SUPERMICR

1/10 and 10-Gigabit Layer 2/3 Ethernet Switches



SSE-G24-TG4 1/10-Gigabit Ethernet Switch



SSE-G48-TG4 1/10-Gigabit Ethernet Switch



SSE-X24S 10-Gigabit Ethernet Switch

User's Manual

Revison 1.1

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Manual Revison 1.1

Release Date: February 7, 2012

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Notes

Preface

About this Manual

This manual is written for professional system integrators, Information Technology professionals, service personnel and technicians. It provides information for the installation and use of Supermicro's Layer 2/3 1/10 and 10-Gigabit Ethernet switches. Installation and maintenance should be performed by experienced professionals only.

Manual Organization

Chapter 1: Introduction

The first chapter provides a checklist of the main components included with Layer 2/3 1/ 10 and 10-Gigabit Ethernet switches and describes their main features.

Chapter 2: System Safety

You should familiarize yourself with this chapter for a general overview of safety precautions that should be followed when installing and servicing Layer 2/3 1/10 and 10-Gigabit Ethernet switches.

Chapter 3: Setup and Installation

Refer here for details on installing Layer 2/3 1/10 and 10-Gigabit Ethernet switches.

Chapter 4: Ports and Indicators

This chapter covers the various ports and LED indicators found on Layer 2/3 1/10 and 10-Gigabit Ethernet switches.

Chapter 5: Web-based Interface

This chapter covers the web-based interface control screens for Layer 2/3 1/10 and 10-Gigabit Ethernet switches and their use.

Appendix A: Rack Installation

This appendix describes the steps to take to attach rack-mounting rails to the SSE-X24S/R switch for installation in a rack.

Notes

Chapter 1 Introduction

1-1 Introduction

This document is designed to provide **Supermicro Switch** users with the information required to configure the basic functionalities on the switch through the Web graphical user interface (GUI).

Supermicro Switch products can be configured through Web browsers like Internet Explorer or Mozilla Firefox. To manage a switch through a web browser, type in the management IP address in the web browser address bar. This will allow you to start accessing the switch. For example, if the management IP address of the switch is 192.168.100.102, the switch can be accessed through the Web browser by typing http://192.168.100.102 in the address bar of the web browser.



NOTE: Most of the contents of this manual apply to all of these six switch products:

- SSE-G48-TG4
- SSE-G24-TG4
- SSE-X24S/R
- SBM-GEM-X2C
- SBM-GEM-X2C+
- SBM-XEM-X10SM

In a few sections the contents differ for these products. In those specific places, the applicable product is clearly identified. So if any particular product is not mentioned, you can assume that the contents are valid for these six products.

1-2 Overview

Both the SSE-G24-TG4 and the SSE-G48-TG4 1/10-Gigabit Ethernet Layer 2/3 switches include two bays for up to four 10-Gb/s uplink ports (one or two dual-port CX4 modules and/or one or two dual-port XFP modules and/or one or two dual port SFP+ modules), and either 24 (SSE-G24-TG4) or 48 (SSE-G48-TG4) duplex 1-Gb/s (RJ45) ports for LAN interfaces (of which four are combo ports that can alternately be connected to SFP cables with an appropriate transceiver). This Ethernet switch also has an external serial connector for connecting to an external console.

The SSE-X24S and SSE-X24SR are fully self-contained; no additional modules are required. They contain two redundant hot-swappable power supplies installed at the factory. The SSE-X24S has a "normal" airflow direction for cooling – from the front of the unit to the back. The SSE-X24SR has a "reverse" airflow direction for cooling – from the back of the unit to the front. The two models are otherwise identical. The SSE-X24SR may be more appropriate for large data center installations with the switch installed in the rear of a rack facing the "hot aisle".

1-3 Product Checklist of Typical Components

The following components are included with SSE-G24-TG4 or SSE-G48-TG4 Layer 2/3 1/10-Gigabit Ethernet switches:

- Serial cable
- Power cables
- Mounting Ears for rack assembly (see note)
- Two 10-Gb/s port module bays for either CX-4 or XFP ports (modules sold separately)
- CD-ROM with manuals

The following components are included with the SSE-X24S/R switches:

- Power Cables (2)
- Mounting ears for rack assembly (see note)
- CD-ROM with manuals



NOTE: The mounting ears can secure the switch to a rack, but will not reliably support the full weight of the switch for an extended period of time. Please use Supermicro mounting rails (CSE-PT52L) for full support of the switch in a rack installation (see Appendix A for details).

1-4 Features

The Layer 2/3 1/10 and 10-Gigabit Ethernet switches offer the following features:

- 1U form factor
- Dimensions: 440 x 387 x 44 mm (17.32 x 15.24 x 1.73 inch) (W x D x H)
- Weight: 5.6 kg (12.4 lbs) SSE-G24-TG4, 6.2 kg (13.7 lbs) SSE-G48-TG4, 8.18 kg (18.1 lbs) SSE-X24S/R
- 1:1 Non-blocking Connectivity
- Jumbo Frames support (up to 9k bytes)
- Layer 2/3 switch
- Link Aggregation support
- Comprehensive routing and switching protocol support (QoS, Priority, Flow Control, OSPF-v2, RIP v2, ACLs and IGMPv2/v3)
- Browser based management/CLI interface
- Telnet accessible RFC854/855
- Supports STP, RSTP, MSTP, IGMP snooping and 802.1x

1-5 Contacting Supermicro

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| | |

Notes

Chapter 2 System Safety

This chapter provides system safety procedures for use with Layer 2/3 1/10 and 10-Gigabit Ethernet switches. Please read and understand this information before installing and using them.

2-1 Electrical Safety Precautions

Basic electrical safety precautions should be followed to protect yourself from harm and the switch from damage:

- Be aware of how to power on/off the switch as well as the room's emergency power-off switch, disconnection switch or electrical outlet. If an electrical accident occurs, you can then quickly remove power from the system.
- Do not work alone when working with high voltage components.
- Power should always be disconnected from the switch when removing or installing it in a rack.
- When working around exposed electrical circuits, another person who is familiar with the power-off controls should be nearby to switch off the power if necessary.
- Use only one hand when working with powered-on electrical equipment. This is to avoid making a complete circuit, which will cause electrical shock. Use extreme caution when using metal tools, which can easily damage any electrical components or circuit boards they come into contact with.
- Do not use mats designed to decrease electrostatic discharge as protection from electrical shock. Instead, use rubber mats that have been specifically designed as electrical insulators.

2-2 General Safety Precautions

Follow these rules to ensure general safety:

- Keep the area around the switch and rack components clean and free of clutter.
- Place the switch and any rack components that have been removed away from the rack or on a table so that they won't accidentally be stepped on.
- While working on the system, do not wear loose clothing such as neckties and unbuttoned shirt sleeves, which can come into contact with electrical circuits or be pulled into a cooling fan.
- Remove any jewelry or metal objects from your body, which are excellent metal conductors that can create short circuits and harm you if they come into contact with printed circuit boards or areas where power is present.

2-3 Electrostatic Discharge Precautions

Electrostatic discharge (ESD) is generated by two objects with different electrical charges coming into contact with each other. An electrical discharge is created to neutralize this difference, which can damage electronic components and printed circuit boards.

The following measures are generally sufficient to neutralize this difference **before** contact is made to protect your equipment from ESD:

- Use a grounded wrist strap designed to prevent static discharge.
- Keep all components and printed circuit boards (PCBs) in their antistatic bags until ready for use.
- Touch a grounded metal object before removing the board from the antistatic bag.
- Do not let components or PCBs come into contact with your clothing, which may retain a charge even if you are wearing a wrist strap.
- Handle a board by its edges only; do not touch its components, peripheral chips, memory modules or contacts.
- When handling chips or modules, avoid touching their pins.
- Put the mainboard and peripherals back into their antistatic bags when not in use.
- For grounding purposes, make sure the blade enclosure provides excellent conductivity between the power supplies, the blade modules and the mainboard.

Chapter 3 Installation and Setup

This chapter covers the setup of Layer 2/3 1/10 and 10-Gigabit Ethernet switches.

3-1 Installation

To install Layer 2/3 Gigabit Ethernet switches use the procedure below.

Installing the Switch

- 1. Carefully unpack the switch from its shipping container and verify that all parts are present.
- Install the 10-Gb/s add-on module(s) in the rear (SSE-G24-TG4 and SSE-G48-TG4 only).
- 3. Install the mounting ears onto the side of the switch using a screwdriver.
- Mount the switch into your rack assembly (see Appendix A for optional rail mounting of the SSE-X24S/R).

3-2 Configuring the Switch Module

A Layer 2/3 1/10 and 10-Gigabit Ethernet Switch module can be configured using two methods. You may configure it:

- Through the web-based management utility
- Directly through a command line (using a telnet interface or a serial console)

The management utility accesses the switch module through any web browser. To access the switch directly, use the command line.

Any port may be configured as *up* (active) or *down* (inactive). All ports are active by default.

Web-based Management Utility

You can use the web-based management utility on a web browser to configure the switch module. You can access the configuration menu by a network connection.

Command Line

Configuring the switch can be done using a command line via telnet or by using the serial console interface.

Accessing CLI through Telnet

To access the command line via telnet, follow the below steps.

1. Connect a PC to a network that is accessible to the switch.

For example, connect a PC to any of the front panel ports of the switch and make sure the PC has an IP address on the same subnet as the switch management IP.

 In the PC, start a telnet client session with the switch management IP (default IP is 192.168.100.102).

This brings up the switch's command line interface for user login.

- 3. Enter the default username (ADMIN) and password (ADMIN) to login to the switch.
- To view the switch configurations use show commands and to configure the switch type config term to get access to the configuration commands. For help type ? or help.

Accessing CLI through a Serial Console

To access the command line via a serial console, follow the steps below.

- 1. Connect a PC serial port to the switch console port.
- In the PC, open any serial port access applications, such as Hyperterminal or Term Term.
- 3. Choose the serial port connected with the switch and configure with the following parameters:

```
Baudrate = 9600
Data bits = 8
Parity = None
Stop bit = 1
```

- 4. This brings up the switch's command line interface for user login.
- 5. Enter username and password to login to the switch.
- To view the switch configurations use show commands and to configure the switch type config term to get access to the configuration commands. For help type ? or help.

For further information on the use of the command line interface, see the separate *CLI* User's Guide manual on your enclosed CD-ROM.

Firmware

The firmware for Layer 2/3 1/10 and 10-Gigabit Ethernet switches resides on a chip on the PCB.

The switch has internal flash memory in two areas to hold two firmware images. The flash area used for the normal firmware image is referred to as the *normal* area. The other flash area, referred to as the *fallback* area, is used to store the firmware image for fallback purpose in case of a failure to boot from the normal area.

Firmware Upgrading Procedures

The procedures for firmware upgrading and using a fallback firmware image are listed below.

Upgrading Firmware on the Switch using TFTP or the Network

To upgrade the switch's firmware, use the procedure below.

- 1. Designate a server or the network as an FTP server.
- 2. Copy the latest firmware to the TFTP root directory on the TFTP server machine.
- 3. Make sure the upgraded TFTP server and switch both have network reachability.
- 4. Login to the Switch CLI, either through Telnet or a serial console port.
- 5. Type the command below to upgrade the firmware in the normal area:

firmware upgrade tftp://<ip-address>/<filename>
flash:normal

Here *<ip-address>* is the IP address of the TFTP server and *<filename>* is the name of the firmware image file.

6. On successful download, the CLI displays the following string:

Firmware download completed successfully.

- 7. After a successful download, reboot the switch to use this latest firmware.
- 8. If the download fails, check the IP address, file name, network connections and configurations to reach the TFTP server.
- 9. If the switch does not come up after the firmware upgrade due to any incorrect firmware images, boot the switch using a fallback firmware image. Refer to the steps in the procedure "Booting using a Fallback Firmware Image" below to boot the switch using a fallback firmware image.
- 10. Once the switch is booted with a fallback firmware, repeat the above steps to upgrade with the correct firmware image.
- 11. On successful upgrade to the latest firmware, it is advised that you upgrade the fallback firmware image also. Follow the steps listed in the procedure "Upgrading Fallback Firmware using TFTP" below to upgrade the fallback firmware image.

Booting using a Fallback Firmware Image

Use the procedure below to boot using a fallback firmware image.

