TFTP server and set the filename read/write permission to enabled.

To download the BayStack 380-24F Gigabit Switch configuration file, a properly configured Trivial File Transfer Protocol (TFTP) server must be present in your network, and the BayStack 380-24F switch must have an IP address.

To learn how to configure the switch IP address, refer to “Configuring BootP, IP, and gateway settings” on page 42.

To store or retrieve a switch configuration file:

1 From the main menu, choose Configuration > Configuration File.

The Configuration File Download/Upload page opens (Figure 29).

Figure 29 Configuration File Download/Upload page

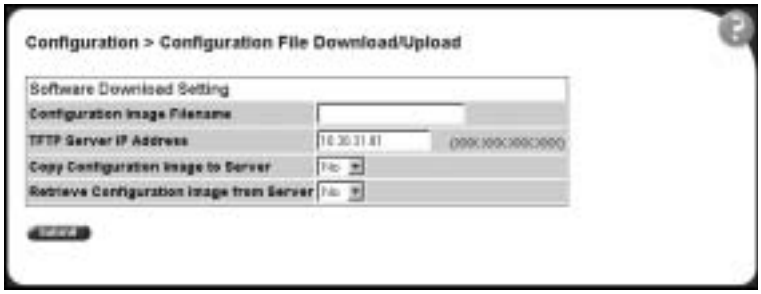


Table 30 describes the items on the Configuration File Download/Upload page.

Table 30 Configuration File Download/Upload page items

Item	Range	Description
Configuration Image Filename	1..32	Type the configuration file name.
TFTP Server IP Address	XXX.XXX.XXX.XXX	Type the IP address of the TFTP load host.
Copy Configuration Image to Server	(1) Yes (2) No	Choose whether or not to copy the configuration image to the server.
Retrieve Configuration Image from Server	(1) Yes (2) No	Choose whether or not to retrieve the configuration image from a server. If you choose Yes, the download process begins immediately and, when completed, causes the switch to reset with the new configuration parameters.

2. Type information in the text boxes, or select from a list.
3. Click Submit.

Requirements for storing or retrieving parameters on a TFTP server

The following requirements apply when storing and retrieving configuration parameters on a TFTP server:

- The Configuration File feature can only be used to copy switch configuration parameters to other switches.
- A configuration file obtained from a switch can only be used to configure other switches that have the same firmware revision and model type as the donor switch.
- The configuration file also duplicates any settings that exist for any GBIC that is installed in the donor switch.
- If you use the configuration file to configure another switch that has the same GBIC model installed, the configuration file settings will also apply to and override the existing GBIC settings.

Table 31 describes the parameters that are not saved to the configuration file.

Table 31 Parameters not saved to the configuration file

These parameters are not saved:	Used in this screen:
	IP Configuration/Setup
In-Band Switch IP Address	
In-Band Subnet Mask	
Default Gateway	
Configuration Image Filename	Configuration File Download/Upload
TFTP Server IP Address	
Console Read-Only Switch Password	Console/Comm Port Configuration
Console Read-Write Switch Password	

Configuring port communication speed

You can view the current console/communication port settings and configure the console port baud rate to match the baud rate of the console terminal.

To view current console/communication port settings and configure console port speed:

1 From the main menu, choose Configuration > Console/Comm Port.

The Console/Communication Port page opens (Figure 30).

Figure 30 Console/Communication Port page

Table 32 describes the items on the Console/Communication Port page.

Table 32 Console/Communication Port page items

Item	Range	Description
Comm Port Data Bits		The current console communication port data bit setting.
Comm Port Parity		The current console communication port parity setting.
Comm Port Stop Bits		The current console communication port stop bit setting.
Console Port Speed	2400 4800 9600 19200 38400	Choose the console port speed baud rate. Note: The default setting is 9600.
		Caution: If you choose a baud rate that does not match your console terminal baud rate, you will lose communication with the configuration interface when you click Submit.

2 Select from the list.

3 Click Submit.

Chapter 5
Configuring remote network monitoring (RMON)

The RMON management information base (MIB) is an interface between the RMON agent on a BayStack 380-24FSwitch and RMON management applications such as the Web-based management user interface. It defines objects that are suitable for the management of any type of network. Some groups are specifically targeted for Ethernet networks.

The RMON agent continuously collects statistics and proactively monitors the switch.

This RMON options available to you are:

Configuring RMON fault threshold parameters

Alarms are useful when you need to know when the value of some variable goes out of range. RMON alarms can be defined on any MIB variable that resolves to an integer value. String variables (such as system description) cannot be used as alarm variables.

Creating an RMON fault threshold

You can create the RMON threshold parameters for fault notification (alarms).

To create an RMON threshold:

1 From the main menu, choose Fault > RMON Threshold.

The RMON Threshold page opens (Figure 31).

Figure 31 RMON Threshold page

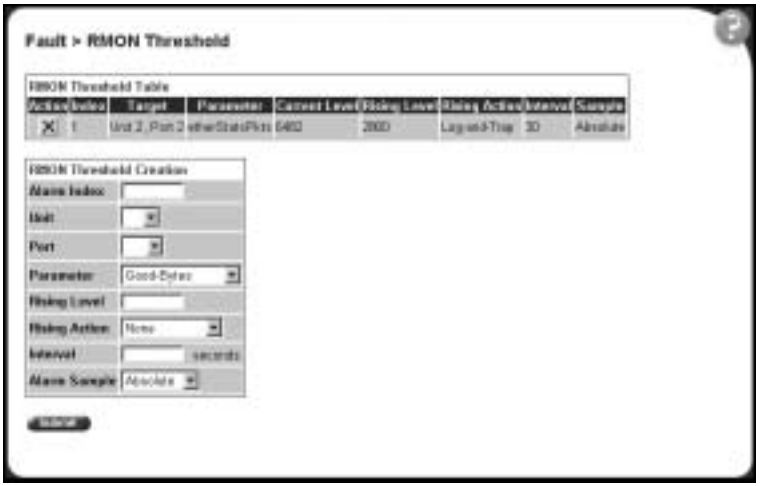


Table 33 describes the items on the RMON Threshold page.

Table 33 RMON Threshold page items

Item	Range	Description
		Deletes the row.
Index/Alarm Index	1..10	Type the unique number to identify the alarm entry.
Target	Integer	The switch number and port number.
Port	1..24	Choose the port on which to set an alarm.

Table 33 RMON Threshold page items (continued)

Item	Range	Description
Parameter	(1) Good-Bytes (2) Good-Packets (3) Multicast (4) Broadcast (5) CRC-Errors (6) Runts (7) Fragments (8) Frame-Too-Long (9) Collisions	Choose the sampled statistic.
Current Level	Integer	The value of the statistic during the last sampling period. Note: If the sample type is Delta, the value is the difference between the samples at the *beginning and end* of the period. If the sample type is Absolute, the value is the sampled value at the *end* of the period.
Rising Level	Integer	Type the event entry to be used when a rising threshold is crossed. Note: When the current sampled value is greater than or equal to this threshold, and the value at the last sampling interval was less than this threshold, a single event will be generated. After a rising event is generated, another such event is not generated until the sampled value falls below this threshold and reaches the Falling Threshold.
Rising Action	(1) None (2) Log (3) SNMP Trap (4) Log and Trap	Choose the type of notification for the event. Selecting Log generates an entry in the RMON Event Log table for each event. Selecting SNMP Trap sends an SNMP trap to one or more management stations.
Interval		Type the time period (in seconds) to sample data and compare the data to the rising and falling thresholds.
Sample/Alarm Sample	(1) Absolute (2) Delta	Choose the sampling method. Absolute: *Absolute* alarms are defined on the current value of the alarm variable. An example of an alarm defined with absolute value is card operating status. Because this value is not cumulative, but instead represents states, such as card up (value 1) and card down (value 2), you set it for absolute value. Therefore, an alarm could be created with a rising value of 2 and a falling value of 1 to alert a user to whether the card is up or down. Delta: Most alarm variables related to Ethernet traffic are set to *delta* value. Delta alarms are defined based on the difference in the value of the alarm variable between the start of the polling period and the end of the polling period. Delta alarms are sampled twice per polling period. For each sample, the last two values are added together and compared to the threshold values. This process increases precision and allows for the detection of threshold crossings that span the sampling boundary. Therefore, if you keep track of the current values of a given delta-valued alarm and add them together, the result is twice the actual value. (This result is not an error in the software.)

2 In the RMON Threshold Creation section, type information in the text boxes, or select from a list.

3 Click Submit.

The new configuration is displayed in the RMON Threshold Table (Figure 31 on page 86).

Note: RMON threshold configurations are not modifiable. They must be deleted and the information recreated.

Deleting an RMON threshold configuration

To delete an existing RMON threshold configuration:

1 From the main menu, choose Fault > RMON Threshold.

The RMON Threshold page opens (Figure 31 on page 86.)

2 In the RMON Threshold Table, click the Delete icon for the entry you want to delete.

A message opens prompting you to confirm your request.

3 Do one of the following:

- Click Yes to delete the RMON threshold configuration.
- Click Cancel to return to the RMON Threshold page without making changes.

Viewing the RMON fault event log

RMON events and alarms work together to notify you when values in your network go out of a specified range. When values pass the specified ranges, the alarm is triggered and “fires.” The event specifies how the activity is recorded.

An event specifies whether a trap, a log, or a trap and a log are generated to view alarm activity. When RMON is globally enabled, two default events are generated:

- Rising Event
- Falling Event

Default events specify that when an alarm goes out of range, the firing of the alarm is tracked in both a trap and a log. For example, when an alarm fires at the rising threshold, the rising event specifies that this information be sent to both a trap and a log. The RMON Event Log page works in conjunction with the RMON Threshold page to enable you to view a history of RMON fault events.

To view a history of RMON fault events:

➔ From the main menu, choose Fault > RMON Event Log.

The RMON Event Log page opens (Figure 32).

Figure 32 RMON Event Log page

Table 34 describes the fields on the RMON Event Log page.

Table 34 RMON Event Log page fields

Field	Description
Time Stamp	The time the event occurred.
Description	An implementation dependent description of the event that activated this log entry.
Triggered By	A comment describing the source of the event.
ID	The event that generated this log entry.

Viewing the system log

You can view a display of messages contained in non-volatile random access memory (NVRAM) or dynamic random access memory (DRAM) and NVRAM.

To open the System Log page:

1. From the main menu, choose Fault > System Log.

   The System Log page opens (Figure 33).

Figure 33 System Log page

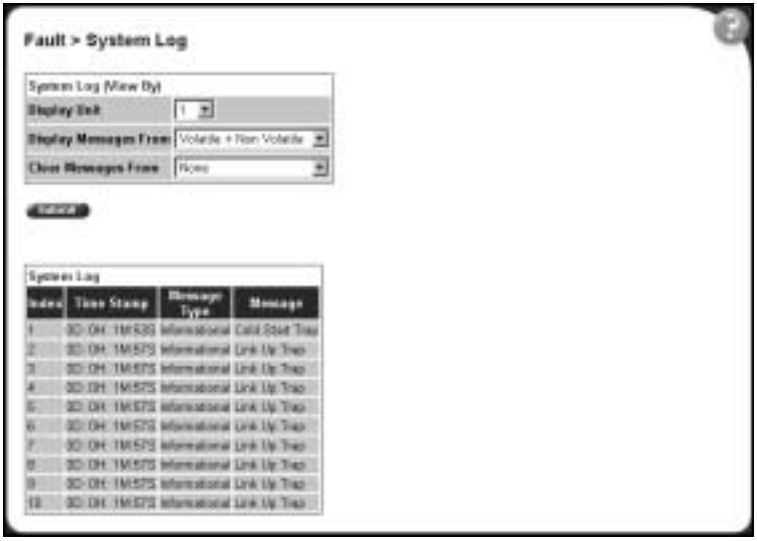


Table 35 describes the fields on the System Log page.

Table 35 System Log page fields

Section	Field	Range	Description
System Log	Display Messages From	(1) Non Volatile (2) Volatile + Non Volatile	Choose to display messages from Non Volatile memory (NVRAM) or Volatile (DRAM) and Non Volatile memory. The default settings is Non Volatile.
	Clear Messages From	(1) Volatile (2) Volatile + Non Volatile (3) None	Choose to clear messages from Volatile memory or Volatile and Non Volatile memory. The default settings is None (do not clear messages)
System Log	Index		The number of the event.
	Time Stamp		The time, in hundreths of a second, between system initialization and the time the log messages entered the system.
	Message Type		The type of message. The options are (1) Critical, (2) Serious, and (3) Informational.
	Message		A character string that identifies the origin of the message and the reason why the message was generated.

2 In the System Log (View By) section do one or more of the following:

- Choose the number of the switch from which to display messages.
- Choose where to display messages from.
- Choose to clear messages from Volatile or Non Volatile memory.

3 Click Submit.

The results of your request are displayed in the System Log section (Figure 33 on page 90).

Viewing RMON Ethernet statistics

You can gather and graph RMON Ethernet statistics in a variety of formats.

To gather and graph RMON Ethernet statistics:

1 From the main menu, choose Statistics > RMON Ethernet.

The RMON Ethernet page opens (Figure 34).

Figure 34 RMON Ethernet page

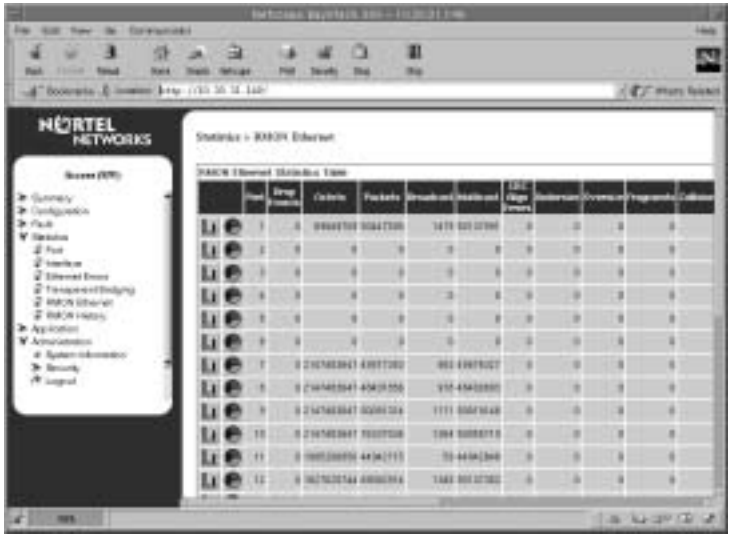


Table 36 describes the items on the RMON Ethernet page.

Table 36 RMON Ethernet page items

Item	Description
	Displays statistics as a bar graph.
	Displays statistics as a pie chart.
Port	The port number that corresponds to the selected switch.
Drop Events	The number of events in which packets were dropped by the interface due to a lack of resources.
Octets	The number of octets of data (including those in bad packets) received on the network (excluding framing bits, but including Frame Check Sequence (FCS) octets).
Packets	The number of good packets received that were directed to the broadcast address. This *does not* include multicast packets.
Broadcast	The number of good packets received that were directed to the broadcast address. This *does not* include multicast packets.
Multicast	The number of good packets received that were directed to the multicast address. This *does not* include packets sent to the broadcast address.
CRC Align Errors	The number of packets received that had a length (excluding and 1518 octets, inclusive, but had either a bad Frame FCS with an integral number of octets (FCS errors) with a non-integral number of octets (alignment error).
Undersize	The number of packets received that were less than 64 octets long (excluding framing bits, but including FCS octets) and were otherwise well-formed.
Oversize	The number of packets received that were longer than 1518 octets long (excluding framing bits, but including FCS octets) and were otherwise well-formed.
Fragments	The number of packets received that were less than 64 octets in length (excluding framing bits, but including FCS 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).
Collisions	The “best estimate” number of collisions on this Ethernet segment.
Jabbers	The number of packets received that were longer than 1518 octets in length (excluding framing bits, but including FCS 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).
Packets < = 64 bytes 65-127 bytes 128-255 bytes 256-511 bytes 512-1023 bytes 1024-1518 bytes	The number of octets received (including bad packets) in length (excluding framing bits, but including FCS octets).

2 Click Submit.

The RMON Ethernet Statistics Table is updated with information about the selected device (Figure 34 on page 92).

Viewing RMON Ethernet statistics in a bar graph format

To view RMON Ethernet statistics in a bar graph format:

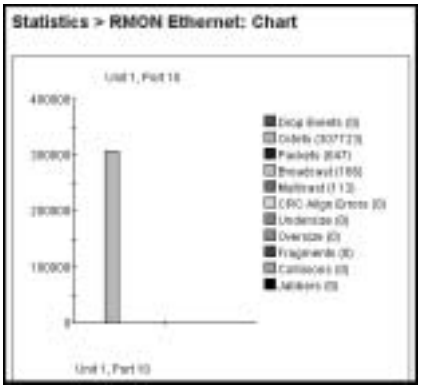
1. From the main menu, choose Statistics > RMON Ethernet.

   The RMON Ethernet page opens (Figure 34 on page 92).

2. In the port row of your choice, click the bar graph icon.

   The RMON Ethernet: Chart page is displayed in a bar graph format (Figure 35).

Figure 35 RMON Ethernet: Chart in a bar graph format



3. To refresh statistical information, click Update, or click Back to return to the Ethernet Statistics page.

Viewing RMON Ethernet statistics in a pie chart format

To view RMON Ethernet statistics in a pie chart format:

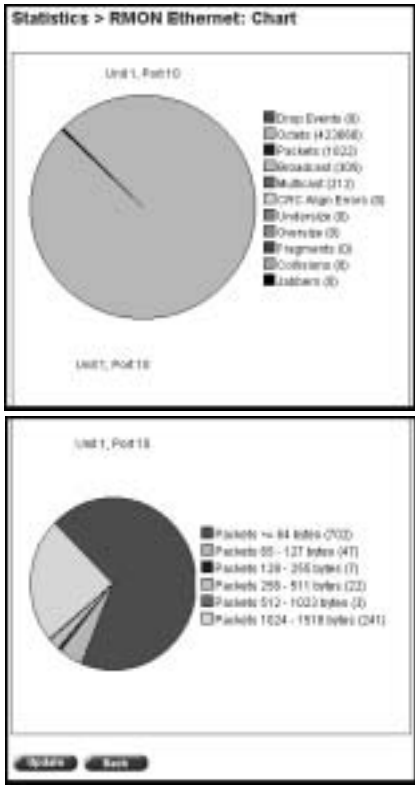
1 From the main menu, choose Statistics > RMON Ethernet.

The RMON Ethernet page opens (Figure 34 on page 92).

2 In the port row of your choice, click the pie chart icon.

The RMON Ethernet: Chart page is displayed in a pie chart format (Figure 36).

Figure 36 RMON Ethernet: Chart in a pie chart format



3 To refresh statistical information, click Update, or click Back to return to the Ethernet Statistics page.

Viewing RMON history

You can view a periodic statistical sampling of data from various types of networks.

To view periodic statistical data:

1 From the main menu, choose Statistics > RMON History.

The RMON History page opens (Figure 37).

Figure 37 RMON History page

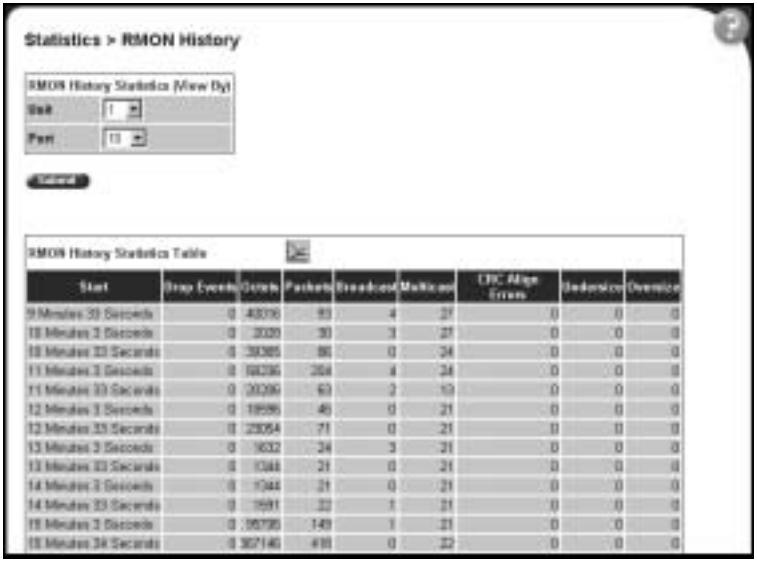


Table 37 describes the items on the RMON History page.

Table 37 RMON History page items

Section	Item	Description
RMON History Statistics Table (View By)	Port	Choose the port number to be monitored.
		Displays statistics as a line graph.
RMON History Statistics Table	Start	The value of the sysUPTime at the start of the interval over which this sample was measured.
	Drop Events	The number of events in which packets were dropped by the interface due to a lack of resources.
	Octets	The number of octets of data (including those in bad packets) received on the network (excluding framing bits, but including Frame Check Sequence (FCS) octets).
	Packets	The number of good packets received that were directed to the broadcast address. This *does not* include multicast packets.
	Broadcast	The number of good packets received that were directed to the broadcast address. This *does not* include multicast packets.
	Multicast	The number of good packets received that were directed to the multicast address. This *does not* include packets sent to the broadcast address.
	CRC Align Errors	The number of packets received that had a length (excluding and 1518 octets, inclusive, but had either a bad Frame FCS with an integral number of octets (FCS errors) with a non-integral number of octets (alignment error).
	Undersize	The number of packets received that were less than 64 octets long (excluding framing bits, but including FCS octets) and were otherwise well-formed.
	Oversize	The number of packets received that were longer than 1518 octets long (excluding framing bits, but including FCS octets) and were otherwise well-formed.

2 Click Submit.

The Port Statistics Table is updated with information about the selected device and port (Figure 37).

Viewing RMON statistics in a line graph format

You can view RMON statistical data in a line graph format.

To view statistics in a line graph format:

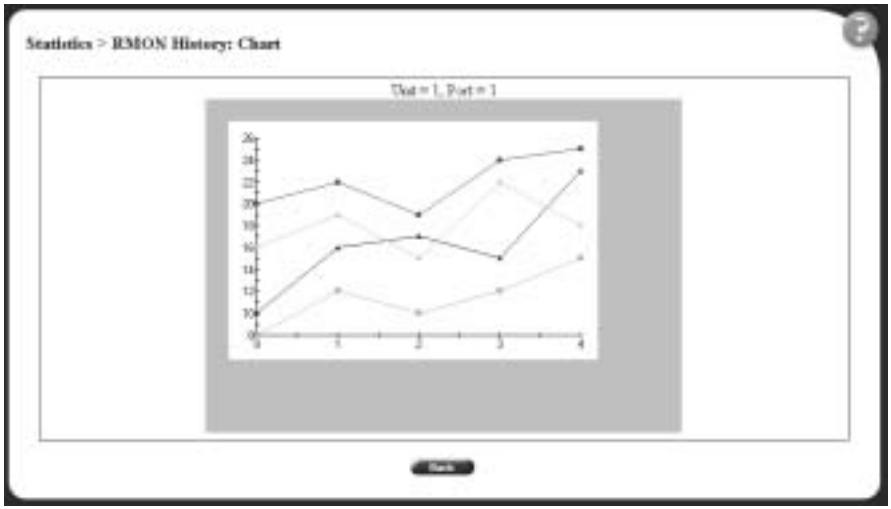
1. From the main menu, choose Statistics > RMON History.

   The RMON History page opens (Figure 37 on page 97).

2. In the RMON History Statistics Table, click the line graph icon.

   The RMON History: Chart page opens in a line graph format (Figure 38).

Figure 38 RMON History page: Chart in line graph format



3. Click Back to return to the RMON History page.

Chapter 6
Viewing system statistics

The options available to monitor system statistical data are:

Viewing port statistics

You can view detailed statistics about a selected switch port configuration. Both received and transmitted statistics are displayed so that you can compare throughput or other port parameters.

To view statistical data about a selected switch port:

1 From the main menu, choose Statistics > Port.

The Port page opens (Figure 39).