- 1. Reboot the switch by power cycling the switch power.
- During reboot, press any key when it displays the below text (as shown in Figure 3-1).

Hit any key to stop autoboot: 5

Figure 3-1. Displayed Text for Rebooting

Decompressing...OK

```
Image Running, Clock = 1
Image Running Clock = 21
system memory informations :
pool size : 25MB
free size : 21MB
PRODUCT TYPE : 24 GE Ports + 4 GE Combo Ports L2 Managed PoE Switch
Hit any key to stop autoboot: 5
ERROR: PCI configuration read(0x0=0xffffffff) -READ ERROR
ERROR: PCI configuration read(0x0=0xffffffff) -READ ERROR
PCI unit 0: Dev 0xb313, Rev 0x01, Chip BCM56313 A0, Driver BCM56314 A0
SOC unit 0 attached to PCI device BCM56313 A0
Test chip0.....OK
<<< HSER MENH >>>
> SYSTEM INFO:
Hardware Version : B1-01
   -----
IP Address : 192.168.2.32
Subnet Mask : 255.255.05
Default G ateway : 192.168.2.100
TFTP Server : 192.168.2.100
Firmware File Name : SBM-GEM-X2C-v5.2.10.bin
> MENU OPTIONS:
Press [H] to Set Hardware Info
Press [G] to Get Hardware Info
Press [F] to Download Firmware
Press [J] to Jump to Firmware
SMC>
```

 Once the boot sequence is interrupted, it will display menu options as shown in Figure 3-1. Use the "H" option to set hardware information by typing the character **H**. This will display the hardware information that can be changed as shown in Figure 3-2.

```
SMC>H
> HARD WARE INFO:
Local IP (p) = 192.168.2.32
Subnet Mask (mask) = 255.255.255.0
Default Gateway (gateway) = 192.168.2.100
TFTP Server (tftpaddr) = 192.168.2.100
Finnware Name (randiskname) = SBM GEM-X2C-v5.2.10.bin
Ramdisk Flag (if lag) = 0
SMC.POSC> fflag=1
> HARDWARE INFO:
Local IP (p) = 192.168.2.32
Subnet Mask (mask) = 255 255.255.0
Default Gateway (gateway) = 192.168.2.100
TFTP Server (tftpaddr) = 192.168.2.100
Finnware Name (ramdiskname) = SBM GEM-X2C-v5.2.10.bin
Ramdisk Flag (if lag) = 1
SMC.POSC> exit.
Save before Exit ? [Y/N] y
Saving Hardware Info ... OK
> HARDWARE INFO:
Local IP (ip) = 192.168.2.32
Sibnet Mask (mask) = 255 255.255.0
Default Gateway (gateway) = 192.168.2.100
TFTP Server (tftpaddr) = 192.168.2.100
Finnware Name (ramdiskname) = SBM GEM-X2C-v5.2.10.bin
Ramdisk Flag (ff lag) = 1
```

Figure 3-2. Setting Hardware Information

- 4. To choose the boot from a fallback image, type the command: rflag=1
- 5. Type Save to save the hardware information.
- 6. Type *Exit* to exit the hardware information menu.
- 7. Type J to boot the image. In this case it will boot from a fall back image.
- 8. In case you wish to later move back to a normal image, repeat the above the steps with one difference for step 4, where you should use the command rflag=0 instead of rflag=1 to boot with a normal firmware image.

Upgrading Fallback Firmware using TFTP

To upgrade the fallback firmware using TFTP, use the procedure below:

- 1. Copy the latest firmware to the TFTP root directory on the TFTP server machine.
- 2. Make sure the upgraded TFTP server and switch both have network reach ability.

- 3. Login to the Switch CLI either through Telnet or a serial console port.
- 4. Type the below command to upgrade the firmware in the normal area:

firmware upgrade tftp://<ip-address>/<filename> flash:fallbackl

Here *<ip-address>* is the IP address of the TFTP server and *<filename>* is the name of the firmware image file.

5. On a successful download, the CLI displays the following string:

Firmware download completed successfully.

- 6. After a successful download, reboot the switch using the fallback image to verify the fallback image. Refer to the steps listed above in the procedure "Booting using a Fallback Firmware Image" to boot the switch in the fallback image.
- Once both the normal and fallback image both have latest firmware, continue to use the normal image as directed in step 8 of the procedure "Booting using a Fallback Firmware Image".

Firmware Failure Recovery Steps

In case you have any issues in booting the switch with either a normal or fallback image, use the procedure below to recover the switch functionality with a correctly working firmware image.

Recovering Switch Functionality with a Firmware Image

- 1. Copy the latest firmware to the TFTP root directory on a TFTP server machine.
- 2. Make sure the upgraded TFTP server and switch both have network reachability.
- 3. Reboot the switch by power cycling the switch power.
- During reboot, press any key when it displays the below text (as shown in Figure 3-1).

Hit any key to stop autoboot: 5

 Once the boot sequence is interrupted, it will display menu options as shown in Figure 3-1.Use the "H" option to set hardware information by typing the character H.

This will display the hardware information that can be changed as shown in Figure 3-2.

 Configure the IP address for this switch (only for booting purposes) using the command: ip=<IP address>

For example ip=192.168.2.3

7. Configure the subnet mask for this switch IP address using the following command:

mask=<subnet mask>

For example mask=255.255.255.0

8. Configure the TFTP server IP address using the following command:

```
tftpaddr=<TFTP server IP>
```

For example tftpaddr=192.168.2.100

9. Configure the gateway address to reach the TFTP server using the following command if the TFTP server is in a different network:

gateway=<gateway IP>

For example gateway=192.168.2.100

10. Configure the firmware image file name using the following command:

ramdiskname=<filename>

For example ramdiskname= SBM-GEM-X2C-v5.2.10.bin

- 11. Type Save to save the hardware information.
- 12. Type Exit to exit the hardware information menu.
- Type F to download the firmware image. In this case it will download to the normal image area.
- 14. On a successful download, the switch displays the below string.

```
Updating the ramdisk image ...
This may take awhile
OK
```

- 15. After a successful download, boot the switch to use this latest firmware by typing J.
- 16. If the download fails, check the IP address, file name, network connections and configurations to reach the TFTP server.

Notes

Chapter 4 Ports and Indicators

This chapter covers the ports and LED indicators found on Layer 2/3 1/10 and 10-Gigabit Ethernet switches.

4-1 SSE-G24-TG4 Ports and Indicators



Figure 4-1. SSE-G24-TG4 Ports and Indicators

Rear View

Table 4-1. SSE-G24-TG4 Switch Module Ports and Indicators

| Item | Description |
|------|---|
| 1 | RJ45 10/100/1000 Ethernet ports (24) |
| 2 | SFP Combo Ports (4) |
| 3 | LEDs and Stacking Indicator ID |
| 4 | 10-Gb/s Port Module Bays (2 bays for up to 4 ports for CX-4 or XFP) |
| 5 | Serial Port |
| 6 | Power Port |

4-2 SSE-G48-TG4 Ports and Indicators



Figure 4-2. SSE-G48-TG4 Ports and Indicators

Rear View

Table 4-2. SSE-G24-TG4 Switch Module Ports and Indicators

| Item | Description |
|------|---|
| 1 | RJ45 10/100/1000 Ethernet ports (48) |
| 2 | SFP Combo Ports (4) |
| 3 | LEDs and Stacking Indicator ID |
| 4 | 10-Gb/s Port Module Bays (2 bays for up to 4 ports for CX-4 or XFP) |
| 5 | Serial Port |
| 6 | Power Port |

4-3 SSE-X24S/R Ports and Indicators

Figure 4-3. SSE-X24S/R Ports and Indicators



Table 4-3. SSE-X24S/R Switch Module Ports and Indicators

| ltem | Description |
|------|--|
| 1 | System Status Indicator |
| 2 | Fan Status Indicator |
| 3 | Status Indicator – Power Supply 1 |
| 4 | Status Indicator – Power Supply 2 |
| 5 | 1-Gbps port (Line or console) |
| 6 | 10-Gbps Ethernet Ports – SFP+ connectors |
| 7 | USB Port |
| 8 | Serial Console Port |

4-4 Ports

Both Layer 2/3 1/10-Gigabit Ethernet switches contain several front mounted ports in common.

RJ45 Compatible Port

These 24 (SSE-G24-TG4) or 48 (SSE-G48-TG4) 1-Gb/s duplex ports each accept an RJ45 compatible cable.

Combo Ports

Each of the four SFP 1-Gb/s combo ports can hold a module for a downlinking fiber connector. This can be used instead of the RJ45 connector for only these four ports.

10-Gb/s Port Module Bays



Figure 4-4. 10-Gb/s Port Module Bays

AOM-SSE-X2C

AOM-SSE-X2F



AOM-SSE-X2S

The Layer 2/3 1/10-Gigabit Ethernet switches contain two bays in the rear that each house a 2-port 10-Gigabit interface module containing either CX-4, XFP or SFP+ ports, depending upon your chosen configuration (see Figure 4-4). Bay 1 can be used for Stacking or 10-Gb/s uplink. Bay 2 can also be used for stacking, but it normally is used to house a module for links to one or two external 10-Gb/s switches.

Current modules available are:

- AOM-SSE-X2C module with two CX4 copper interface ports for connections up to 12 meters in distance.
- AOM-SSE-X2F module with two XFP interface ports for accepting XFP transceivers allowing fiber connections up to 300 meters in distance.
- AOM-SSE-X2S module with two SFP+ interface ports for accepting SFP+ copper cables or SFP+ transceivers allowing fiber connections up to 300 meters in distance.

Serial Ports

One serial port is available for communications to an external control console.

Power Port

This port is for connecting the power cable for powering the Layer 2/3 1/10-Gigabit Ethernet switches.

4-5 Indicators

This section covers LED indicators for the Layer 2/3 1/10-Gigabit Ethernet switches. These LEDs are listed and described in Table 4-4.

| LED Name | Description |
|-------------------------|--|
| Master | Indicates this is the master switch in a stacked configuration. |
| Fan | Indicates fan status. |
| Thermal | Indicates Thermal status. |
| Diagnostic | Indicates diagnostic activity. |
| Power | Indicates power for the system. |
| Combo LEDs ^a | Indicates activity for the Combo fiber port that corresponds to the number indicated. |

Table 4-4. SSE-G24-TG4 and SSE-G48-TG4 LED Indicators

a. 21-24 for SSE-G24-TG4 and 45-48 for the SSE-G48-TG4

Notes

Chapter 5 Web Based Management Utility

This chapter is provided to help you quickly get started in using the web-based management utility for all 1/10-Gigabit and 10-Gigabit Layer 2/3 Ethernet switches.

The utility starts with a default IP address, which is also the management IP address. This IP address is essentially provided for remote management of this switch. For managing the switch through web browsers, type in the default IP address in your browser's web address in order to start accessing the switch.

For example, if the management IP address of the switch is **192.168.100.102**, the switch can be accessed through the Web browser by typing http://192.168.1.1 in the address space of the web browser.

After entering in the IP address, the switch's LOGIN page (Figure 5-1) should appear.

Nomenclature

The following nomenclature applies to screens found in this chapter:

- Port */* This indicates the stacking ID number, port number
- Port Number GB */* This is for an internal port
- **Port Number Ext** */* This is for an external port.

5-1 Overview

The Supermicro switch utility for Layer 2/3 1/10 and 10-Gigabit Ethernet switches provides a web-based interface for managing Layer 2 and Layer 3 switching at wire speed for constructing a switched/routed network. This interface provides both a bridging functionality and advanced features such as link aggregation, Dynamic VLAN/ Dynamic Multicast, IGMP Snooping and Network Access Control. This web-based interface also comes with several Layer3 features as well (such as wire speed routing, Differentiated Services, multicast routing and so on).

The Supermicro Switch firmware is implemented using open sources from OpenSSL, OpenSSH and other open source communities and is configured using web browsers such as Internet Explorer.

The utility starts with a default IP address, which is also the management IP address. This IP address is essentially provided for remote management of this switch. For managing the switch through web browsers, type in the default IP address in your browser's web address in order to start accessing the switch.

For example, if the management IP address of the switch is **192.168.1.1**, the switch can be accessed through the Web browser by typing http://192.168.1.1 in the address space of the web browser.