Figure 39 Port page

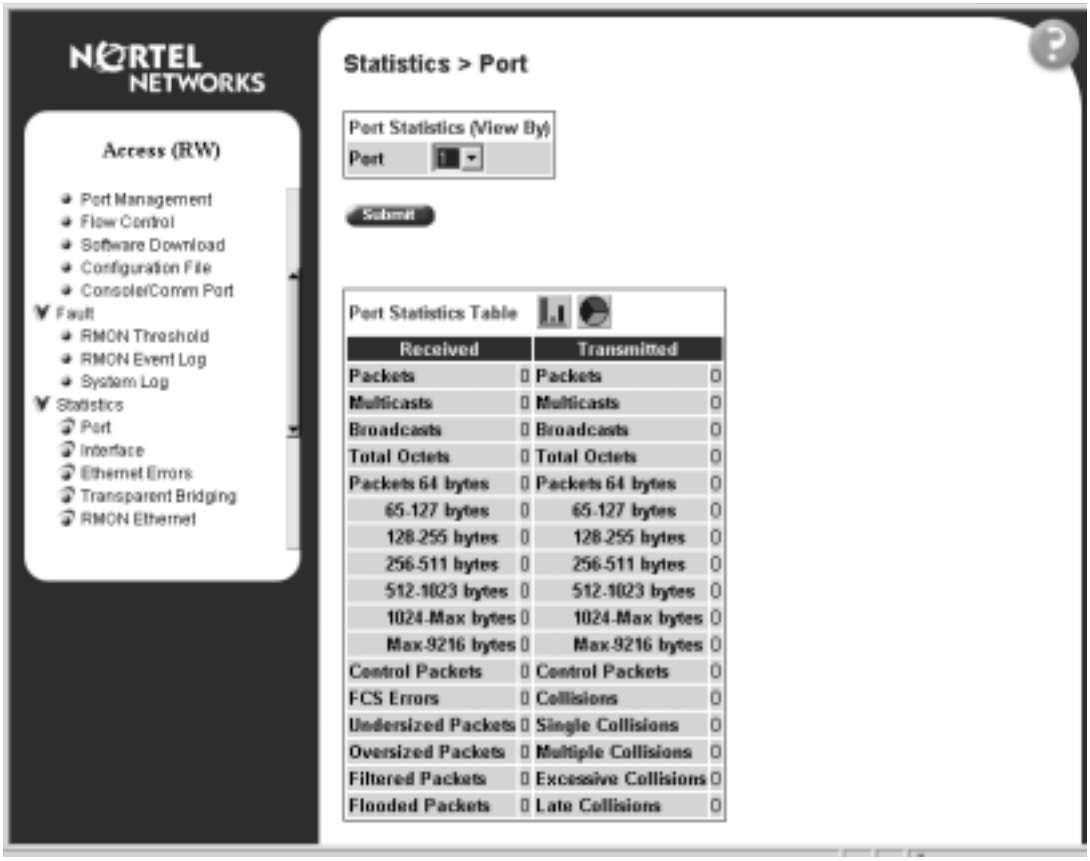


Table 38 describes the items on the Port page.

Table 38 Port page items

Section	Item	Description
Port Statistics (View By)	Port	Choose the switch's port number to monitor.
		Displays statistics in a bar graph format.
		Displays statistics in a pie chart format.

Table 38 Port page items (continued)

Section	Item	Description
Port Statistics Table	Packets	The number of packets received/transmitted on this port, including bad packets, broadcast packets, and multicast packets.
	Multicast	The number of good multicast packets received/transmitted on this port, excluding broadcast packets.
	Broadcasts	The number of good broadcast packets received/transmitted on this port.
	Total Octets	The number of octets of data received/transmitted on this port, including data in bad packets and FCS octets, and framing bits.
	Packets = 64 bytes	The number of packets this size received/transmitted successfully on this port.
	Packets 65-127 bytes	The number of packets this size received/transmitted successfully on this port.
	Packets 128-255 bytes	The number of packets this size received/transmitted successfully on this port.
	Packets 256-511 bytes	The number of packets this size received/transmitted successfully on this port.
	Packets 512-1023 bytes	The number of packets this size received/transmitted successfully on this port.
	Packets 1024 or more bytes	The number of packets this size received/transmitted successfully on this port.
	Max 9216 Bytes	The maximum number of packets received/transmitted successfully on this port.
	Control Packets	The number of controlled packets received on the port.
	FCS Errors	The number of valid-size packets received on this port with proper framing but discarded because of cyclic redundancy check (CRC) errors.
	Undersized Packets	The number of packets received on this port with fewer than 64 bytes and with proper CRC and framing (also known as short frames or runts).
	Oversized Packets	The number of packets that were received on this port with proper CRC and framing that meet the following requirements: • 1518 bytes if no VLAN tag exists • 1522 bytes if a VLAN tag exists
	Filtered Packets	The number of packets filtered, but not forwarded on this port.
	Flooded Packets	The number of packets flooded (forwarded) through this port because the destination address was not recognized in the address database.
	Frame Errors	The number of valid-size packets received on this port but discarded because of CRC errors and improper framing.

Table 38 Port page items (continued)

Section	Item	Description
Port Statistics Table, cont.	Collisions	The number of collisions detected on this port.
	Single Collisions	The number of packets that were transmitted successfully on this port after a single collision.
	Multiple Collisions	The number of packets that were transmitted successfully on this port after more than one collision.
	Excessive Collisions	The number of packets lost on this port due to excessive collisions.
	Late Collisions	The number of packets collisions that occurred after a total length of time that exceeded 512 bit-times of packet transmission.

2 Click Submit.

The Port Statistics Table is updated with information about the selected device and port (Figure 42 on page 105).

3 To update the statistical information, click Update.

Zeroing ports

To clear the statistical information for the currently displayed port:

➔ Click Zero Port.

To clear the statistical information for all ports in a switch configuration:

➔ Click Zero All Ports.

Viewing port statistics in a pie chart format

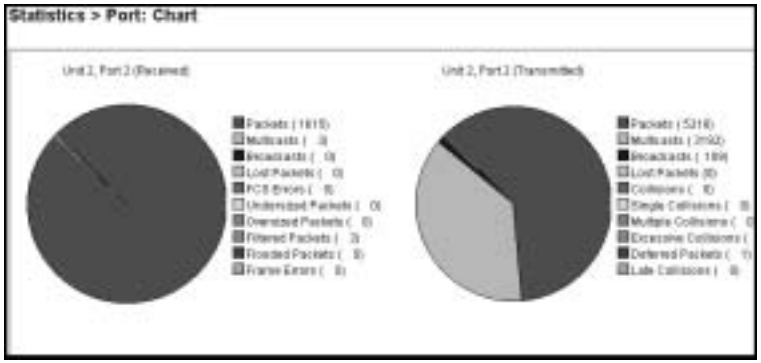
You can view port statistics in a pie chart format.

To view the displayed statistical information in a pie chart format:

1 In the Port Statistics Table, click the pie chart icon.

The Port: Chart page opens in a pie chart format (Figure 40).

Figure 40 Port: Chart page in a pie chart format



2 Click Back to return to the Port page.

Viewing port statistics in a bar graph format

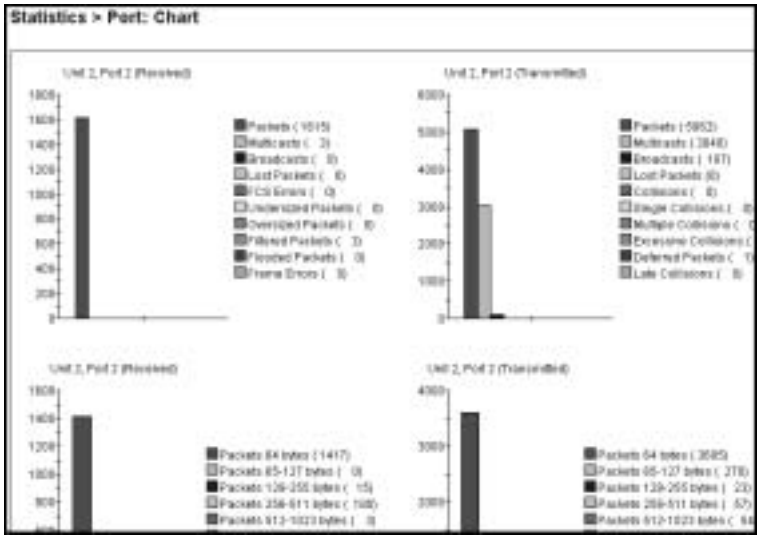
You can view port statistics in a bar graph format.

To view the displayed statistical information in a bar graph format:

1 In the Port Statistics Table, click the bar graph icon.

The Port: Chart page opens in a bar graph format (Figure 41).

Figure 41 Port: Chart page in a bar graph format



2 Click Back to return to the Port page.

Viewing interface statistics

You can view selected switch interface statistics.

To view an interface's statistical information:

1 From the main menu, choose Statistics > Interface.

The Interface page opens (Figure 42).

Figure 42 Interface page

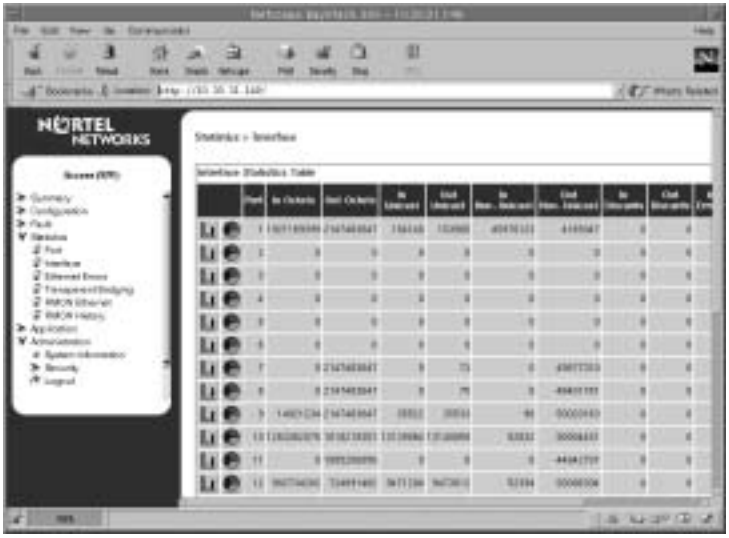


Table 39 describes the items on the Interface page.

Table 39 Interface page items

Item	Description
	Displays statistics in a bar graph format.
	Displays statistics in a pie chart format.
Port	The port number corresponding to the selected switch.
In Octets	The number of octets received on the interface, including framing characters.
Out Octets	The number of octets transmitted out of the interface, including framing characters.
In Unicast	The number of subnetwork-unicast packets delivered to a higher-layer protocol.
Out Unicast	The number of packets that higher-layer protocols requested be transmitted to a subnetwork-unicast address, including those that were discarded or not sent.
In Non-Unicast	The number of non-unicast packets, for example, subnetwork-broadcast or subnetwork-multicast packets, delivered to a higher protocol.
Out Non-Unicast	The number of packets that higher-level protocols requested be transmitted to a non-unicast address. For example, a subnetwork-broadcast or a subnetwork multicast address, including those that were discarded or not sent.
In Discards	The number of inbound packets which were selected to be discarded even though no errors were detected to prevent their being delivered to a higher-layer protocol. Packet discarding is not arbitrary. One reason for discarding packets is to free buffer space.
Out Discards	The number of outbound packets which were selected to be discarded even though no errors were detected to prevent their being transmitted. Packet discarding is not arbitrary. One reason for discarding packets is to free buffer space.
In Errors	The number of inbound packets that contained errors preventing them from being deliverable to a higher-layer protocol.
Out Errors	The number of outbound packets that could not be transmitted because of errors.
In Unknown Protocols	The number of packets received through the interface which were discards due to an unknown or unsupported protocol.

2 To update the statistical information, click Update.

Viewing interface statistics in a pie chart format

You can view interface statistics in a pie chart format.

To view interface statistics in a pie chart format:

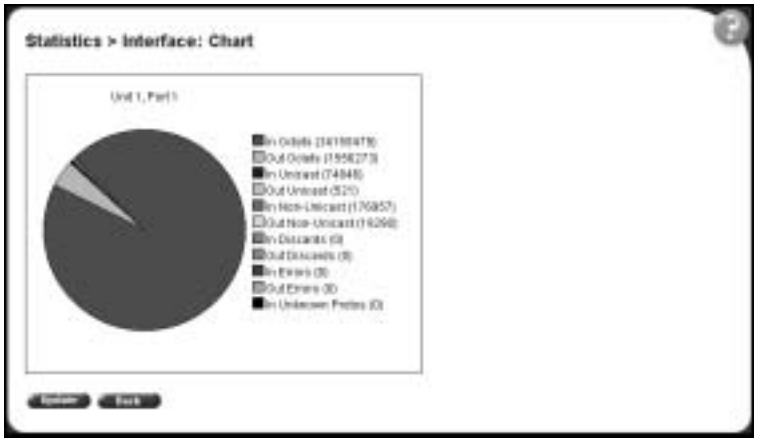
1 From the main menu, choose Statistics > Interface.