The default management IP address for Supermicro Switch products is **192.168.100.102**. This default IP address can be changed in the SYSTEM SETTINGS page in the System Management section.

For the SSE-G48-TG4 and SSE-G24-TG4 switches you can connect to any of the front panel 1G ports or back panel 10G ports to manage the switch with the default management IP. These switches will create VLAN 1 by default with this IP address, including all 1G and 10G ports.

For the SSE-X24S/R switches you can connect to the 1G Ethernet RJ45 port, or the serial console port (on the front of the unit) to manage the switch.
5-2 Login

| | | CT LINIT | | | |
|--|---------|-----------------------|------------|--|--|
| | ARM | inticate with Login a | d Password | | |
| | Dentan | - | | | |
| | Passate | 4 | | | |
| | | C 1990 | 9 | | |
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Figure 5-1. Login Page

The initial login page (Figure 5-1) is used to login to the Supermicro Switch web-based management utility for 10 Gb/s switches. To login, enter your **User Name** and **Password** in the fields provided and press the LOGIN button.

This User Name and Password are both used for accessing the switch through the web for switch configuration. The entered user name and password are validated at the switch end.

After logging in, you will be taken to the HOME page of the utility. See Section 5-3 for further details.

5-3 Home Page

The HOME page (Figure 5-2) contains links and menus for going to all other control pages in the Supermicro Switch web-based interface utility. A list of controls for this page is shown in Table 5-1. The basic page structure of the HOME page is duplicated for all subsequent sub-pages of the Supermicro Switch web-based interface utility.



NOTE: The SSE-G24-TG4, SSE-G48-TG4 and SSE-X24S/R switches from Supermicro share a common management interface (including the associated feature set) with Supermicro's SBM-GEM-X2C Layer 2/3 1/10G Ethernet switch for the Supermicro Blade System.

In this manual you will see many screen shots of pages showing the name of the SBM-GEM-X2C in the upper left hand corner. With the exception of this name, these screens will all have the same structure and appearance in your SSE-G24-TG4, SSE-G48-TG4 and SSE-X24S/R switch.



Figure 5-2. Home Page

| Table 5-1. | Home | Page | Controls | and | Components |
|------------|------|------|----------|-----|------------|
| | | | | | |

| Number | Name | Description |
|--------|-----------------|---|
| 1 | Top Page Links | The Top Page Links are present both on the Home page and all other pages accessed and contain links to support pages or additional controls for all pages viewed with the Web Management Utility. See "Top Page Links" below for further details. |
| 2 | Top LED Display | This section of the screen provides an overview port status for the switch. See "Top Page Links" for further details. |

| Number | Name | Description |
|--------|-------------------------------------|--|
| 3 | Left Side Tree | The Left Side Tree contains an expandable list of links for you to use to get to other management pages. All configuration pages contain this navigation tree. |
| 4 | Middle Configuration Links Table | Each configuration page contains its own links and controls |

| Table 5-1. Home | Page | Controls and | Components |
|-----------------|------|--------------|------------|
|-----------------|------|--------------|------------|

The HOME page is displayed on successful validation of the user name and password. The information in this page presents a brief overview of the switch web-based management utility. See Figure 5-3, Figure 5-4 and Figure 5-5 for different views of the Home page for each of Supermico's 10-Gb/s switches.







Figure 5-4. SSE-G48-TG4 Home Page





Top Page Links

On the top of all pages of the web-based management utility you can find the following PAGE HEADER links:

- **Refresh** Click this link to refresh the contents of the page. Unlike the browser refresh button, this link refreshes only the contents of the middle of the page which has the active data.
- Support Click this link to get technical support for Supermicro Products.
- **Help** Click on this link to open a context specific help page that covers all the items on the page being viewed.
- About Click this link to get additional information about the web-based management utility, the switch and also the versions supported.
- Log Out Click this link to log out of the web session and go back to the Login page.

Top LED Display

This part of the screen displays the **Port Status**, **Speed** and **Link Status** for every port of the switch.

Since the number of ports is different in the SSE-G24-TG4 and SSE-G48-TG4 switches, this display displays a different number of ports for each when the Web Management Utility is run:

- For the SSE-G24-TG4 switch, it displays twenty-four 1-Gigabit Ethernet (Gi) ports and four 10-Gigabit Ethernet (Ex-Extreme Ethernet) ports.
- For the SSE-G48-TG4 switch, it displays forty-eight Gi ports and four Ex ports.
- For the SSE-X24S/R switch, it displays twenty-four 10-Gigabit ports.



NOTE: Ex ports configured as stacking ports will not be displayed.

In stacking, the **Switch Identifier** will be displayed on top of this LED display. This allows you to select a stack member switch of interest, and to view the LED display for the corresponding switch.



NOTE: Stacking is not supported on the SSE-X24S/R switch.

For **Link**, a green light corresponding to a number indicates that that numbered port is up, whereas a red light corresponding to a number indicates that this port is down.

Left Side Tree

The tree display on the left side of the page provides quick access to the configuration pages. This tree is organized based on the features supported in the switch. The main features are categorized in the following groups.

- System Management System based configurations
- Layer 2 Management Layer 2 Protocols including VLAN, RSTP, MSTP, ...
- Layer 3 Management Layer 3 Protocols including IP, RIP, OSPF,
- Multicast Management Multicast Protocols including IGMP, PIM, ...
- Statistics Statistics and Counters for all the features.

This tree is displayed on the left navigation pane on all configuration pages. This makes it easier for you to choose any configuration page directly without going back to the home page every time. To go to one of a MANAGEMENT page's sub-pages, click on the symbol to expand the list.

Middle Configuration Link Table

This section of the page displays a table of links to all major configurations. This table provides links similar to the Left Side Tree links. The configuration links are categorized based on features of the switch.

5-4 System Management Page



Figure 5-6. System Management Page

The SYSTEM MANAGEMENT page (Figure 5-6) contains the following links:

- System Settings
- Management IP
- File Management
- Firmware Upgrade
- Management Security
- Syslog
- ACL
- WEB Settings
- SNMP
- RMON
- QoS
- Time Management
- Stack
- CX4 Cable Length

System Settings

The following pages can be accessed through the System Settings link:

- System Settings
- System Version

System Settings

Figure 5-7. System Settings Page

| SWITCH SSE-G24-TG | Speed Link Switch 1 Gi 1 2 | 3 4 5 6 7 8 9 10 11 12 13 14 15 16 | 5 17 15 19 20 21 22 23 24 EX1 EX2 EX3 |
|---|----------------------------------|------------------------------------|---------------------------------------|
| SMIS | System Settings System Ve | ersion | |
| ome | | System Settings | |
| System Mgmt System Settings | Device Name | SMIS | Switch Switch 1 - |
| File Management | Switch Base MAC Addre | ss 00:30:48:e0:64:1c | Force |
| Firmware Upgrade Management Security Syslog ACL | SNMP EngineID | 80.00.08.1c.04.46.53 | Reload Switch |
| | Device Contact | http://www.supermicro.con | |
| SNMP | Device Location | Supermicro | Reset To Factory Defaults * |
| QoS | System MTU | 1500 | |
| Stack | PIM Mode | Sparse - | |
| CX4 Cable Length Layer2 Mgmt Layer3 Mgmt Multicast Statistics | Snoop Forward Mode | MAC Based 👻 * | * Restart of switch required, |
| | Configuration Restore Stat | if these values are changed. | |
| | Device Up Time | 0 days 0 hrs 3 mins 50 secs | |
| | Http Server Status | Enable | |
| | Http Port Number | 80 | |
| | Boot-up Flash Area | Normal - | |

Clicking the SYSTEM INFORMATION tab brings up the SYSTEM SETTINGS page (Figure 5-7). This page provides system related information and also helps you configure system specific parameters. Table 5-2 lists the parameters found on this page.

| Parameter | Description |
|-------------------------|---|
| Device Name | Assigns a name to identify this device – 15 Characters input limit. The factory default is SMIS . |
| Switch Base MAC Address | Displays the MAC Address of the switch. |
| SNMP Engine ID | Sets the SNMP engine ID with 5 to 32 hexadecimal characters separated by dots for the local or remote SNMP engine. A restart of the switch required if these values are changed. The factory default is 80.00.08.1c.04.46.53 |
| Device Contact | Assigns a contact person's name with a 255-character input limit. The factory default is http://www.supermicro.com/support. |

| Tahlo | 5-2 | System | Information | Pane | Parameters |
|-------|------|--------|-------------|------|-------------------|
| lable | J-Z. | System | mormation | гауе | r ai ai i e lei s |

| Parameter | Description |
|---------------------------------|---|
| Device Location | This specifies the location of this switch using a 255-characters input limit. The factory default is Supermicro . |
| System MTU | This specifies the maximum transmission unit (MTU) size of IP packets sent on an interface. The valid range is between 1500 and 9210, while the default value is 1500 . |
| | PIM (Protocol Independent Multicast) is a multicast routing architecture that allows the addition of IP multicast routing on existing IP networks. |
| PIM Mode | Sparse mode uses shared trees to forward multicast datagrams to a set of specific directly connected designated router(s). |
| | Dense mode uses multicast sources to send multicast data packets to all attached routers. |
| | The factory default mode is "Sparse". |
| Snoop Forward Mode | This sets the multicast flows of multicast data so they can be forwarded based on IP addresses or MAC addresses. The factory default mode is "MAC addresses". |
| Configuration Restore Status | This shows the status of the configuration restore process, and whether it is successful or a failure. If the configuration is not saved, the Restore Status will show "Not Initiated". |
| Device Up Time | This shows the time from which the device is UP. |
| HTTP Server Status | This shows the HTTP (Hypertext Transfer Protocol) server status. |
| HTTP Port Number | This shows the HTTP (Hypertext Transfer Protocol) Port number. |
| Boot-up Flash Area | For this parameter, the chosen system RAM disk boots from "Normal" (primary boot up image) or "Fallback"(secondary boot up image). The factory default is "Normal". |

 Table 5-2. System Information Page Parameters (Continued)

This page also has a control to **Reset To Factory Defaults**. This clears all switch configuration and local user accounts information. This reset requires reboot of the switch.



WARNING: Make sure to have all necessary configurations backed up before doing "Reset To Factory Defaults."

This page also provides a control to **Reboot** the switch. In stacking, the Switch Identifier is displayed on top of this reboot button. You can select the interested stack member switch to reboot the corresponding switch. You can also select the **ALL** option to reboot all stack members.

System Version

Figure 5-8. System Version Page



Clicking the SYSTEM VERSION tab brings up the SYSTEM VERSION page (Figure 5-8). This page provides a table that displays system version information including the switch ID, hardware version and firmware version for each switch.

Management IP



Figure 5-9. Management IP Page

Clicking the MANAGEMENT IP tab brings up the MANAGEMENT IP page (Figure 5-9). This page helps you to manage the IP address for the switch. This page allows to configure the following settings:

- IP Address Mode
- IP Address
- Subnet Mask

You can set the switch to DYNAMIC MODE or MANUAL MODE. If you set the switch to Dynamic Mode, then it will automatically obtain the IP Address and subset mask from the DHCP Server. If you set the switch to Manual Mode, then you can set the IP Address and subnet mask to whatever setting are appropriate to your network. The switch is set to **192.168.100.102** for IP Address and **255.255.255.0** for the Subnet Mask by default.

File Management

| | | | | Refresh | Support | Help | About | Log Out |
|--|-------|---|---|--|--|--------|-------|---------|
| SUPERMI | CRO | | Speed 0 0 Link 0 0 Switch 0 Gi 1 2 J | 4 5 6 7 8 9 10 11 12 13 14 19 | 16 EXI EX2 EX3 | | | |
| SWITCH SBM-GEN | 1-X2C | | | | | | | |
| SMIS1 | | | | | | | | |
| Home * System Setting Firmware Lograde Management Security Acts Act | | Save co Save Startup Con Save Flach Fale Save Remotely Total Space Available Space | nfiguration fg Sove 4096 KB 2572 KB | Fil Source OLocal File Destination OLocal File | e Copy Remote Remote Copy | x V | | |
| | | File Name param noprecept para543 Delete | File 18 Tue Oct 3 2124 18 Fn Nov 10 10 1 17 Fn Nov 10 10 1 | Management st modified 555 2000 9:17 2000 1:51 2000 | Startup Co Define No Restore Set Startup Config | onfig | | |

Figure 5-10. File Management Page

Clicking the FILE MANAGEMENT link brings up the FILE MANAGEMENT page (Figure 5-10). The FILE MANAGEMENT page helps you to manage the configuration files in the switch. This page provides three main features.

- Save Configuration
- File Copy
- File Management

Save Configuration

You can save a currently running switch configuration in the following three ways:

- Save Startup Config This option saves the currently running configuration in a local flash file with the file name configured as a "startup configuration" file.
- Save Flash File This option saves the currently running configuration in local flash file with a user specified file name.
- Save Remotely This option saves the currently running configuration into a remote TFTP server. You need to provide the IP address and file name of the TFTP server for this option.

The total configuration memory space and available free space are also displayed for your reference.

File Copy

You can copy a local file to or from a remote TFTP server. This feature is useful to create a backup of configuration files remotely, and also to download configuration files from remote computers to the switch. You need to provide a local file name and also the remote TFTP server's IP address and file name for this feature.

File Management

This section displays information about the configuration files stored in the switch and allows you to do any of the following actions:

- You can select one or more files and delete them.
- You can choose a Startup Configuration file from this file list.
- You can choose the FILE option and enter a name for a Startup Configuration file.
- You can also choose the No RESTORE option for not loading any configuration files on the next reboot of the switch.

Firmware Upgrade



Figure 5-11. Firmware Upgrade Page

Clicking the FIRMWARE UPGRADE link brings up the FIRMWARE UPGRADE page (Figure 5-11). This page allows you to upgrade the firmware in normal or fallback memory. In stacking, the firmware is upgraded in all stack members automatically.

Management Security

The MANAGEMENT SECURITY link provides configuration for the following features:

- Management Security Basic Settings
- Management User Account
- Radius
- TACACS+ Global Settings
- TACACS+ Server Configuration
- IP Authorized Manager
- SSH Configuration
- SSLConfiguration

Management Security Basic Settings

Figure 5-12. Management Security Basic Settings Page

| SUPERMI | CR | | | Speed 0 0 Link 0 0 Switch 0 Gi 1 2 | 3 4 5 6 7 8 9 10 11 12 1 | 3 14 15 16 EX1 EX2 EX3 | | | |
|--|---------------------|-------------|--------|--|---|------------------------|-----|-----|--|
| SWITCH SBM-GE | M-X2C | | | | | | | | |
| SMIS | Management Security | Local Users | Radius | TACACS+ | TACACS+ Servers | IP Auth Managers | SSH | SSL | |
| Home * System Setting rie Resourcest rie Resourcest System Web Settings Veb Settings Veb Settings Veb Settings Layer Agent Layer Agent * Statestors | | | Ma | Inagement a Loop Authentication Authentication Enable Leve Password Set | Security Basic t Lication Mode Apply LEVEL_15 Enable Password | Settings | | | |

Clicking the MANAGEMENT SECURITY tab brings up the MANAGEMENT SECURITY BASIC SETTINGS page (Figure 5-12). This page allows you to setup the below listed basic security parameters (Table 5-3).

| Parameter | Description |
|----------------------|--|
| Authentication mode | The authentication modes supported are LocAL, RADIUS and TACACS. The default option is "Local" mode where the user name and password is authenticated using a local user data base. In RADIUS mode, the authentication request is sent to the configured RADIUS servers. In TACACS mode, the authentication request is sent to the configured TACACS server. |
| Authentication traps | This parameter allows you to ENABLE or DISABLE SNMP Traps for SNMP access authentication events. |

Table 5-3. Management Security Basic Settings Page Parameters

Administrative users can also create *Enable Passwords* in this page. Low privilege users can use these *Enable Passwords* in the WEB SETTINGS page to enable access to privilege configurations.

Administrative users can set an *Enable Password* for all privilege levels. By default, the Enable Password is set only for the highest level (Level_15). This default password is the same as the default password set for the ADMIN user login.

Management User Account

| | | | | | Refresh | Support | Help | About | Log Out |
|--|---|-------------|----------|---------------------------|------------------------------|------------------|------|-------|---------|
| Comment | | | | Speed 0 0 0 Link 0 0 0 | | | | | |
| SUPERM | ICR | | | Switch 0 Gi 1 2 3 | 4 5 6 7 8 9 10 11 12 13 14 1 | 5 16 EXI EX2 EX3 | | | |
| SWITCH SPM.GI | EM-X2C | | | | | | | | |
| o Milero baron | | | | | | | | 1 | |
| SMIS | Management Security | Local Users | Radius | TACACS+ | TACACS+ Servers IP # | with Managers | SSH | S SL | |
| Home | | | Man | agement Use | er Account Config | juration | | | |
| System Mgmt System Settings | | | | User Name | ADMIN . | | | | |
| File Management Firmware Upgrade | | | | Password | | | | | |
| Management Security Syslog | () () () () () () () () () () | | | Privilege | DEFAULT - | | | | |
| ACL Web Settings | | | | A | pply Reset | | | | |
| RMON | | | | | | | | | |
| NTP Stack | | | | Select L | Jser Name Privilege | 1 | | | |
| Layer2 Mgmt | | | | C ADMit | 1. | | | | |
| Multicast | | | | stacku | ser 1 | | | | |
| Statistics | | | | | Delete | | | | |
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| | | | | | | | | | |
| Clicking | the Local | LICEDO to | h brings | up the M | | | | т | |

Figure 5-13. Management User Account Page

Clicking the LOCAL USERS tab brings up the MANAGEMENT USER ACCOUNT CONFIGURATION page (Figure 5-13). This page allows you to create or delete local user accounts. You need more than privilege Level_5 to view all pages and need more than privilege Level_10 for changing the configurations. The highest, Level_15, is for Administrator privilege.

Radius



Figure 5-14. Radius Server Configuration Page

Clicking the RADIUS tab brings up the RADIUS SERVER CONFIGURATION page (Figure 5-14). This page allows you to configure the RADIUS server parameters as shown in Table 5-4.

| Parameter | Description |
|---------------|--|
| Server ID | This parameter specifies the unique identifier of the RADIUS Server Entry using a 2-characters input limit. The factory default is blank. |
| IP Address | This parameter specifies the IP Address of the RADIUS Server. The factory default is blank. |
| Shared Secret | This parameter specifies the secret string, which is shared between the RADIUS Server and the RADIUS Client. This field contains a 255-characters input limit, and the factory default is blank. |
| Server Type | This parameter specifies the RADIUS server type as either: Authenticating (default): to authenticate users or devices before granting them access to a network Accounting: to account for usage of those services Both: Authenticating and Accounting |

Table 5-4. RADIUS Server Configuration Page Parameters

| Parameter | Description |
|-------------------------|--|
| Response Time (secs) | This parameter specifies the maximum time within which the Radius Server has to respond for a request from the Radius Client. The valid range is 0 to 120 seconds. The factory default is blank. |
| Retry Count | This parameter specifies the maximum number of times a radius request is to be re-transmitted before getting a response from the Radius Server. The valid range is 1 to 254. The factory default is blank. |

 Table 5-4. RADIUS Server Configuration Page Parameters

TACACS+ Global Settings

| SUDEDMI | CD | | | Speed 0 0 0 Link 0 0 0 | Refres | h Support | Help | About | Log Out |
|--|---------------------|-------------|--------|-------------------------------------|---------------------------|------------------|---------|-------|---------|
| SUPERIVI | M-X2C | | | SWIRL OCI 1 2 3 | 4 5 6 7 8 9 10 11 12 1 | | | | |
| SMIS | Management Security | Local Users | Radius | TACACS+ | TACACS+ Servers | IP Auth Managers | SSH | SSL | |
| Home | | | | Tacacs+ | Global Setting | js | | | |
| System Mgott System Settings Primwers Upgrade Primwers Upgrade Auto- Boott Doott Primwers Upgrade Auto- Primwers Auto- Primwers Primwe | | | | Active Server IP Act Re-Transmit | kdress 0000 2 Арріу | | | | |
| The TA(| | DAL SET | | | o 5-15) all | lowe you t | o confi | | CACS |

Figure 5-15. TACACS+ Global Settings Page

The TACACS+ GLOBAL SETTINGS page (Figure 5-15) allows you to configure TACACS retries and choose an active TACACS server. The parameters for this page are shown in Table 5-5.

| Table 5-5. TACACS | + Global Settings | Page Parameters |
|-------------------|-------------------|------------------------|
|-------------------|-------------------|------------------------|

| Parameter | Description |
|-----------------------------|---|
| Active Server IP Address | Specifies the IP address of the active TACACS server. This server should have been already configured in the following TACACS+ SERVER CONFIGURATION page (Figure 5-16). The factory default is 0.0.0 . |
| Retries | This parameter determines the number of times the switch searches the active TACACS server from the list of servers maintained. The allowed values are from 1 to 100. The factory default is 2 . |

TACACS+ Server Configuration

Log Out 5 6 7 8 9 10 11 12 13 14 15 16 EX **SUPERMICR** SWITCH SBM-GEM-X2C SMIS TACACS+ TACACS+ Servers IP Auth Man Ma SSH Tacacs+ Server Configuration IP Address Port Single Cor n Yes 🔻 tuo ADMIN Secret Key ••••• Apply

Figure 5-16. TACACS+ Server Configuration Page

Clicking the TACACS+ SERVERS tab brings up the TACACS+ SERVER CONFIGURATION page (Figure 5-16), which allows you to configure TACACS servers. The parameters for this page are shown in Table 5-6.

| Parameter | Description |
|-------------------|---|
| IP Address | This specifies the IP address of the TACACS server. The factory default is blank. |
| Port | This specifies the TCP port for TACACS protocol. The valid range is from 1 to 65000. The factory default is blank. |
| Single Connection | Specify Yes or <i>No</i> for a single TCP connection. If Yes, it establishes only a single TCP connection with a given TACACS server. The factory default is Yes . |
| Timeout | The time for which the switch will wait for a response from the TACACS server before closing the connection is specified with this parameter. It is configurable in seconds, with the valid range is from 4 to 15 and the default as 5-seconds |
| Secret Key | This specifies the encryption key for the given TACACS server. It has a 32-character input limit, and the factory default is blank. |

| Tahlo 5-6 | TACACS+ | Sorvor | Configuration | Daup | Parameters |
|-----------|---------|---------|---------------|-------|-------------|
| | INCAUCT | 001 401 | ooninguration | i age | r arameters |

IP Authorized Manager



Figure 5-17. IP Authorized Manager Page

Clicking the IP AUTH MANAGER tab brings up the IP AUTHORIZED MANAGER page (Figure 5-17), which allows you to configure allowed management nodes for managing the switch. The parameters for this page are shown in Table 5-7.

| Parameter | Description |
|----------------------|---|
| IP Address | This specifies the IP address of the manager. The default address of 0.0.0.0 indicates "Any Manager". |
| Subnet Mask | This specifies the sub-network mask for the specified IP address. |
| Port List (Incoming) | This lists the port through which the manager can access this switch. Ports can be comma separated or provided as a range (for example Gi0/1 or Ex0/1). The factory default is blank. |
| VLANs Allowed | This parameter specifies the VLANs through which the manager can access this switch. VLANs can be comma seperated or provided as range (for example 1,2,3 or 1-3 or 1,2-3). |
| Services Allowed | These control buttons are used to indicate the service type, and can be one or more of the following: TELNET, SSH, HTTP, HTTPS, SNMP or ALL. |

Table 5-7. IP Authorized Manager Page Parameters

SSH Configuration

| | | | | | Refresh | Support | Help | About | Log Out |
|--|---------------------|-------------|--------|-----------------|-----------------------------|---------------------|------|-------|---------|
| 0 | | | | Speed 0 0 | | | | | |
| SUPERMI | ICR | | | Switch 0 Gi 1 2 | 3 4 5 6 7 8 9 10 11 12 13 1 | 4 15 16 EXI EX2 EX3 | | | |
| SWITCH SDM CE | M X2C | | | | | | | | |
| Switch Shirde | MPA2C | | | | | | _ | | - |
| SMIS | Management Security | Local Users | Radius | TACACS+ | TACACS+ Servers | P Auth Managers | SSH | SSL | |
| Home System Mgmt | | | | SSH | Configuration | | | | |
| File Management | | | SSI | H Version | v2 • | | | | |
| Management Security Syslog | | | Cip | her | 3DES-CBC | - | | | |
| ACL Web Settings | | | Aut | hentication | HMAC-SHA1 | - | | | |
| RMON | | | | | Apply | | | | |
| QoS NTP | | | | | | | | | |
| Layer2 Mgmt | | | | | | | | | |
| Layer3 Mgmt Multicast | | | | | | | | | |
| Statistics | | | | | | | | | |
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Figure 5-18. SSH Configuration