The Interface page opens (Figure 42 on page 105).

2 In the port row of your choice, click the pie chart icon.

The Interface: Chart page opens in a pie chart format (Figure 43).

Figure 43 Interface: Chart in a pie chart format



3 To update the statistical information, click Update, or click Back to return to the Interface page.

Viewing interface statistics in a bar graph format

You can view interface statistics in a bar graph format.

To view interface statistics in a bar graph format:

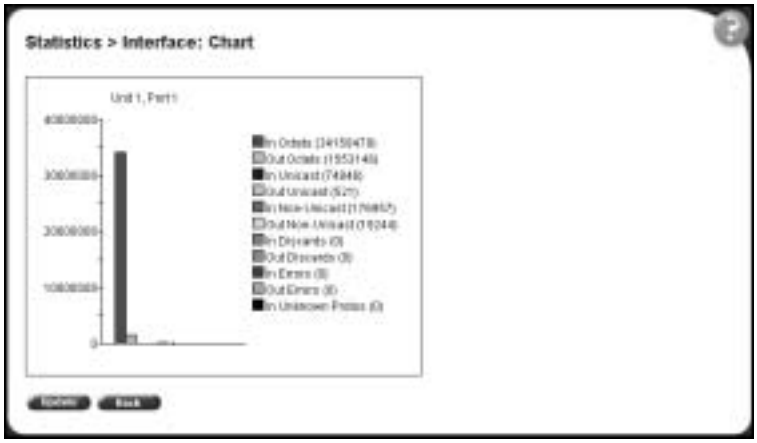
1. From the main menu, choose Statistics > Interface.

   The Interface page opens (Figure 42 on page 105).

2. In the port row of your choice, click the bar graph icon.

   The Interface: Chart page opens in a bar graph format (Figure 43).

Figure 44 Interface: Chart in a bar graph format



3. To update the statistical information, click Update, or click Back to return to the Interface page.

Viewing Ethernet error statistics

You can view Ethernet error statistics for each monitored interface linked to the Baystack 380 Switch.

To view Ethernet error statistics:

1 From the main menu, choose Statistics > Ethernet Errors.

The Ethernet Errors page opens (Figure 45).

Figure 45 Ethernet Errors page

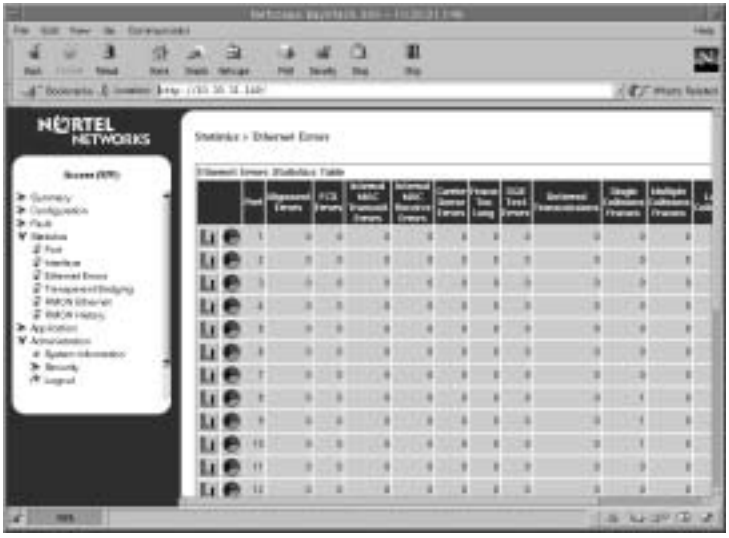


Table 40 describes the items on the Ethernet Errors page.

Table 40 Ethernet Errors page items

Item	Description
	Displays statistics in a bar graph format.
	Displays statistics in a pie chart format.
Port	The port number corresponding to the selected switch.
Alignment Errors	The number of frames received on a particular interface that are not an integral number of octets in length and do not pass the FCS check.
FCS Errors	The number of frames received on a particular interface that are an integral number of octets in length, but do not pass the FCS check.
Internal MAC Transmit Errors	The number of frames for which transmission on a particular interface fails due to an internal MAC sublayer transmit error. A frame only is counted by an instance of this object if it is not counted by the corresponding instance of either the dot3StatsLateCollisions object, the dot3StatsExcessiveCollisions object, or the dot3StatsCarrierSenseErrors object.
Internal MAC Receive Errors	The number of frames for which reception on a particular interface fails due to an internal MAC sublayer transmit error. A frame only is counted by an instance of this object if it is not counted by the corresponding instance of either the dot3StatsLateCollisions object, the dot3StatsExcessiveCollisions object, or the dot3StatsCarrierSenseErrors object.
Carrier Sense Errors	The number of times that the carrier sense conditions was lost or never asserted when attempting to transmit a frame on a particular interface.
Frame Too Long	The number of frames received on a particular interface that exceed the maximum permitted frame size.
SQE Test Errors	The number of times that the SQE TEST ERROR message is generated by the PLS sublayer for a particular interface. The SQE TEST ERROR is defined in section 7.2.2.2.4 of ANSI/ IEEE 802.3-1985, and its generation is described in section 7.2.4.6 of the same document.
Deferred Transmissions	The number of frames for which the first transmission attempt on a particular interface is delayed because the medium is busy.
Single Collision Frames	The number of successfully transmitted frames on a particular interface for which transmission is inhibited by more than one collision.
Multiple Collision Frames	The number of successfully transmitted frames on a particular interface for which transmission is inhibited by a single collision.
Late Collisions	The number of times a collision is detected on a particular interface later than 512 bit-times into the transmission of a packet.
Excessive Collisions	The number of frames for which transmission on a particular interface fails due to excessive collisions.

2 To refresh the statistical information, click Update.

Viewing Ethernet error statistics in a pie chart format

You can view Ethernet Errors statistics in a pie chart format.

To view Ethernet Errors statistics in a pie chart format:

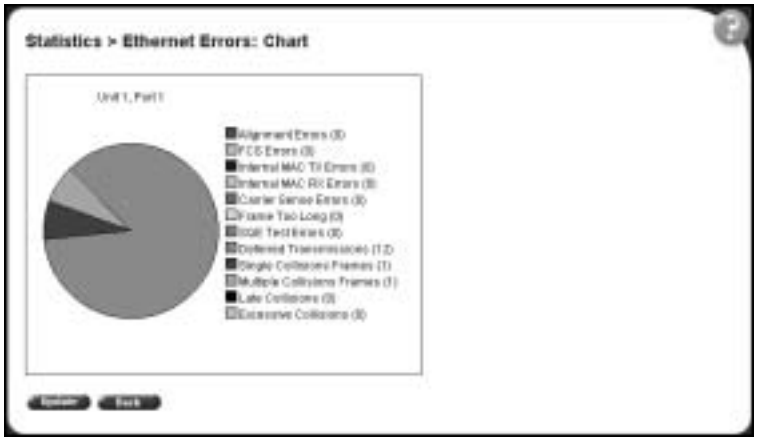
1. From the main menu, choose Statistics > Ethernet Errors.

   The Ethernet Errors page opens (Figure 45 on page 109).

2. In the port row of your choice, click the pie chart icon.

   The Ethernet Errors: Chart page opens in a pie chart format (Figure 46).

Figure 46 Ethernet Error: Chart in a pie chart format



3. To update the statistical information, click Update, or click Back to return to the Ethernet Errors page.

Viewing Ethernet error statistics in a bar graph format

You can view Ethernet Errors statistics in a bar graph format.

To view Ethernet errors statistics in a bar graph format:

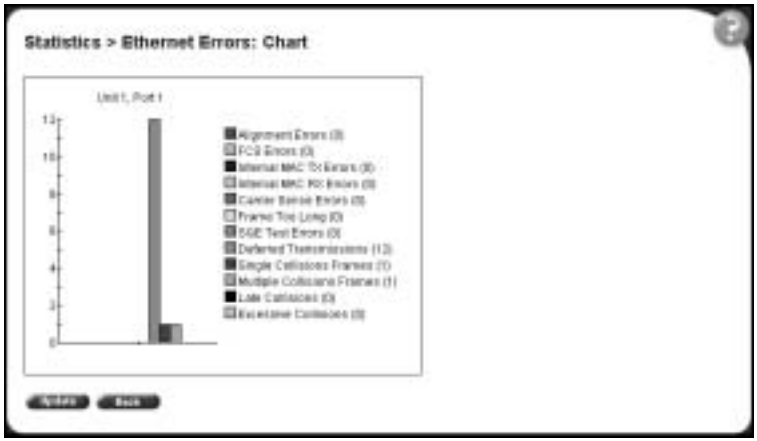
1. From the main menu, choose Statistics > Ethernet Errors.

   The Ethernet Errors page opens (Figure 45 on page 109).

2 In the port row of your choice, click the bar graph icon.

The Ethernet Errors: Chart page opens in a bar graph format (Figure 47).

Figure 47 Ethernet Error: Chart in a bar graph format



3 To update the statistical information, click Update, or click Back to return to the Ethernet Errors page.

Viewing transparent bridging statistics

You can view the transparent bridging statistics measured for each monitored interface on the device.

To view transparent bridging statistics:

1 From the main menu, choose Statistics > Transparent Bridging.

The Transparent Bridging page opens (Figure 48).

Figure 48 Transparent Bridging page

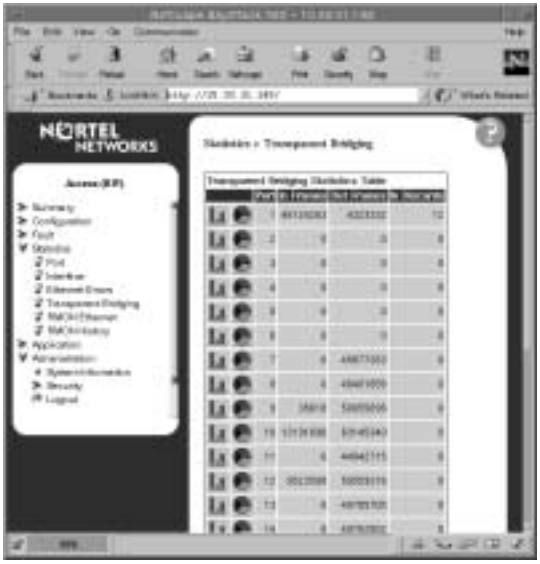


Table 41 describes the items on the Transparent Bridging page.

Table 41 Transparent Bridging page items

Item	Description
	Displays statistics in a bar graph format.
	Displays statistics in a pie chart format.
Port	The port number that corresponds to the selected switch.
dot1dTpPortInFrames	The number of frames that have been received by this port from its segment. A frame received on the interface corresponding to this port is counted only if it is for a protocol being processed by the local bridging function, including bridge management errors.
dot1dTpPortOutFrames	The number of frames that have been transmitted by this port from its segment. A frame received on the interface corresponding to this port is counted only if it is for a protocol being processed by the local bridging function, including bridge management errors.
dot1dTpPortInDiscards	The number of valid frames received which were discarded by the forwarding process.

2 To refresh the statistical information, click Update.

Viewing transparent bridging statistics in a pie chart format

You can view measured transparent bridging statistics in a pie chart format.

To view transparent bridging statistics in a pie chart format:

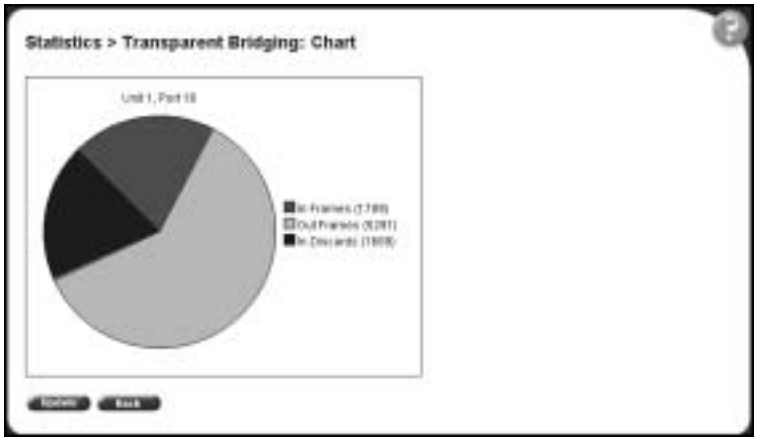
1. From the main menu, choose Statistics > Transparent Bridging.

   The Transparent Bridging page opens (Figure 48 on page 113).

2. In the port row of your choice, click the pie chart icon.

   The Transparent Bridging: Chart page opens in a pie chart format (Figure 49).

Figure 49 Transparent Bridging: Chart in a pie chart format



3. To update the statistical information, click Update, or click Back to return to the Transparent Bridging page.

Viewing transparent bridging statistics in a bar graph format

You can view measured transparent bridging statistics in a bar graph format.

To view transparent bridging statistics in a bar graph format:

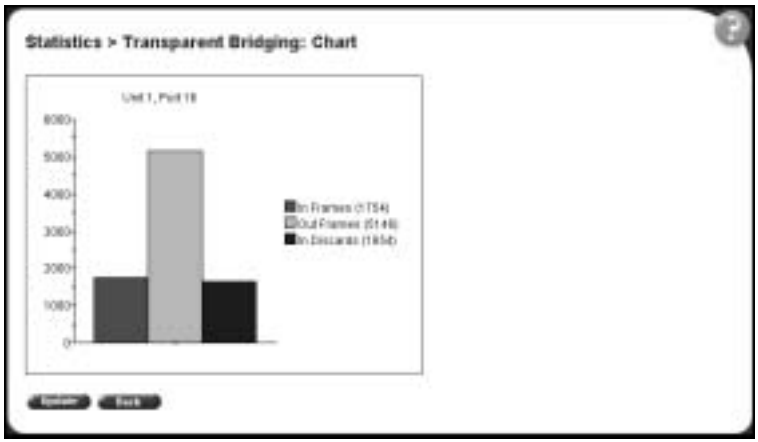
1. From the main menu, choose Statistics > Transparent Bridging.

The Transparent Bridging page opens (Figure 48 on page 113).

2 In the port row of your choice, click the bar graph icon.

The Transparent Bridging: Chart page opens in a bar graph format (Figure 50).

Figure 50 Transparent Bridging: Chart in a bar graph format



3 To update the statistical information, click Update, or click Back to return to the Transparent Bridging page.

Chapter 7
Configuring application settings

The options available to configure application settings are:

Configuring port mirroring

The BayStack 380-24F Switch supports port mirroring to analyze traffic. You can view existing port mirroring activity and you can configure a specific switch port to mirror up to two specified ports. When you configure port mirroring, you specify port-based monitoring.

To configure port mirroring:

1 From the main menu, choose Application > Port Mirroring.

The Port Mirroring page opens (Figure 51).

Figure 51 Port Mirroring page

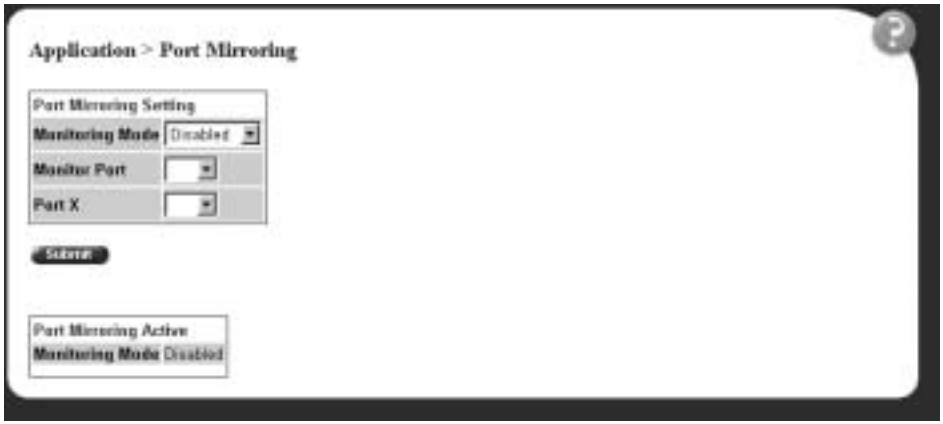


Table 42 describes the items on the Port Mirroring page.

Table 42 Port Mirroring page items

Item	Range	Description
Monitoring Mode	(1) Disabled (2) --> Port X (3) Port X -->	The default setting is Disabled.
Monitor Port	1..12 13..24	Choose the switch port to designate as the monitor port.
Port X	1..24 13..24	Choose the switch port to be monitored by the designated monitor port. This port is monitored according to the value “X” in the Monitoring Mode field.

2 Type information in the text boxes, or select from a list.

3 Click Submit.

Mac address security

The MAC address-based security feature of the Web-based management system allows you to specify a range of system responses to unauthorized network access to your switch. The response can range from sending a trap to disabling the port.

The network access control is based on the MAC source addresses (SAs) of the authorized stations. You can specify a list of up to 448 MAC source addresses that are authorized to access the switch. You can also specify the ports that each MAC source address is allowed to access. The options for port access include: NONE, ALL, and single or multiple ports that are specified in a list, for example, 1-4. You must also include the MAC source address of any router or switch connected to any secure ports.

You can configure the BayStack 380-24F Gigabit Switch to drop all packets having a specified MAC destination address (DA). You can also create a list of up to 10 MAC DAs you want to filter.The packet with the specified MAC DA will be dropped regardless of the ingress port, source address (SA) intrusion, or VLAN membership.

Note: Ensure that you do not enter the MAC address of the switch or stack you are working on.

Configuring MAC address-based security

To configure MAC address-based security using the Web-based management system:

1 From the main menu, choose Application > MAC Address Security > Security Configuration.

The Security Configuration page opens (Figure 52).

Figure 52 Security Configuration page

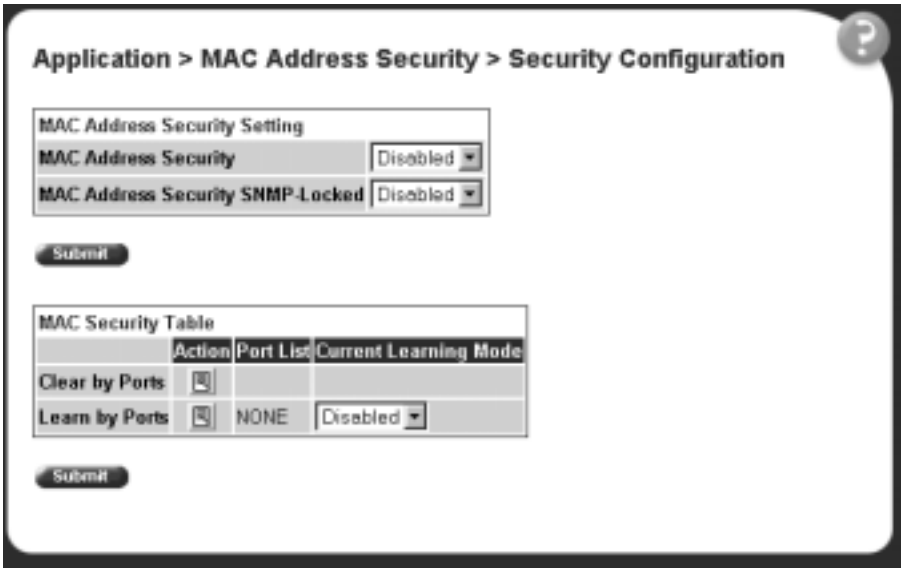


Table 43 describes the items on the Security Configuration page.

Table 43 Security Configuration page items

Section	Item	Range	Description
MAC Address Security Setting	MAC Address Security	(1) Enabled (2) Disabled	Enables the MAC address security features.
	MAC Address Security SNMP-Locked	(1) Enabled (2) Disabled	Enables locking SNMP, so that you cannot use SNMP to modify the MAC address security features.
MAC Security Table/ Clear by Ports	Action		Allows you to clear specific ports from participation in the MAC address security features.
	Port List		Will be blank.
	Current Learning Mode		Will be blank.

Table 43 Security Configuration page items (continued)

Section	Item	Range	Description
MAC Security Table/ Learn by Ports	Action		Allows you to identify ports that will learn incoming MAC addresses. All source MAC addresses of any packets received on a specified port(s) are added to the MAC Security Table (maximum of 448 MAC addresses allowed).
	Port List		Displays all the ports that will learn incoming MAC address to detect intrusions (unallowed MAC addresses).
	Current Learning Mode	(1) Enabled (2) Disabled	Enables learning.

2 On the Security Configuration page, type information in the text boxes, or select from a list.

3 Click Submit.

Configuring ports

In this section, you create a list of ports, and you can add ports to or delete ports from each list.

To activate an entry or add or delete ports to a list:

1 From the main menu, choose Application > MAC Address Security > Port Lists.

The Port Lists page opens (Figure 53).

Figure 53 Port Configuration page

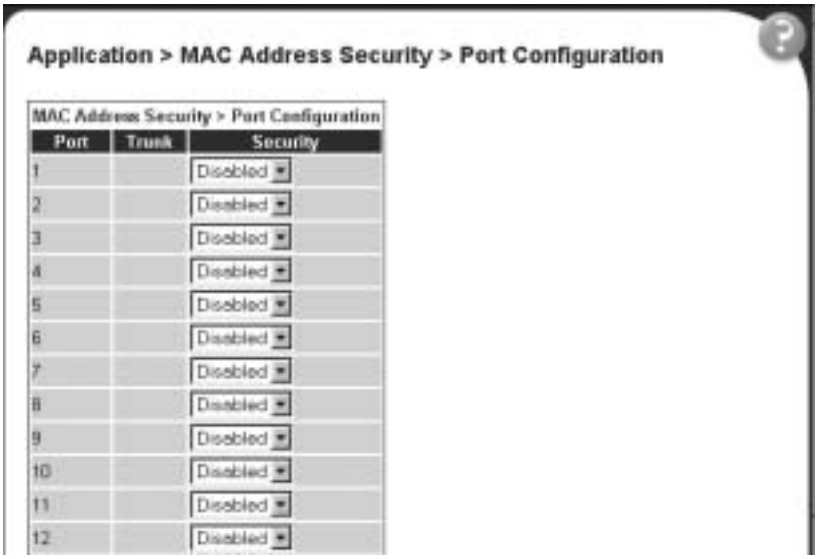


Table 44 describes the items on the Ports Configuration page.

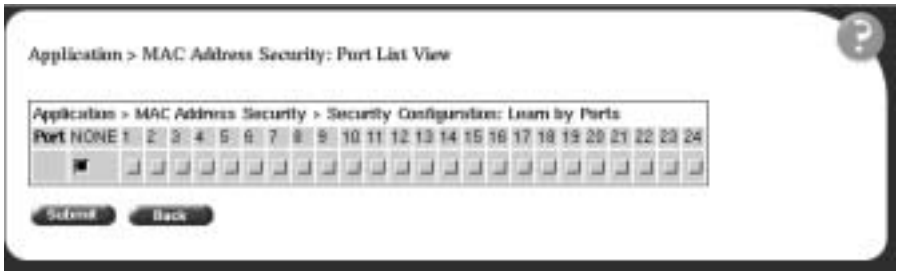
Table 44 Ports Lists page items

Item	Range	Description
Port		Displays the port number.
Trunk		Describes the trunk (if any) for the port.
Security		Allows you to enable or disable Mac address security for the port.

2 To add or delete ports to a list, click the icon in the Action column in the list row you want.

The Port List View, Port List page opens (Figure 54).

Figure 54 Port List View, Port List page



a Click the ports you want to add to the selected list or click None.

b To delete a port from a list, uncheck the box by clicking it.

c Click Submit.

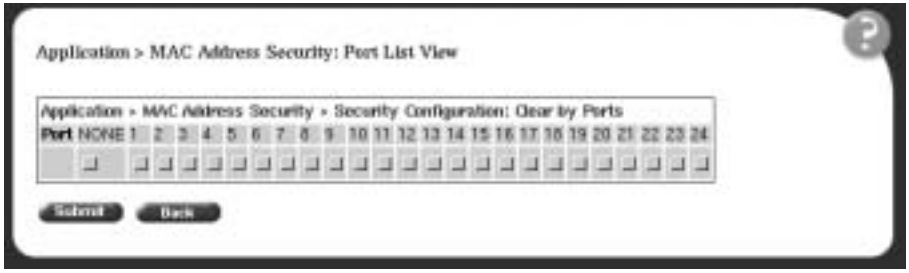
3 From the main menu, choose Application > MAC Address Security > Security Configuration.