Clicking the SSH (Secure Shell) tab brings up the SSH CONFIGURATION page (Figure 5-18), which allows you to configure SSH version and keys. The parameters for this page are shown in Table 5-8.

| Parameter | Description |
|----------------|---|
| SSH Version | The default for this parameter is v2 . You can choose to configure this as compatible with $v1$ instead. |
| Cipher | The default for this parameter is 3DES-CBC . You can instead choose to configure it as <i>3DES-CBC</i> or <i>DES-CBC</i> or both |
| Authentication | This parameter's default is HMAC-SHA1 . You can instead choose to configure it as <i>HMAC-SHA1</i> or <i>HMAC-MD5</i> or both. |

Table 5-8. SSH Configuration Page Parameters

SSLConfiguration

| SUPERMI | CR | | | Speed 0 0 Link 0 0 Switch 9 Gi 1 2 | Refre | sh Support | Help | About | Log Out | |
|---|--|---|---|--|--------------------|------------------|------|-------|---------|--|
| SWITCH SBM-GEN | M-X2C | | | | | | | | | |
| SMIS | Management Security | Local Users | Radius | TACACS+ | TACACS+ Servers | IP Auth Managers | SSH | SSL | | |
| Home System Mgmt | SSL Configuration | | | | | | | | | |
| File Management Firmware Upgrade | SSL Confi | guration | | 1 | Server Certificate | rver Certificate | | | | |
| Hanagament Security Sycio Web Settings Source Cos National Layer2 Mgmt Layer2 Mgmt Layer2 Mgmt Multicast * Statistics | Cipher Sa ISSA RSA RSA V RSA V RSA Server Sta Server Sta Server is I Certificate Subject | in ULL MD5 UUL SHA ES-SHA DES-SHA DES-SHA NSABLED E Request CREATE | DH-RSA-DES DH-RSA-JDES RSA-EXP1024- | SHA -SHA DES-SHA | Server Certificat | e not configured | | | | |

Figure 5-19. SSL Configuration Page

Clicking the SSL (Secure Socket Layers) tab brings up the SSL CONFIGURATION page (Figure 5-19), which allows you to configure SSL parameters and generate SSL certificates for HTTPS. To configure SSL and enable HTTPS, follow the procedure below using this page.

Configuring SSL and Enabling HTTPS

- 1. Configure CIPHER SUITE and CRYPTO KEY RSA with your chosen parameters.
- 2. Create a certificate request by entering the subject name and clicking on the CREATE button.
- When the page reloads, the text box below the CREATE button will display a certificate request. Copy and paste these contents to a text file that says a.csr.
- 4. To generate an SSL certificate, the **openssl** application can be used. The sub-steps below can be executed in any Linux machine to generate SSL certificates. For other *openssl* implementations, refer to the *openssl* documentation to find the equivalent steps for them.
 - a. Execute the below command in the Linux shell.

```
openssl req -x509 -newkey rsa:1024 -keyout cakey.pem -out cacert.pem
```

b. Execute the below command also in a Linux shell.

openssl x509 -req -in a.csr -out cert.pem -CA cacert.pem -CAkey cakey.pem -CAcreateserial

The above steps will generate the certificate file **cert.pem**.

- 5. Open the generated certificate file *cert.pem* and delete the first line (---BEGIN CERTIFICATE ---) and last line (----END CERTIFICATE--).
- Join all the remaining lines as single lines to avoid line breaks being processed and copy/paste these joined texts in the ENTER CERTIFICATE text box back in the SSL CONFIGURATION page.
- 7. Click the CONFIGURE button.

This configures the certificate and saves it to flash memory.

Syslog

Figure 5-20. Syslog Configuration Page



Clicking the LOGGING tab brings up the SYSLOG CONFIGURATION page (Figure 5-20), which allows you to configure logging parameters. The parameters for this page are shown in Table 5-9.

| Table 5-9. Syslog | Configuration | Page Parameters |
|-------------------|---------------|-----------------|
|-------------------|---------------|-----------------|

| Parameter | Description |
|-------------------|---|
| Syslog | This parameter enables or disables the Syslog feature. |
| Server IP Address | This parameter specifies the Syslog server IP address. Make sure the Server IP is reachable. |
| Buffer Size | The buffer size is specfied in log entries. Max entries buffered is 200. |
| Timestamp | This parameter allows you to enable or disable the adding of a timestamp to the log messages. |
| Console Log | This parameter allows you to enable or disable logging to the console. |
| Facility | This parameter allows you to select supported facilities. The switch supports syslog standard supported facilities LOCAL0, LOCAL1, LOCAL2, LOCAL3, LOCAL4, LOCAL5, LOCAL6, LOCAL7 and USER. |
| Traps | This parameter helps you to select a particular trap type. The following types of traps are supported ALERTS, CRITICIAL, DEBUGGING, EMERGENCIES, ERROR, INFORMATIONAL, NOTIFICATION and WARNINGS. |

ACL

The ACL link allows you to configure the Access Control List for the switch. You can configure ACL on the following three pages:

- MAC Based ACL
- IP Standard ACL
- IP Extended ACL

MAC Based ACL

| | | | | | R | efresh | Support | Help | About | Log Out |
|-------------------------------------|---------|------------------|--------------------|--|--|--|-----------------|------------------|---------|---------|
| SUPERMI | CR | | | Spred 0 0 0 Link 0 0 Switch 0 Gi 1 2 3 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 4 5 6 7 8 9 10 | 0 0 0 0 0 0 0 0 0 0 0 0 0 11 12 13 14 15 1 | e EXI EX2 EX3 | | | |
| SWITCH SBM-GEN | A-X2C | | | | | | | | | |
| SWIG | | ID Grandwidd Col | In Conceptual Acti | | | | | | | |
| OWIG | MAC ACL | IP Standard ACL | IP Extended ACL | MACAC | Configur | ation | | | | |
| Home | | | | MAC AC | L Connigur | auon | | | | |
| System Mgmt System Settings | | | | ACL Number | • | | | | | |
| File Management Firmware Upgrade | | | | Source MAC | | | | | | |
| Syslog | | | | Destination MAC | - | | | | | |
| Web Settings | | | | Action | Permit • | | | | | |
| RMON QoS | | | | Priority | | | | | | |
| NTP Stack | | | | VLAN ID | · • | | | | | |
| Layer2 Mgmt Layer3 Mgmt | | | | Fort List (incoming) | | - | | | | |
| Multicast | | | | Protocol | | 33011 | | | | |
| - Statistics | | | | | dd Reset | | | | | |
| | | | | | | | _ | | | |
| | | Select Numb | er Source MAC Dest | ination MAC Action P | riority VLANID F | Port List En | capsulation Pro | tocol Protocol I | lumber | |
| | | | | | [(ii | (coming) | | | | |
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| Clickina | the MAC | ACL tab | brinas up | the MAC | ACL Co | NFIGL | JRATION | | (Figure | 5-21). |

Figure 5-21. MAC ACL Configuration Page

Clicking the MAC ACL tab brings up the MAC ACL CONFIGURATION page (Figure 5-21), which displays the various parameters to configure the MAC Access List. The parameters for this page are shown in Table 5-10.

| Parameter | Description |
|-------------------------------|---|
| ACL Number | This specifies the unique Id for the access list. Valid range is <i>1</i> to 65535. The factory default is blank. |
| Source and Destination MAC | This specifies both the Source MAC Address and Destination MAC Address, fo which the access list must be applied. Both the Source and Destination MAC Addresses must be configured for the status of the access list to be active. The factory default is blank. |

Table 5-10. MAC ACL Configuration Page Parameters

| Parameter | Description |
|----------------------|---|
| Action | This specifies the action to be taken for the access list. The factory default is Permit. Permit: Forwards packets which meet the ACL criteria. Deny: Drops packets which meet the ACL criteria. Redirect: Forces packets which meet the ACL criteria to specified port. |
| Redirect Port | This specifies the selected ports that packets meeting ACL criteria can be redirected to. Ports can be provided as a range (for example Gi0/1 or Ex0/1). The factory default is Gi0/1 . |
| Priority | The priority of the L3 filter is used to decide which filter rule is applicable when the packet matches with more than one set of filter rules. The higher value of "Filter Priority" implies a higher priority. The valid value is <i>1</i> to 255, and the factory default is blank. |
| VLAN ID | This specifies the VLAN ID for which the access list has to be applied. |
| Port List (Incoming) | This specifies the incoming physical ports, if this ACL has to be ports specific. (For example Gi0/1-10 or Gi0/1). The factory default is blank. |
| Encapsulation | This specifies the encapsulation type in the packet. It could be any value between 1 and 65535. The factory default is blank. |
| Protocol | This chooses the protocol type to be checked in the packet to apply this ACL. The factory default is blank. |

Table 5-10. MAC ACL Configuration Page Parameters (Continued)

IP Standard ACL

| | | | | | Refresh | Support | Help | About | Log Out |
|--|---------|-----------------|-------------------|---|--|---------------------------------------|-----------------------------|-------|---------|
| SUPERMI | CR | | | Speed 0 0 0 0 0 0 0 Link 0 0 0 0 0 0 0 Switch 0 Gi 1 2 3 4 5 6 7 | 0 | 6 EX1 EX2 EX3 | | | |
| SWITCH SBM-GEM | 4-X2C | | | | | | | | |
| SMIS | MAC ACL | IP Standard ACL | IP Extended ACL | | | | | | |
| Home * System Kignt System Status Primware Liograde Manageart Security Act Web Sections * Brock COP Stack * Status * Status | | | ACL Number Action | IP Standard ACL C ACL Number Action P Source IP Address Subnet Mask Destination IP Address Subnet Mask Port List (Incoming) Port List (Incoming) Port List (Ontgoing) Add Re Source IP Subnet Mask Destift | set | n aski Port List (thcoming)(t | Port List https://going) | | |

Figure 5-22. IP Standard ACL Configuration Page

Clicking the IP STANDARD ACL (Access Control List) tab brings up the IP STANDARD ACL CONFIGURATION page (Figure 5-22), which displays the various parameters to configure the Standard IP access lists. The parameters for this page are shown in Table 5-11.

| Parameter | Description |
|---|---|
| ACL Number | This specifies the unique ID for the access list. The valid range is between 1 and 65535 . The factory default is blank. |
| Action | This specifies the action to be taken for the access list. The factory default is Permit. Permit: Forwards packets which meet the ACL criteria. Deny: Drops packets which meet the ACL criteria. Redirect: Forces packets which meet the ACL criteria to specified port. |
| Source and Destination IP Address | This specifies the IP Address of the Source and Destination, for which the access list must be applied. The factory default is blank. |
| Subnet Mask | This specifies the Source and Destination Address Mask corresponding to the IP Address. |
| Ports List (Incoming) | This specifies the incoming physical ports if this ACL has to be port specific (for example Gi0/1-10 or Gi0/1). The factory default is blank. |
| Ports List (Outgoing) | This specifies the outgoing physical ports if this ACL has to be port specific (for example Gi0/1-10 or Gi0/1). The factory default is blank. |

Table 5-11. IP Standard ACL Configuration Page Parameters

IP Extended ACL

| SUPERMICR | ¢. | | | | SWIT | Refresh DH-1 LED STATUS + | Support | Help | Abstat | Log Out |
|--|---------------|----------------|--------------|--|--|---|----------------------------|-----------------|-------------------|-------------------------------|
| SWITCH SSE-G24-TG4 | | | | tenation 1 2 | | 00 10 13 13 14 10 14 17 18 10 30 1 | 11 10 14 14 14 14 14 14 14 | | | |
| SMIS I | AAC ACL I | Standard ACL | P Extended A | e. IP Ex | tended A | CL Configuration | ¢ | | | |
| The second secon | Filler Action | edirect Jource | Subnet Des | ACL Namber Artin Radnet Pet Senerg P Adhes Sinter Maks Dorination IP Adhes Sinter Maks Port Lai (Couraina) Port Lai (Couraina) Manage Code Manage Code | Permit -) Collina - Collina - Collina - Sector - Collina - Collino | Source Port (Max) Demander Port (Pase: | aco de gives. | s ACK (RST) jed | urce [Source]OmeE | uBion <mark>Orestinuti</mark> |