The Security Configuration page opens (Figure 52).

4 In the MAC Security Table section, click the icon in the Action column of the Learn By Ports row.

The Port List View, Learn by Ports page opens (Figure 55).

Figure 55 Port List View, Learn by Ports page



a Click the ports through which you want the switch to learn MAC addresses or click None.

b If you want that port to no longer learn MAC addresses, click the checked box to uncheck it.

c Click Submit.

5 In the MAC Security Table section, choose Enabled in the Current Learning Mode column of the Learn By Ports row.

6 Click Submit.

Note: You cannot include any of the port values you have chosen for the secure ports field.

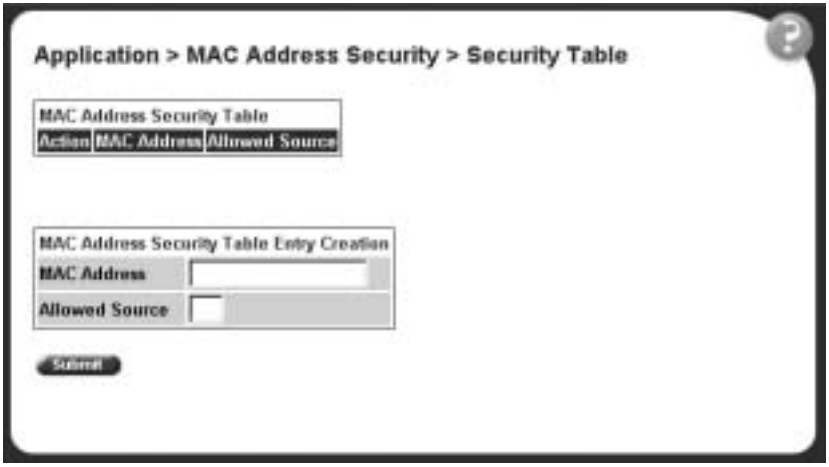
Adding MAC addresses

To add MAC address to the MAC address-based security system:

1 In the main menu, choose Applications > MAC Address Security > Security Table.

It may take awhile for the required addresses to be learned. Then, the Security Table page opens (Figure 56).

Figure 56 Security Table page



Note: Using this page, you instruct the switch to allow the specified MAC address access *only* through the specified port or port list.

Table 45 describes the items on the Security Table page.

Table 45 Security Table page items

Section	Item	Range	Description
MAC Address Security Table	Action		Allows you to delete a MAC address.
	Address		Displays the MAC address.
	Allowed Source	Port	Displays the port through which the MAC address is allowed.
MAC Address Security Table Entry Creation	MAC Address		Enter the MAC address you want to allow to access the switch.
	Allowed Source		Select the port through which the MAC address is allowed.

2 Complete fields as described in the table.

Note: If you choose an Entry as the Allowed Source, you must have configured that specific entry on the Port View List, Port List page.

3 On the Security Table page, type information in the text boxes, or select from a list.

4 Click Submit.

Note: Be certain to include the MAC address for the default LAN router as an allowed source MAC address.

Clearing ports

You can clear all information from the specified port(s) for the list of ports that learn MAC addresses. If Learn by Ports is enabled, the specified ports will begin again to learn the MAC addresses.

To clear information from selected ports:

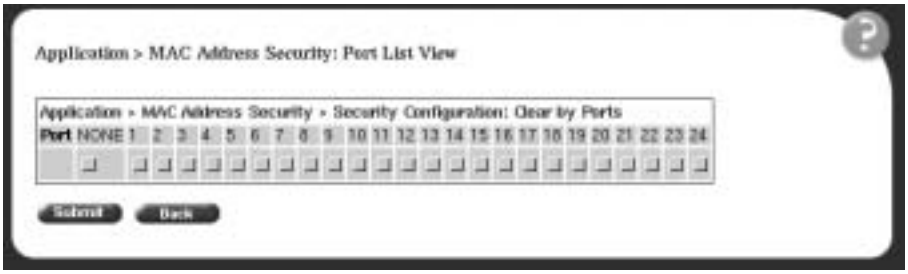
1. From the main menu, choose Application > MAC Address Security > Security Configuration.

   The Security Configuration page opens (Figure 52).

2. In the MAC Security Table section, click the icon in the Action column of the Clear By Ports row.

   The Port List View, Clear by Ports page opens (Figure 57).

Figure 57 Port List View, Clear by Ports page



3. Select the ports you want to clear or click None.
4. Click Submit.

Note: When you specify a port (or ports) to be cleared using this field, the specific port (or ports) will be cleared for each of the entries listed in the MAC Address Security Table. If you totally clear the allowed Source Port(s) field (leaving a blank field) for an entry, the associated MAC address for that entry is also cleared.

Enabling security on ports

To enable or disable MAC address-based security on the port:

1 From the main menu, choose Application > MAC Address Security > Port Configuration.

The Port Configuration page opens (Figure 58).

Figure 58 Port Configuration page

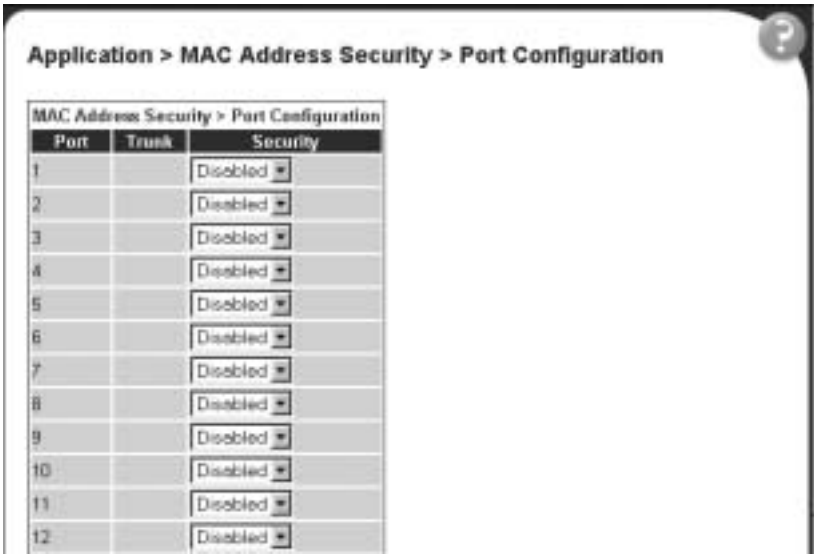


Table 46 describes the items on the Port Configuration page.

Table 46 Port Configuration page items

Item	Range	Description
Port	1 to 24	Lists each port on the unit.
Trunk	Blank, 1 to 6	Displays the MultiLink Trunk that the port belongs to.
Security	(1) Enabled (2) Disabled	Enables MAC address-based security on that port. Note: You must configure the port for MAC address-based security before enabling the security.

Deleting ports

You can delete ports from the security system in a variety of ways:

- In the Ports List View, Port List page (Figure 54), click on the checkmark of a selected port to delete that port from the specified port list.
- In the Ports List View, Learn by Ports page (Figure 55), click on the checkmark of a selected port to remove that port from those that learn MAC addresses.
- In the Port Configuration page (Figure 58), click Disabled to remove that port from the MAC address-based security system; it will disable all MAC address-based security on that port.

Creating and managing virtual LANs (VLANs)

A VLAN is a collection of switch ports that make up a single broadcast domain. You can configure a VLAN for a single switch, or for multiple switches. When you create a VLAN, you can control traffic flow and ease the administration of moves, adds, and changes on the network, by eliminating the need to change physical cabling. Using the Web-based management interface, you can configure port-based VLANs.

Creating VLAN Traffic Class Policy

To create a Traffic Class Policy:

1. From the main menu choose Application > VLAN > Configuration > Traffic Class Policy.

   The Configuration > Traffic Class Policy page opens (Figure 62).
2. In the Traffic Class Policy page, choose a Policy type.
3. In the Queue Weight setting table, select values for the queue weight.
4. Click on the Submit button.

Figure 59 Traffic Class Policy page

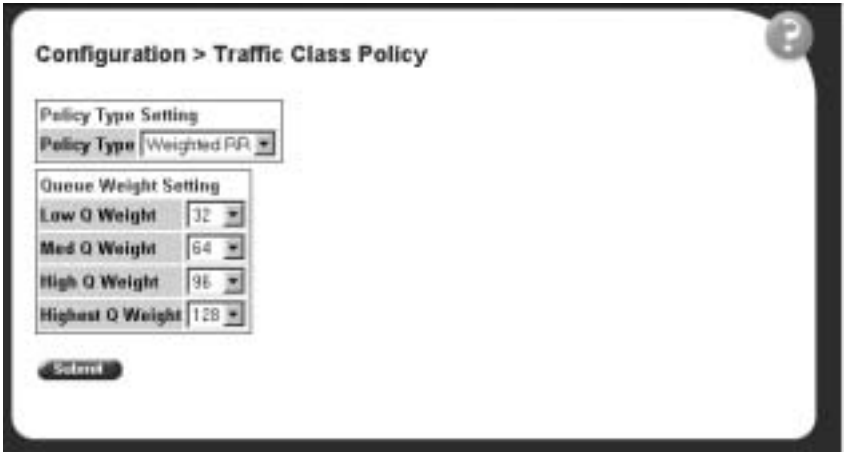


Table 47 describes the items on the Traffic Class Policy page

Table 47 Traffic Class Policy items

Item	Value	Description
Policy Type Setting	Policy Type	Specifies the policy type.
Queue Weight Setting	Low Q Weight	Specifies the lowest queue weight.
	Medium Q Weight	Specifies the medium queue weight

Table 47 Traffic Class Policy items

	High Q Weight	Specifies the high queue weight
	Highest Q Weight	Specifies the highest queue weight

Traffic Class Priority

To enter a Traffic Class Priority:

1. From the main menu, choose Application > Configuration > Traffic Class Priority.

   The Configuration > Traffic Class Priority page opens (Figure 63).

2. In the Traffic Class priority page, specify priority levels for one or more of the eight different priorities.

3. Click on the Submit button.

Figure 60 Traffic Class Priority page

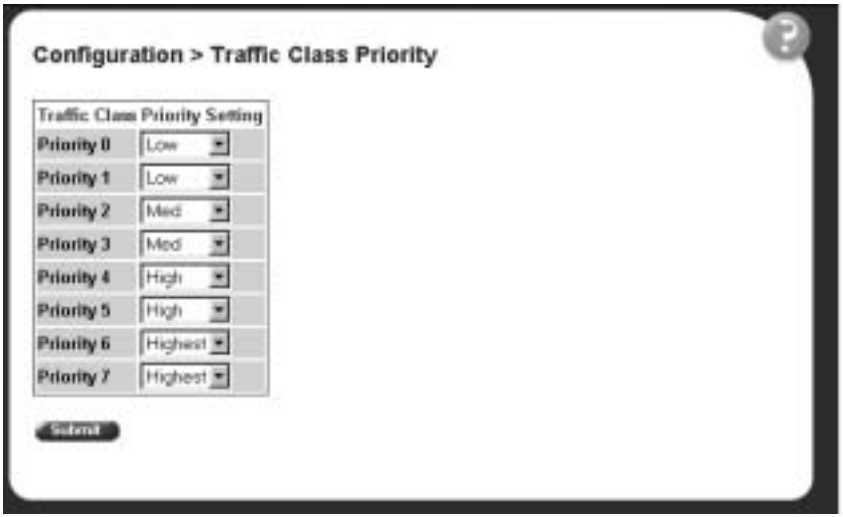


Table 51 describes the items on the Traffic Class Priority page.

Table 48 Traffic Class Priority items

Type of Setting	Priority	Description
Traffic Class Priority Setting	Priority 0	Specifies priority 0
	Priority 1	Specifies priority 1
	Priority 2	Specifies priority 2
	Priority 3	Specifies priority 3
	Priority 4	Specifies priority 4
	Priority 5	Specifies priority 5
	Priority 6	Specifies priority 6
	Priority 7	Specifies priority 7

Port-based VLANs

A port-based VLAN is a VLAN in which the ports are explicitly configured to be in the VLAN. When you create a port-based VLAN on a switch, you assign a VLAN identification number (VLAN ID) and specify which ports belong to the VLAN. The VLAN ID is used to coordinate VLANs across multiple switches.