Figure 5-23. IP Extended ACL Page

Clicking the IP EXTENDED ACL tab brings up the IP EXTENDED ACL CONFIGURATION page (Figure 5-23), which displays the various parameters required to configure the Extended IP access lists. The parameters for this page are shown in Table 5-12.

| Parameter | Description |
|---|---|
| ACL Number | This specifies the unique ID for the access list. The valid range is between 1 to 65535 . The factory default is blank. |
| Subnet Mask | This specifies the Address Mask corresponding to the IP Address. |
| Action | This specifies the action to be taken for the access list. The factory default is Permit. Permit: Forwards packets which meet the ACL criteria. Deny: Drops packets which meet the ACL criteria. Redirect: Forces packets which meet the ACL criteria to specified port. |
| Source and Destination IP Address | This parameter specifies the IP Address for which the access list must be applied. |
| Ports List (Incoming) | This specifies the incoming physical ports if this ACL has to be port specific (for example Gi0/1-10 or Gi0/1). The factory default is blank. |
| Ports List (Outgoing) | This specifies the outgoing physical ports if this ACL has to be port specific (for example Gi0/1-10 or Gi0/1). The factory default is blank. |
| Protocol | This chooses the protocol type to be checked in the packet to apply this ACL. The factory default is icmp . |

| Table 5-12, IF | • Extended | ACI | Configuration | Page | Parameters |
|----------------|------------|-----|---------------|-------|-------------|
| 10010 0-12.11 | LAtenaca | AOL | ooninguration | i age | r arameters |

| Parameter | Description |
|---------------------------------|---|
| Message Code | This specifies the Message Code to be checked for ICMP Packets. The valid value is 255, which is also the factory default. |
| Message Type | This specifies the Message Type to be checked for ICMP Packets. The valid value is 255, which is also the factory default. |
| Priority | The priority of the L3 filter is used to decide which filter rule is applicable when the packet matches with more than one filter's rules. The higher value of "Filter Priority" implies a higher priority. The valid value is <i>1</i> to <i>255</i> , while the factory default is blank. |
| DSCP | This specifies the Differentiated Services Code Point (DSCP) value assigned to the classified traffic. The valid value is <i>0</i> to <i>63</i> , and the factory default is blank. |
| TOS | Type of service (TOS) can be <i>Max-reliability, Max Throughput, Min-delay, Normal</i> or a range of values from 0 to 7. The factory default is blank. |
| ACK Bit | This specifies the TCP ACK bit to be checked against the packet. It can be Establish, Non-establish or Any. |
| RST Bit | This specifies the TCP RST bit to be checked against the packet. It can be <i>Set</i> , <i>Notset</i> or <i>Any</i> . |
| Source Port (Min)/ (Max) | This specifies the min/max TCP/UDP source port from which the access list has to be applied. |
| Destination Port (Min)/(Max) | This parameter specifies the min/max TCP/UDP destination port from which the access list has to be applied. |

Table 5-12. IP Extended ACL Configuration Page Parameters (Continued)

WEB Settings

| | Refresh Support Help About Log Out | |
|--|--|--|
| SUPERMI | | |
| SWITCH SBM-GEN | EM-X2C | |
| SMIS | | |
| Home | Web GUI Settings | |
| System Mgmt System Settings File Management Firmware Upgrade Management Security Systop | Web Settings Setsion Privilege Web Session Timeout seconds Privilege LEVEL_15 - | |
| ACL Web Settings | Statistics Refresh Timer 0 Password | |
| RMON QoS NTP | seconds Enable | |
| Layer2 Mgmt Layer3 Mgmt Multicast | | |
| Statistics | | |
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Figure 5-24. Web GUI Settings Page

Clicking the WEB SETTINGS link brings up the WEB GUI SETTINGS page (Figure 5-24), which displays all basic Web GUI settings. The parameters for this page are shown in Table 5-13.

| Parameter | Description |
|-----------------------------|--|
| Session timeout | This timeout value is used to automatically logout inactive user sessions. The default value is 5-minutes (600-seconds). |
| Statistics Refresh Timer | The statistics pages (grouped under "Statistics" node in left side tree) can be set to auto refresh based on this Statistics Refresh Timer. The default value zero means no auto refresh by default. |
| Session Privilege | This displays the current privilege level of the logged in user. You can choose to enter another privilege level using this configuration if you have the Enable password for the required privilege levels. The Enable Passwords for different levels are configurable in the Enable Password parameter on this page. |
| Enable Password | This parameter allows you to specify the Enable Password for the selected session priviledge. |

Table 5-13. Web GUI Settings Page Parameters

SNMP



Figure 5-25. SNMP Agent Control Settings Page

Clicking the SNMP link brings up the SNMP AGENT CONTROL SETTINGS page (Figure 5-25). SMIS supports the **SNMP Agent** or **SNMP AgentX Sub-agent**. The SNMP Agent or AgentX Sub-agent can be enabled or both can be disabled.

The SNMP Agent provides the following sub-page configurations shown in the table below.

| Configuration Page | Description |
|---------------------------------|--|
| SNMP Community Settings | This page allows you to configure the SNMP community including the COMMUNITY INDEX, NAME, SECURITY NAME, CONTEXT NAME, TRANSPORT TAG and STORAGE TYPE. |
| SNMP Group Settings | This page allows you to configure SNMP groups including GROUP NAME, SECURITY NAME, SECURITY MODEL and STORAGE TYPE. |
| SNMP Group Access Settings | This page allows you to configure SNMP group's access parameters including GROUP NAME, SECURITY MODEL, SECURITY LEVEL, STORAGE TYPE, AND READ, WRITEAND NOTIFY VIEW. |
| SNMP View Tree Settings | This page allows you to configure an SNMP view tree including VIEW NAME, SUB TREE, MASK, TYPE OF THE VIEW and STORAGE TYPE. |
| SNMP Target Address Settings | This page allows you to configure the SNMP target including TARGET NAME, TARGET IP, TRANSPORT TAG, PARAM and STORAGE TYPE. |

Table 5-14. SNMP Agent Configuration Pages

| Configuration Page | Description |
|-----------------------------------|--|
| SNMP Target Parameter Settings | This setting allows you to configure SNMP target parameters including PARAMETER NAME, MP MODEL, SECURITY MODEL, NAME, LEVEL and STORAGE TYPE. |
| SNMP User Settings | This setting allows you to configure SNMP security including user name, AUTHENTICATION PROTOCOL, AUTHENTICAITON KEY, PRIVACY PROTOCOL, PRIVACY KEY and STORAGE TYPE. |
| SNMP Trap Settings | This setting allows you to configure SNMP trap notifications including NOTIFY NAME, NOTIFY TAG, NOTIFY TYPE and STORAGE TYPE. |

Table 5-14. SNMP Agent Configuration Pages (Continued)

SNMP Community Settings

| SUPERMI | CR | | | Speed © Link © Switch 0 Gi 1 | 234567 | 8 9 10 11 12 | 10 14 15 16 EXI EX2 EX3 | neip | ADOUL | Log Out |
|-------------------------------------|-----------|-------|----------------------|------------------------------------|---------------|--------------|-------------------------|--------------|----------------|---------|
| SWITCH SBM-GE | M-X2C | | | | | | | | | |
| SMIS | Community | Group | Group Access | View | Target | Address | TargetParameter | User | Trap Manager | |
| Home | | | | SNMP | Commun | ity Setti | ngs | | ā ¹ | |
| System Mgmt System Settings | | | | Comm | unity Index | | | | | |
| File Management Firmware Upgrade | | | | Comm | unity Name | | | | | |
| Syslog ACL | | | | Securit | y Name | | • | | | |
| Web Settings | | | | Contes | tt Name | | | | | |
| AGENT | | | | Transp | ort Tag | | | | | |
| QoS | | | | Storag | e Type | Volatile | • | | | |
| Stack Layer2 Mgmt | | | | | | eser | | | | |
| Layer3 Mgmt Multicast | | Se | lect Community Index | Community Nar | ne Security N | lame Conte> | ct Name Transport Ta | Storage Type | | |
| Statistics | | | | | Apply [| Delete | | | | |
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Figure 5-26. SNMP Community Settings Page

Clicking the COMMUNITY tab brings up the SNMP COMMUNITY SETTINGS page (Figure 5-26), which allows you to add SNMP managers or remove existing managers.. The parameters for this page are shown in Table 5-15.

| Parameter | Description |
|-----------------|---|
| Community index | This parameter sets the COMMUNITY INDEX identifer. |
| Community name | This parameter sets the COMMUNITY NAME string. |
| Security Name | This parameter sets the User Name String. |
| Context Name | This parameter sets the CONTEXT NAME that the management information is accessed from when using the community string, which is specified by the corresponding instance of the SNMP community name. |
| Transport Tag | This parameter sets the TRANSPORT TAG Identifer. |
| Storage Type | This parameter sets the Volatile Storage or Non-volatile Storage setting. |

Table 5-15. SNMP Community Settings Page Parameters

SNMP Group Settings



Figure 5-27. SNMP Group Settings Page

Clicking the GROUP tab brings up the SNMP GROUP SETTINGS page (Figure 5-27). This page helps you map a combination of the SECURITY MODEL and the SECURITY NAME into a GROUP NAME, which is used to define an access control policy. In addition, this page displays the STORAGE TYPE of the Group Table. The parameters for this page are shown in Table 5-16.

| Parameter | Description |
|----------------|---|
| Security Model | This parameter allows you to select from <i>version 1</i> , <i>version 2</i> or <i>version 3</i> for the SECURITY MODEL used. |
| Security Name | Use this parameter to specify the SECURITY NAME string. |
| Group Name | Use this parameter to specify the GROUP NAME string. |
| Storage Type | Use this parameter to specify whether the STORAGE TYPE is <i>volatile</i> or <i>non-volatile</i> . |

| Table 5-16 | CNMD | Group | Sottings | Dago | Daramotore |
|-------------|---------|-------|----------|------|------------|
| Table J-10. | SININIE | Group | Settings | гауе | Farameters |

SNMP Group Access Settings

| | | | | | | | | | Refresh | Support | Help | About | Log Out |
|---|-----------|--------|--|--|------------------------|--|---|-------------------------------|---|---------------------|---|--|---------|
| SUPERMI | CR | | | | | Speed 0 Link 0 Switch 0 Gi 1 | 00000 | 0 0 0 0 0 0 0 0 6 7 8 9 | 0 0 0 0 0 0 0 0 0 0 0 0 10 11 12 13 1 | 4 15 16 EX1 EX2 EX3 | | | |
| SWITCH SBM-GEM | I-X2C | | | | | | | | | | | | |
| SMIS | Community | G | Group | Group Access | | View | Tar | get Addre | iss T | argetParameter | User | Trap Mana | ager |
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Figure 5-28. SNMP Group Access Settings Page

Clicking the GROUP ACCESS tab brings up the SNMP GROUP ACCESS SETTINGS page (Figure 5-28), which displays the access rights of groups. Each entry is indexed by a GROUP NAME, a Context Prefix, a SECURITY MODEL and a SECURITY LEVEL. A proper view name (READ, WRITE and MODIFY) must be used for access control checking. It also displays the STORAGE TYPE of the Group Access table. An SNMP Group has to be created prior to the Group Access configuration. The parameters for this page are shown in Table 5-17.

| Parameter | Description |
|----------------|--|
| Group Name | This parameter allows you to specify the GROUP NAME string. |
| Security Model | This parameter allows you to specify whether SNMP version v1, v2 or v3 is used. Version 3 is the most secure model as it allows packet encryption with the private key word. |
| Security Level | With this parameter the no-authentication option disables authentication. The AUTHENTICATION option enables <i>Message digest (MD5)</i> or <i>Secure Hash Algorithm (SHA)</i> packet authentication. The PRIVATE option selects both AUTHENTICATION and PRIVACY. |
| Read View | This parameter allows you to specify the READ VIEW identifier. |
| Write View | This parameter allows you to specify the WRITE VIEW identifier. |

| Table 5-17. | SNMP Group | Access S | Settings | Page | Parameters |
|-------------|------------|----------|----------|------|------------|

| Parameter | Description |
|--------------|--|
| Notify View | This parameter allows you to specify the NOTIFY VIEW identifier. |
| Storage Type | Use this parameter to specify whether the STORAGE TYPE is <i>volatile</i> or <i>non-volatile</i> . |