Configuring VLANs

You can create VLANs by assigning switch ports as VLAN members and you can designate an existing VLAN to act as the management VLAN.

To open the VLAN Configuration page:

➔ From the main menu, choose Application > VLAN > VLAN Configuration.

The VLAN Configuration page opens (Figure 61).

Figure 61 VLAN Configuration page

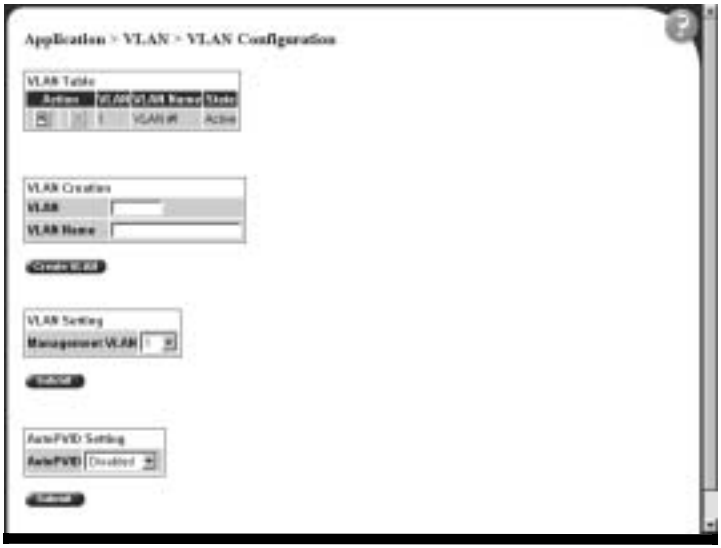


Table 49 describes the items on the VLAN Configuration page.

Table 49 VLAN Configuration page items

Section	Item	Description
VLAN Table		Displays a modification page.
		Deletes the row.
	VLAN	The number assigned to the VLAN when the VLAN was created.
	VLAN Name	The name assigned to the VLAN when the VLAN was created.
	State	The current operational state of the VLAN.
VLAN Creation	VLAN Type	Specifies a port-based VLAN.
VLAN Setting	Management VLAN	Choose the VLAN to designate as the management VLAN.

Creating a port-based VLAN

To create a port-based VLAN:

1. From the main menu choose Application > VLAN > VLAN Configuration.

   The VLAN Configuration page opens (Figure 61 on page 132).

2. In the VLAN Creation section, choose Port.
3. Click Create VLAN.

   The VLAN Configuration: Port Information page opens (Figure 62).

Figure 62 VLAN Configuration: Port Information page

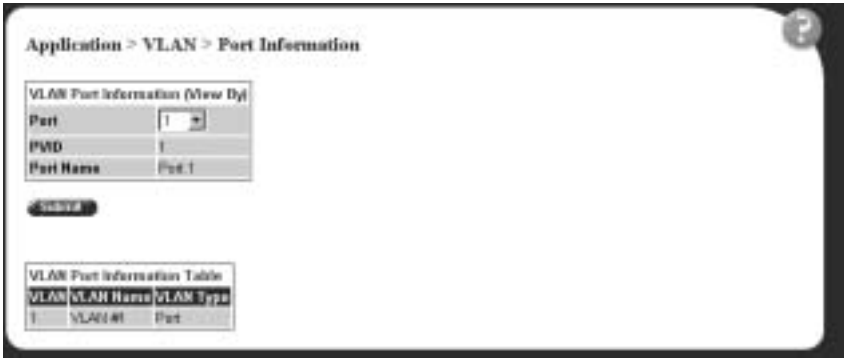


Table 50 describes the items on the VLAN Configuration: Port Information page.

Table 50 VLAN Configuration: Port Information page items

Item	Range	Description
VLAN	1..4094	The number assigned to the VLAN when the VLAN was created.
VLAN Name	1..16	Type a character string to create a unique name to identify the VLAN, for example, VLAN1.

4 Type information in the text boxes, or select from a list.

5 Do one of the following:

- Click Submit.
- Click Back to return to the VLAN Configuration page without making changes.

The new port-based VLAN configuration appears in the VLAN Table on the VLAN Configuration page (Figure 62 on page 133).

Modifying a port-based VLAN

To modify an existing port-based VLAN:

1 From the main menu, choose Application > VLAN > VLAN Configuration.

The VLAN Configuration page opens (Figure 62 on page 133).

2 In the VLAN Table section, in the port-based VLAN row of your choice, click the Modify icon.

The VLAN Configuration: Port Configuration page opens (Figure 63).

Figure 63 VLAN Configuration: Port Configuration page

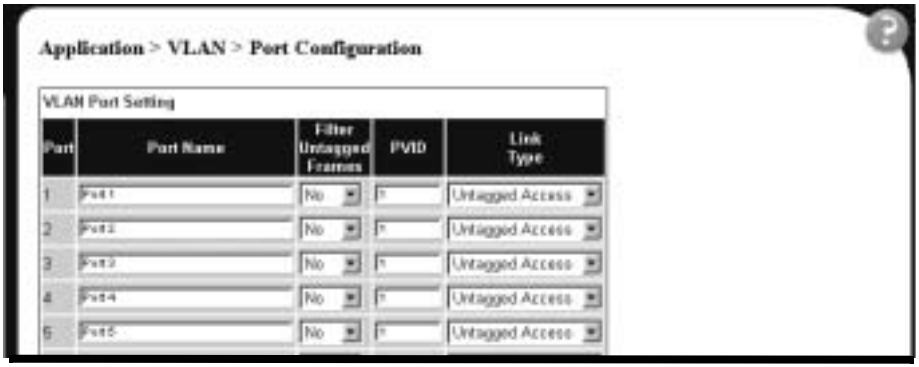


Table 51 describes the items on the VLAN Configuration: Port Configuration page.

Table 51 Port Configuration page items

Item	Range	Description
Port	1..24	The port number.
Port Name	1..16	Type character string to create a unique port name, for example, Port 1.
Filter Untagged Frames	(1) Yes (2) No	Choose how to process filter untagged frames. When a flag is set, the frames are discarded by the forwarding process. The default setting is No (no frames discarded).
PVID	1..4094	Type the number of the VLAN ID to assign to untagged frames received on this trunk port. For example, a port with a PVID of 3 assigns all untagged frames received on this port to VLAN 3. The default setting is 1.
Link Type	(1) Untagged Access (2) Tagged Trunk	Choose the link type for each port.

3 Type information in the text boxes, or click the check box of a port to associate it with the VLAN or, if the port is already a member, click the check box to deselect it as a member of the VLAN.

4 Do one of the following:

- Click Submit.
- Click Back to return to the VLAN Configuration page without making changes.

The modified VLAN configuration is displayed in the VLAN Table (Figure 61 on page 132).

Selecting a management VLAN

You can select any VLAN to perform as the management VLAN. VLAN 1 is the default management VLAN for the switch. To set this field, the VLAN State field value must be active.

To select a VLAN as the management VLAN:

1 From the main menu, choose Application > VLAN > VLAN Configuration.

The VLAN Configuration page opens (Figure 62 on page 133).

2 In the VLAN Setting section, choose the VLAN to assign as your management VLAN.

3 Click Submit.

Deleting a VLAN configuration

To delete a VLAN configuration:

1 From the main menu, choose Application > VLAN > VLAN Configuration.

The VLAN Configuration page opens (Figure 62 on page 133).

2 In the VLAN Table, click the Delete icon for the entry you want to delete.

A message opens prompting you to confirm your request.

3 Do one of the following:

- Click Yes to delete the VLAN configuration.
- Click Cancel to return to the VLAN Configuration page without making changes.

Configuring broadcast domains

You can configure specified VLAN switch ports with the appropriate PVID/VLAN association that enables the creation of broadcast domains. You can configure specified switch ports to filter (discard) all received tagged frames, untagged frames, or unregistered frames. You can also prioritize the order in which the switch forwards untagged packets, on a per-port basis.

To configure broadcast domains:

1 From the main menu, choose Application > VLAN > Port Configuration.

The Port Configuration page opens (Figure 64).

Figure 64 Port Configuration page

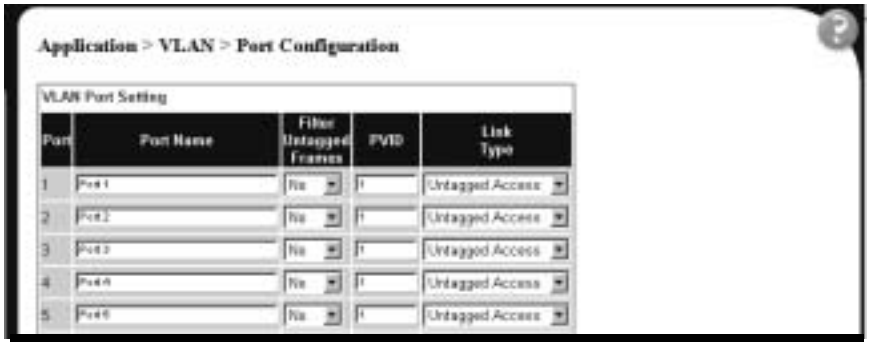


Table 52 describes the items on the Port Configuration page.

Table 52 Port Configuration page items

Item	Range	Description
Port	1..24	The port number.
Port Name	1..16	Type character string to create a unique port name, for example, Port 1.
Filter Untagged Frames	(1) Yes (2) No	Choose how to process filter untagged frames. When a flag is set, the frames are discarded by the forwarding process. The default setting is No (no frames discarded).
PVID	1..4094	Type the number of the VLAN ID to assign to untagged frames received on this trunk port. For example, a port with a PVID of 3 assigns all untagged frames received on this port to VLAN 3. The default setting is 1.
Link Type	(1) Untagged Access (2) Tagged Trunk	Choose the link type for each port.

2 In the upper-left hand corner, click on the switch number of the switch to monitor.

3 Type information in the text boxes, or select from a list.

4 Click Submit.

Viewing VLAN port information

You can view VLAN information about a selected switch port.

To view VLAN port information:

1 From the main menu, choose Application > VLAN > Port Information.

The Port Information page opens (Figure 65).

Figure 65 Port Information page

Table 53 describes the items on the Port Information page.

Table 53 Port Information page items

Item	Range	Description
Port	1..24	Choose the number of the switch's port to view.
PVID		The PVID assigned when the VLAN port was created.
Port Name		The port name assigned when the VLAN port was created.
VLAN		The number assigned to the VLAN when it was created.
VLAN Name		The name assigned to the VLAN when it was created.

2 In the VLAN Port Information (View By) section, enter the port number of the VLAN you want to view.

3 Click Submit.

The results of your request are displayed in the VLAN Port Information Table (Figure 65 on page 139).

Managing Spanning Tree Protocol (STP)

You can configure system parameters for Spanning Tree Protocol, the industry standard for avoiding loops in switched networks. You can configure individual switch ports or all switch ports for participation in the spanning tree algorithm (STA).

Note: STP resolves duplicate paths in networks and is not necessary for ports that have workstations directly attached to the switch. When STP is enabled on these ports (the default), workstations are unable to attach to servers for a few seconds while STP stabilizes.

To configure switch ports for Spanning Tree participation:

1. From the main menu, choose Application > Spanning Tree > Port Configuration.

   The Port Configuration page opens (Figure 66).

Figure 66 Port Configuration page

Table 54 describes the items on the Port Configuration page.

Table 54 Port Configuration page items

Item	Description/Command
Port	The port number of the currently displayed switch.
Trunk	The trunk that corresponds to the switch ports specified as MLT members. For more information on MLT, see “Type information in the text boxes, or select from a list.” on page 144.
Participation	Choose any (or all) of the switch ports for Spanning Tree participation.Your options are: (1) Normal Learning (2) Fast Learning (3) Disabled Note: When an individual port is a trunk member, changing this setting for one of the trunk members changes the setting for all members of that trunk. Consider the effect changing this value has in your network topology before making changes. The default settings is Normal Learning.
Priority	The bridge spanning tree parameter that prioritizes the port’s lowest path cost to the root. When one or more ports have the same path cost, the STA selects the path with the highest priority (lowest numerical value).
Path Cost	The bridge spanning tree parameter that determines the lowest path cost to the root.
State	The current state of the port as defined by application of the Spanning Tree Protocol. This state controls what action a port takes on reception of a frame. Note: If the bridge has detected a port that is malfunctioning, it will place that port into the broken (6) state. For ports which are disabled, this object will have a value of disabled (1).

2 In the port row(s) of your choice, choose to enable STP (normal learning or fast learning) or disable STP.

3 Click Submit.

The results of your request are displayed in the Spanning Tree Port configuration page (Figure 66 on page 140).

Changing Spanning Tree bridge switch settings

You can view and configure existing Spanning Tree switch settings.

To configure Spanning Tree switch settings:

1. From the main menu, choose Application > Spanning Tree > Bridge Information.

   The Bridge Information page opens (Figure 67).

Figure 67 Bridge Information page

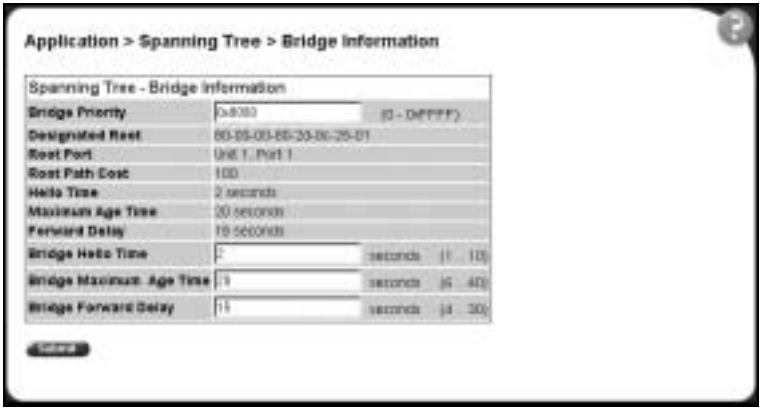


Table 55 describes the items on the Bridge Information page.

Table 55 Bridge Information page items

Item	Range	Description
Bridge Priority	0..65535	Type the priority value of the bridge ID in hexadecimal notation, which is the most significant byte of the bridge ID. The STA uses this parameter to determine the root bridge (or designated bridge). For example, the bridge with the lowest bridge ID becomes the root bridge, with Bridge Priority values compared first, followed by the hardware addresses. The default setting is 8000.
Designated Root	XXXXXXXXXXXXXX	The bridge ID of the root bridge, as determined by the STA.
Root Port	1..24	The port number of the port which offers the lowest cost past from this bridge to the root bridge.
Root Path Cost	Integer	The cost of the path to the root as seen from this bridge.
Hello Time	1..10 seconds	The actual Hello Interval, the amount of time between transmissions of configuration Bridge Protocol Data Units (BPDUs) that the root bridge is currently using. Note: Bridges participating in the spanning tree network use the root bridge's Hello Interval parameter value. See also Bridge Hello Time.
Maximum Age Time	6..40 seconds	The Maximum Age Time parameter value that the root bridge is currently using. This value specifies the maximum age that a Hello message can attain before it is discarded. Note: The root bridge's Maximum Age Time parameter value becomes the actual Maximum Age Time parameter value for all bridges participating in the spanning tree network. See also Bridge Maximum Age Time.
Forward Delay	4..30 seconds	The Forward Delay parameter value that the root bridge is currently using. This value specifies the amount of time that the bridge ports remain in the Listening and Learning states before entering the Forwarding state. Note: The root bridge's Forward Delay parameter value becomes the actual Forward Delay parameter value for all bridges participating in the spanning tree network. See also Bridge Forward Delay.
Bridge Hello Time	1..10 seconds	The Hello Interval (the amount of time between transmissions of BPDUs) specified by management for this bridge. This parameter takes effect only when this bridge becomes the root bridge. Note: Although you can set the Hello Interval for a bridge using bridge management software, once the spanning tree computation process is complete, all bridges participating in the spanning tree network use the root bridge's Hello Interval parameter value. If any bridge becomes the root bridge, its Hello Interval parameter value becomes the Actual Hello Interval parameter value for all bridges participating in the spanning tree network. See also Hello Time. The default setting is 2 seconds.

Table 55 Bridge Information page items (continued)

Item	Range	Description
Bridge Maximum Age Time	6..40 seconds	The maximum age (in seconds) that a Hello message can attain before it is discarded. This parameter, specified by management for this bridge, takes effect only when the bridge becomes the root bridge. Note: If this bridge becomes the root bridge, its Maximum Age Time parameter value becomes the Actual Maximum Age Time parameter value for all bridges participating in the spanning tree network. See also Maximum Age Time. The default setting is 20 seconds.
Bridge Forward Delay	4..30 seconds	The amount of time that the bridge ports remains in the Listening and Learning states before entering the Forwarding state. Note: All bridges participating in the spanning tree network use the root bridge's Forward Delay parameter value. See also Forward Delay. The default setting is 15 seconds.

2 Type information in the text boxes, or select from a list.

3 Click Submit.

The bridge information is displayed in the Spanning Tree Bridge Information page (Figure 67 on page 142).

Configuring MultiLink Trunk (MLT) members

You can configure groups of links between the BayStack 380-24F Gigabit Switch and another switch or a server to provide higher bandwidth with active redundant links.

You can configure two to four switch ports together as members of a trunk to a maximum of six trunks.

To configure MultiLink Trunk members:

1 From the main menu, choose Application > MultiLink Trunk > Group.

The Group page opens (Figure 68).

Figure 68 Group page

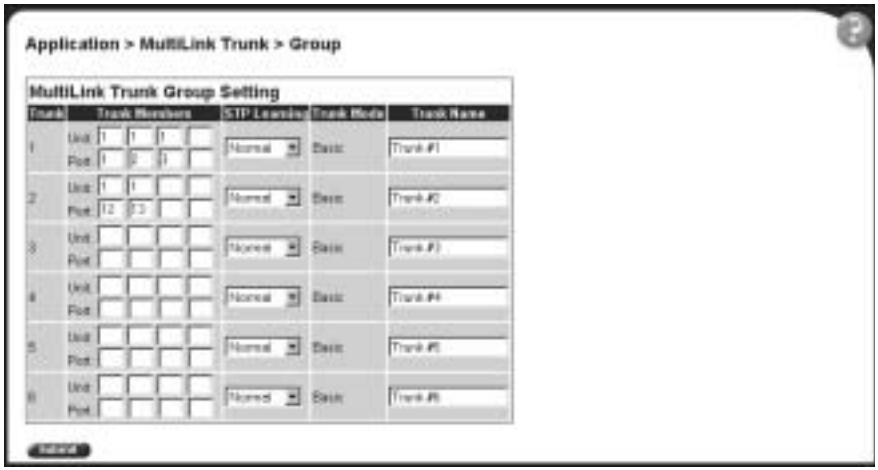


Table 56 describes the items on the Group page.

Table 56 Group page items

Section	Item	Range	Description
MultiLink Trunk Group Setting	Trunk	1..6	This column contains fields in each row that can be configured to create the corresponding trunk. It indicates that the trunk members in this row are associated with the specified switch number. Each switch port can only be a member of a single trunk. The appropriate trunk number for each trunk member configured within this field is shown adjacent to the corresponding switch port on the following management pages: Port Configuration and Spanning Tree Configuration. There are no default settings.
	Trunk Port Members	Port: 1..24	Type the port numbers to associate with the corresponding trunk. Note: You can configure two to four switch ports together as members of a trunk to a maximum of six trunks. Switch ports can only be assigned a member of a single trunk. There are no default settings.
	STP Learning	(1) Normal (2) Fast (3) Disabled	Choose the parameter that allows the specified trunk to participate in the spanning tree. This setting overrides those of the individual trunk members. Selecting Fast shortens the state transition timer by two seconds. The default setting is Normal.
	Trunk Mode	Basic	The default operating mode of the switch. When in Basic mode, source MAC addresses are dynamically assigned to specific trunk members for flooding and forwarding. This allows the switch to stabilize and distribute the data streams of source addresses across the trunk members.
	Trunk Name	1..20	Type a character string to create a unique name to identify the trunk, for example, Trunk1. The name, if chosen carefully, can provide meaningful information to you. For example, S1:T1 to FS2 indicates that Trunk1, in Switch1 connects to File Server 2.
MultiLink Trunk Group Setting	Trunk Status	(1) Enabled (2) Disabled	Choose to enable or disable any of the existing MultiLink Trunks. Note: When a trunk is not active (Trunk Status field set to Disabled), configuration changes do not take effect until you set the Trunk Status field to enabled.

2 Type information in the text boxes, or select from a list.

3 Click Submit in any section to save your changes.

Monitoring MLT traffic

You can monitor the bandwidth usage for the MultiLink Trunk member ports within each trunk in your configuration by selecting the traffic type to monitor.

To monitor MultiLink Trunk traffic:

1 From the main menu, choose Application > MultiLink Trunk > Utilization.

The Utilization page opens (Figure 69).

Figure 69 Utilization page

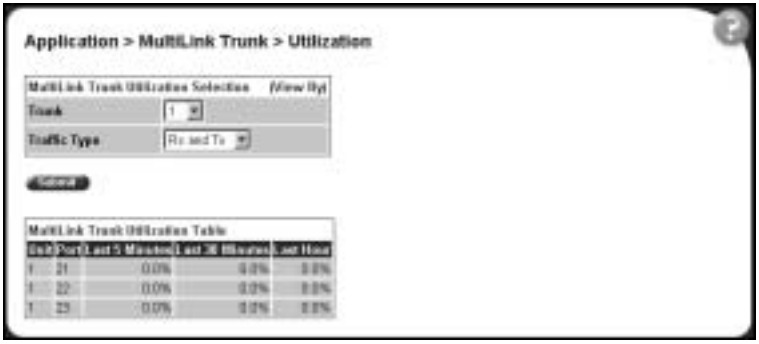


Table 57 describes the items on the Utilization page.

Table 57 Utilization page items

Section	Item	Range	Description
MultiLink Trunk Utilization Selection (View By)	Trunk	1..6	Choose the trunk to be monitored.
	Traffic Type	(1) RX and TX (2) RX (3) TX	Choose the traffic type to be monitored for percentage of bandwidth utilization.
MultiLink Trunk Utilization Table	Port		A list of the trunk member switch ports that correspond to the trunk specified in the Trunk column.
	Last 5 Minutes%		The percentage of packets (of the type specified in the Traffic Type field) used by the port in the last five minutes. This field provides a running average of network activity, and is updated every 15 seconds.
	Last 30 Minutes%		The percentage of packets (of the type specified in the Traffic Type field) used by the port in the last 30 minutes. This field provides a running average of network activity, and is updated every 15 seconds.
	Last Hour%		The percentage of packets (of the type specified in the Traffic Type field) used by the port in the last 60 minutes. This field provides a running average of network activity, and is updated every 15 seconds.

2 In the MultiLink Trunk Utilization Selection section, type the Trunk number and traffic type to be monitored.

3 Click Submit.

The results of your request are displayed in the MultiLink Trunk Utilization Table (Figure 69 on page 147).

Chapter 8
Support menu

The customer support options available to you are:

Using the online Help option

You can read information about Web-based management user interface functions in the online Help menu embedded in the Web-based management interface.

To open online Help:

1 From the main menu, choose Support > Help or click the Help icon located in the upper right corner of any management page.

The Online Help menu opens in a separate Web browser (Figure 70).

Figure 70 Online help menu

2 Click on any content item to read information about the topic. If you clicked the Help icon on a management page, information about that page is immediately displayed.

3 Click Return to Top to return to the Content index.

4 Close the Web browser.

Downloading technical publications

You can download current documentation about the Web-based management user interface from Nortel Networks Technical Documentation Web site.

To download current documentation:

1 From the main menu, choose Support > Release Notes.

Nortel Networks Technical Documentation Web site opens in a separate Web browser (Figure 71).

Figure 71 Nortel Networks Technical Documentation Web site

2 Locate your product, and click the document you want to download.

3 Click on the PDF icon to start the download process. You need Adobe Acrobat 3.0 or later to view or print documents from this site.

4 Follow the prompts to download the documentation.

5 Close the Web browser.

Upgrade option

You can upgrade your Web-based management user interface to the most recent software release.

To upgrade to the most recent software release:

1 From the main menu, choose Support > Upgrade.

Nortel Networks Technical Documentation Web site opens in a separate Web browser (Figure 71).

2 Follow the prompts to download the software release.

3 Close the Web browser.

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