Table 5-17. SNMP Group Access Settings Page Parameters (Continued)

SNMP View Tree Settings

| SUPERMI | CR | | | Speed 0 0 Link 0 0 Switch 0 Gi 1 2 | R 3 4 5 6 7 8 9 10 | efresh 11 12 13 14 15 1 | Support | Help | About | Log Out |
|--|-----------|-------|--------------------------------------|---|-----------------------|----------------------------|---------------------------|------|-------------|---------|
| SWITCH SBM-GEN | 1-X2C | | | | | | | | | |
| SMIS | Community | Group | Group Access | View | Target Address | Targe | Parameter | User | Trap Manage | ar 👘 |
| Home * System Kignt Bytem Settings Primmare Lograde Management Security Acto Market Market Market Market Security Actor Act | | | Select View N o iso o restucto | SNMP View N SubTre Mask View T Storage I I I d 1 | ViewTree Set | View Type Included | Storage Ty NonVolatile | | | |
| | | | | | | | | | | |

Figure 5-29. SNMP View Tree Settings Page

Clicking the VIEW tab brings up the SNMP VIEW TREE SETTINGS page (Figure 5-29), which allows configuration of view trees. A SUBTREE when combined with the corresponding instance of a MASK defines a family of view subtrees. The VIEW NAME is the name for a family of view subtrees. This page also displays the STORAGE TYPE of the VIEWTREE table. SNMP Group and SNMP Access settings have to be created prior to the Group View configuration. The parameters for this page are shown in Table 5-18.

| Parameter | Description |
|-----------|--|
| View Name | This parameter specifies a VIEW NAME string. |
| SubTree | This parameter specifies a tree OID. |
| Mask | This parameter specifies an OID mask. |

Table 5-18. SNMP View Tree Settings Page Parameters

| Parameter | Description |
|--------------|--|
| View Type | This parameter specifies whether a VIEW TYPE is Included or Excluded. |
| Storage Type | Use this parameter to specify whether the STORAGE TYPE is <i>volatile</i> or <i>non-volatile</i> . |

Table 5-18. SNMP View Tree Settings Page Parameters (Continued)

SNMP Target Address Settings



Figure 5-30. SNMP Target Address Settings Page

Clicking the TARGET ADDRESS tab brings up the SNMP TARGET ADDRESS SETTINGS page (Figure 5-30), which configures SNMP target address parameters. The parameters for this page are shown in Table 5-19.

| Parameter | Description |
|-------------------|---|
| Target Name | This parameter specifies a TARGET NAME as a unique identifier. |
| Target IP Address | The TARGET IP ADDRESS specifies a target address to be used in the generation of SNMP operations. |
| Target Timeout | TARGET TIMEOUT specifies the maximum round trip for communicating with the TARGET IP ADDRESS. |
| Target Retries | TARGET RETRIES specifies the number of attempts to be made when no response is received |
| Transport Tag | The TRANSPORT TAG value is used to select a target address for a particular operation. |

Table 5-19. SNMP Target Address Settings Page Parameters
| Parameter | Description |
|--------------|---|
| Param | PARAM contains SNMP parameters to be used when generating messages to be sent to a transport address. |
| Storage Type | Use this parameter to specify whether the STORAGE TYPE is volatile or non-volatile. |

 Table 5-19. SNMP Target Address Settings Page Parameters (Continued)

SNMP Target Parameter Settings

| | | | | | | Refresh | Support | Help | About | Log Out |
|--|-----------|-------|-------------------|--|---|---|--------------------------|----------|-------------|---------|
| SUPERMI | CR | | | Speed 0 0 Link 0 0 Switch 0 Gi 1 2 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 3 4 5 6 7 8 9 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 10 11 12 13 14 15 | 16 EX1 EX2 EX3 | | | |
| SWITCH SBM-GEN | 4-X2C | | | | | | | | | |
| SMIS | Community | Group | Group Access | View | Target Addres | s Targ | etParameter | User | Trap Manage | |
| Hone * System Satisfys Fiel Management Prie Management Prie Management Autority Subject Sweet Autority Bacon North Satisfield * Statistics | | | SelectParameter N | SNMP Targ Parameter in MP Model Security M Security Les Storage Ty anno MP Model (Security M | et Paramet | ason | gs scurity Level Stor | age type | | |

Figure 5-31. SNMP Target Parameter Settings Page

Clicking the TARGET PARAMETER tab brings up the SNMP TARGET PARAMETER SETTINGS page (Figure 5-31), which configures SNMP Target Address parameters. The parameters for this page are shown in Table 5-20.

| Parameter | Description |
|----------------|--|
| Parameter Name | The target parameter is an unique name that specifies SNMP target information to be used in the generation of SNMP messages. |
| MP Model | The Message Processing (MP) Model is used when generating SNMP messages using this entry. |
| Security Model | The SECURITY MODEL is used when generating SNMP messages using this entry. |
| Security Name | The SECURITY NAME identifies the current PARAMETER NAME, on whose behalf SNMP messages will be generated. |

| Table 5-20. SNMP | Target | Parameter | Settings | Page | Parameters |
|------------------|--------|------------|----------|-------|-------------|
| | runger | i urumeter | ocumgo | i uge | i urumeters |

| Parameter | Description |
|----------------|--|
| Security Level | SECURITY LEVEL specifies the level of security used when generating SNMP messages. |
| Storage Type | STORAGE TYPE can be configured as Volatile or Non-Volatile. |

| Table 5-20. SNMP | Target Parameter | Settings Page | Parameters | (Continued) |
|------------------|-------------------------|---------------|------------|-------------|
| | | | | · / |

SNMP User Settings

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Figure 5-32. SNMP Security Settings Page

Clicking the USER tab brings up the SNMP SECURITY SETTINGS page (Figure 5-32), which configures users configured in the SNMP for the User-based Security Model. The parameters for this page are shown in Table 5-21.

| Parameter | Description | | | | | |
|----------------------------|--|--|--|--|--|--|
| User Name | USER NAME is the (User-based Security) model dependent security ID. | | | | | |
| Authentication Protocol | The AUTHENTICATION PROTOCOL is used for authentication. | | | | | |
| Authentication Key | The AUTHENTICATION KEY is the secret authentication key used for messages sent on behalf of this user to/from the SNMP. | | | | | |
| Privacy Protocol | PRIVACY PROTOCOL is an indication of whether or not messages sent on behalf of this user to/from the SNMP are protected from disclosure, and if so, the type of privacy protocol that is used. | | | | | |

Table 5-21. SNMP Security Settings Page Parameters

| Parameter | Description |
|--------------|---|
| Privacy Key | PRIVACY KEY is an indication of whether or not messages sent on behalf of this user to/from the SNMP are protected from disclosure. |
| Storage Type | STORAGE TYPE can be configured as Volatile or Non-Volatile. |

Table 5-21. SNMP Security Settings Page Parameters (Continued)

SNMP Trap Settings

Log Out **SUPERMICR** SWITCH SBM-GEM-X2C SMIS Group Access View Target Address TargetParameter User SNMP Trap Settings Home Notify Name Notify Tag Notify Type orage Type Volatile Add Reset Notify Name Notify Tag Notify Type Storage Type Apply Delete

Figure 5-33. SNMP Trap Settings Page

Clicking the TRAP MANAGER tab brings up the SNMP TRAP SETTINGS page (Figure 5-33), which configures the set of management targets that must receive notifications. The parameters for this page are shown in Table 5-22.

| Parameter | Description |
|--------------|---|
| Notify Name | NOTIFY NAME is a unique identifier associated with the entry. |
| Notify Tag | NOTIFY TAG contains a single tag value, which is used to select entries in the Target Address table. Any entry in the Target Address table that contains a tag value equal to the value of an instance of this Trap Manager, is selected. |
| Notify Type | The type of notification of the SNMP Trap Settings can be configured as <i>Trap</i> or <i>Inform</i> . |
| Storage Type | STORAGE TYPE can be configured as Volatile or Non-Volatile. |

Table 5-22. SNMP Trap Settings Page Parameters

SNMP AgentX

| SUPERMICR SWITCH SEM-GEM-X2C SMIS | Spoul Link Tombh Gi 2 3 4 8 4 7 8 9 10 11 1 | Refresh Support | Help | About | Log Out |
|---|--|-----------------|------|-------|---------|
| Home * System space for Max Sectors for Max Sectors * System Sectors * System Max Sectors * | SNMP Agentx Subag Transport Donam TCP > Dr AddrentyType - B-4 w Matter IP Addrens 0000 Matter IP Addrens 0000 Repty Agenty | ent Settings | | | |

Figure 5-34. SNMP AgentX Subagent Settings Page

Clicking the AGENTX link brings up the SNMP AGENTX SUBAGENT SETTINGS page (Figure 5-34), which allows you to configure SNMP Agentx sub-agent parameters. The parameters for this page are shown in Table 5-23.

| Parameter | Description |
|-------------------|--|
| Transport Domain | This parameter allows you to specify the TCP. |
| IP Address Type | This parameter specifies IPv4 or IPv6 for the IP ADDRESS TYPE. |
| Master IP Address | This parameter specifies the Master Agent IP address. |
| Master Port No | This parameter specifies the Master Port number. |

Table 5-23. SNMP AgentX Subagent Settings Page Parameters

RMON

The following pages can be used to set RMON (Remote Monitoring) features and settings:

- RMON Basic Settings
- Event Configuration
- RMON Alarm Configuration
- Ethernet Statistics Configuration
- History Control Configuration

RMON Basic Settings

Figure 5-35. RMON Basic Settings Page

| SUPERMI SWITCH SBM-GEN | CR ^{4-x2C} | | | Speed 0000 Link 0000 Switch 0 Gi 1 2 3 4 | Refresh | Support | Help | About | Log Out |
|--|------------------------|--------|------------|--|---------------|---------|------|-------|---------|
| SMIS | Basic Settings | Events | Alarms | Ethernet Statistics | History | | | | |
| Home * System Agant System Agant System Agant Formware Logarde AGA AGA AGA AGANT AGA | | | | RMON E | anic Settings | | | | |
| Clicking | the Basic | | s tah hrii | nas un the | | IC SETT | | ane | |

Clicking the BASIC SETTINGS tab brings up the RMON BASIC SETTINGS page (Figure 5-35), which enables/disables the RMON feature using the RMON Status parameter.

Event Configuration

Figure 5-36. Event Configuration Settings Page



Clicking the EVENTS tab brings up the EVENT CONFIGURATIONS page (Figure 5-36), which configures RMON events. The parameters for this page are shown in Table 5-24.

| Parameter | Description |
|-------------|---|
| Index | This parameter specifies the index to the Events table. |
| Description | This parameter specifies a brief description of the event. |
| Туре | This parameter specifies the event configured. This can be a <i>Log</i> , an <i>SNMP Trap</i> , <i>Both</i> , or <i>None</i> . For the event type to display, <i>TRAP and Log</i> and <i>TRAP Community</i> must be configured. |
| Community | This parameter specifies the SNMP community string used for this trap. This is relevant when an SNMP trap is requested for an event. For event type to display, <i>TRAP and Log</i> and <i>TRAP Community</i> must be configured. Also make sure the configured community is active before adding an event on that community. |
| Owner | This parameter indicates the owner of this event. |

Table 5-24. Event Configuration Page Parameters

RMON Alarm Configuration

| | | | | | Refresh | Support | Help | About | Log Out |
|-------------------------------------|----------------|--|---------------------|--|-----------------------------|-----------------|-----------------|-------------|---------|
| SUPERMI | CR | | | Speed 0 0 0 Link 0 0 0 Switch 0 Gi 1 2 3 4 | 5 6 7 8 9 10 11 12 13 14 15 | 6 EX1 EX2 EX3 | | | |
| SWITCH SBM-GEM | 4-X2C | | | | | | | | |
| SMIS | Basic Settings | Events | Alarms | Ethernet Statistics | History | | | | |
| Home System Mgmt | | | | RMON Alar | m Configuration | | | | |
| File Management Firmware Upgrade | | | | Index | | | | | |
| Management Security Syslog | | | | Interval | | | | | |
| ACL Web Settings | | | | Variable | | | | | |
| AGENT | | | | Sample type Dising Threshold | Absolute value - | | | | |
| RMON QoS | | | | Falling Threshold | | | | | |
| NTP Stack | | | | Rising Event Index | | | | | |
| Layer2 Mgmt Layer3 Mgmt | | | | Falling Event Index | | | | | |
| Multicast Statistics | | | | Owner | | | | | |
| | | | | Ad | d Reset | | | | |
| | | Select Index Inter | val Variable Sample | Type Rising Threshold | Falling Threshold Rising F | vent Index Fall | ing Event Index | Owner Value | |
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Figure 5-37. RMON Alarm Configuration Page

Clicking the ALARM tab brings up the RMON ALARM CONFIGURATION page (Figure 5-37), which configures RMON Alarm paramters. The parameters for this page are shown in Table 5-25.

| Parameter | Description |
|---------------------|---|
| Index | This parameter specifies the table index. |
| Interval | This parameter specifies the time interval for which the alarm monitors the variable. |
| Variable | This parameter specifies the MIB object on which the alarm is set. |
| Sample Type | You can set this parameter to an <i>Absolute Value</i> or as just an <i>Incremental Value</i> of the timer. |
| Rising Threshold | If the startup alarm is set as <i>Rising Alarm</i> and this threshold is reached, an alarm is raised. |
| Falling Threshold | If the startup alarm is set as <i>Falling Alarm</i> and this threshold is reached, an alarm is raised. |
| Rising Event Index | Indicates the index of the event to be raised when the RISING THRESHOLD is reached. |
| Falling Event Index | Indicates the index of the event to be raised when the FALLING THRESHOLD is reached. |
| Owner | Specifies the owner of the alarm. |

Table 5-25. RMON Alarm Configuration Page Parameters

Ethernet Statistics Configuration

Figure 5-38. Ethernet Statistics Configuration Page



Clicking the ETHERNET STATISTICS tab brings up the ETHERNET STATISTICS CONFIGURATION page (Figure 5-38), which configures RMON Ethernet statistics parameters. The parameters for this page are shown in Table 5-26.

| Parameter | Description |
|-------------------|---|
| Index | This parameter specifies the index to the table. |
| Port | This parameter specifies the Ethernet Port. |
| Octets | This parameter specifies the total number of octets received from the network. |
| Packets | This parameter specifies the total number of packets received from the network. |
| Broadcast Packets | This parameter specifies the total number of broadcast packets received from the network. |
| Multicast Packets | This parameter specifies the total number of multicast packets received from the network. |
| Owner | This parameter specifies the owner string. |

Table 5-26. Ethernet Statistics Configuration Page Parameters

History Control Configuration

Figure 5-39. History Control Configuration Page



Clicking the HISTORY tab brings up the HISTORY CONTROL CONFIGURATION page (Figure 5-39), which configures RMON history configuration parameters. The parameters for this page are shown in Table 5-27.

| Parameter | Description |
|-------------------|---|
| Index | This parameter specifies the index to the table. |
| Data Source | This parameter specifies the SNMP object ID of the variable for which the history is being collected. |
| Buckets Requested | Indicates the number of buckets to be configured for collecting the RMON statistics. |
| Interval | This parameter specifies the time interval between two successive polls to collect the statistics. |
| Owner | Denotes the owner of the RMON group of statistics. |
| Buckets Granted | Denotes the number of buckets granted for collecting the RMON statistics. |
| Status | This parameter specifies the status of the History Control entry as either Valid or Invalid. |

Table 5-27. History Control Configuration Page Parameters

QoS

The QoS link of the System page opens the QoS Basic Settings page. This page allows you to configure QoS through following pages:

- QOS Basic Settings
- QOS Classmap Settings
- QOS Policymap Settings
- COS Queue Mapping

QOS Basic Settings

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| Home System Mont Provide Mon | A STATE OF STATE | | | | | QoS Basic Setti | inas | | | | |
| * System Control See * Status Double * Data Double * Status Double * Status Double * Status Double * Status Double * April * Control * See * Status Double * April * Control * C | Home | | | | | | | | | | |
| <pre>With Composition of Fire Management of Fire Ma</pre> | System Mgmt | | | | | System Control Start | | | | | |
| Image: Construction Satures Harageonetic Scorety Image: Construction Kata Active Kata Activ | Management IP | | | | | System Counter Count | | | | | |
| Recomposed Society Apply VAL Web Value Recomposed Normal Recomposed Value Recomposed | File Management Firmware Upgrade | | | | | Status Disable | | | | | |
| Ka make and the second | Management Security | | | | | Apply | | | | | |
| termination terminati | ACL | | | | | | | | | | |
| Conce The Research Conce Co | SNMP | | | | | | | | | | |
| The Response Response Lawer Monte Lawer Monte Lawer Monte Response Res | RMON | | | | | | | | | | |
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| Statistics | Layer3 Mgmt | | | | | | | | | | |
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Figure 5-40. QOS Basic Settings Page

Clicking the BASIC SETTINGS tab brings up the QOS BASIC SETTINGS page (Figure 5-40), which allows you to configure QOS basic settings parameters. The parameters for this page are shown in Table 5-28.

| Parameter | Description |
|----------------|---|
| System Control | With this parameter SYSTEM CONTROL can Start or Shutdown QoS. |
| Status | This parameter allows enabling/disabling of the QoS status. |

Table 5-28. QOS Basic Settings Page Parameters

QOS Classmap Settings

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|--|---|---------------------------|-----------|--------------------------|---|---------|----------------------------------|-----------------|-------|---------|
| SUPERMIC SWITCH SSE-624-T | R e ₆₄ | | | Speed O O Link O O I 2 3 | 456789101 | Refresh | Support 2021 22 23 24 EXT EX2 | Help EX3 EX4 | About | Log Out |
| SMIS | Basic Settings | Classmap | Policymap | | | | | | | |
| Home *System Ngmt System Status System Status Promote Upporter System System System The Reagenese System Sys | | | | 1 | QOS Class Classmap ID Filter ID Filter Type ⅆ School Chromosof School Chromosof | Reset | | | | |

Figure 5-41. QOS Classmap Settings Page

Clicking the CLASSMAP tab brings up the QOS CLASSMAP SETTINGS page (Figure 5-41), which is used to classify the stream of traffic. The parameters for this page are shown in Table 5-29.

| Parameter | Description |
|-------------|--|
| Classmap ID | This parameter specifies a unique ID for the Classmap. It must be in the range from 1 to 65535. |
| Filter ID | This parameter specifies the unique filter ID associated with this Classmap. |
| Filter Type | This parameter specifies the filter type associated with the Classmap. It can be set as either <i>MAC filter (1)</i> or <i>IP filter (2)</i> . |

Table 5-29. QOS Classmap Settings Page Parameters

QOS Policymap Settings

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| SWICH SSE-024-DOI SUIS Reak setting Cansong Synchronition The Response Sector | SUPERMIC | R | | | Speed Link Switch 0 Gi 1 | 234567891 | 011 12 13 14 1 | 5 16 17 18 19 20 2 | 1 22 23 24 EX1 EX2 EX | 3 EX4 | | |
| Static Static Lettings Classing Volgent | SWITCH SSE-G24-TC | 14 | | | | | | | | | | |
| Home Qos Policymap Settings System Rando Policy Map ID Statem Rando Timffic Raid Provide Action Value Im-Provide Action Value Web Settings Im-Provide Action Value Some Management Out-Profile Action Value CAX Cack strags Out-Profile Action Value Layer I Action Value Value X port Action Value Statistics Seet(Podey Map D)Const Map D)Train Ratific Profile Action Value Statistics Seet(Podey Map D)Const Map D)Train Ratific Profile Action Value | SMIS | Basic Settings | Classmap | Policymap | | | | | | | | |
| System Strate System Strate Research Bar Research Bar Research Bar Research Bar System Strate System Strate System Strate System Strate System Strate System Strate System Strate System Strate System Strate System Strate StrateStrate StrateStrate StrateStrate StrateStrate StrateStr | Home | 1 | | | 101 | QoS Poli | cymap S | ettings | | | | |
| Management Bar Pressure (sponda Pressure (sponda ACL ACL ACL ACL ACL ACL ACL ACL | System Mgmt System Settings | | | | P | olicy Map ID | _ | | 1 | | | |
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Figure 5-42. QOS Policymap Settings Page

Clicking the POLICYMAP tab brings up the QOS POLICYMAP SETTINGS page (Figure 5-42), which is used to specify action for a specified classmap. The parameters for this page are shown in Table 5-30.

| Parameter | Description |
|-----------------------------|--|
| Policy Map ID | This parameter specifies the unique ID for Policymap. The value ranges between 1 and 65535. |
| Class Map ID | This parameter specifies the CLASS MAP ID to associate with Policymap. |
| Traffic Rate | This parameter specifies the TRAFFIC RATE of data that has to be applied. |
| In-Profile Action | This parameter specifies the action to be applied on matched data, and can be specified as either <i>Policy DSCP</i> or <i>Policy Precedence</i> . |
| Out-Profile Action | This parameter specifies the action to be applied on out-of-profile data, and can be specified as either <i>Policy DSCP</i> or <i>Drop</i> . |
| In-Profile Action Value | The IN-PROFILE ACTION VALUE can be specified from 0 to 7 for DSCP, or from 0 to 63 for IP Precedence. |
| Out-Profile Action Value | The OUT-PROFILE ACTION VALUE can be specified as $Drop$ or from 0 to 63 for DSCP. |

Table 5-30. QOS Policymap Settings Page Parameters

COS Queue Mapping

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| | | | Speed | | | Kenesi | Jupport | nop | About | Loy out |
| SUPERMIC | R | | Link Switch 0 Gi 1 | 23456 | 8 9 1011 12 13 14 | 15 16 17 18 19 20 21 22 23 | 4 EX1 EX2 EX2 | EX4 | | |
| SWITCH SSE-G24-TO | 34 | | | | | | | | | |
| SMIS | | | | | | | | | | |
| Home | | | Cla | iss Of Ser | vice (COS) C | ueue Mapping | | | | |
| System Mgmt System Settings | | Port Gi0/ | 1 • | Sched | uling Algorithm | Strict Pric | ority - | | 1 | |
| Management IP File Management | | | | Defau | lt Priority | 0 - | | | | |
| Management Security Syslog | | COS | Queue | Que | ue Weight | Min Bandwidth | Ma | x Bandwidth | ī | |
| ACL Web Settings | | 0 | 0 • | 0 | 1 | Kbps | | Kbps | | |
| RMON | | 1 | 0 - | 1 | 1 | Kbps | | Kbps | | |
| COS Time Management | | 2 | 1 - | 2 | 1 | Kbps | | Kbps | | |
| Stack CX4 Cable Length | | 3 | 1 - | 3 | 1 | Kbps | | Kbps | | |
| Layer2 Mgmt Layer3 Mgmt | | 4 | 2 - | 4 | 1 | Kbps | | Kbps | | |
| Multicast Statistics | | 5 | 5 - | 5 | 1 | Kbps | | Kbps | | |
| | | 6 | 6 - | 6 | 1 | Kbps | | Kbps | | |
| | | 7 | 0 • | 7 | 1 | Kbps | | Kbps | | |
| | | Reset To Del | ault Values | Apply | On Port Lists | | | | | |
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| | | | | | - 9999 | | | | | |
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Figure 5-43. COS Queue Mapping Page

Clicking Cos (Class of Service) tab brings up the COS QUEUE MAPPING page (Figure 5-43), which configures the Class Of Server (COS) Queue Mapping. The parameters for this page are shown in Table 5-31.

| Parameter | Description |
|----------------------------|--|
| Port | This list of ports allows you to select from the port index for your selected algorithm. |
| Scheduling Algorithm | The SCHEDULING ALGORITHM can be selected as one of the following: Strict Priority Round Robin Weighted Round Robin Deficit Round Robin |
| COS and Queue | This parameter allows you to select between 0 to 7 for you COS Queue value. |
| COS Queue Weight | This parameter allows you to select between 0 to 15 for your COS Queue WEIGHT value. |
| COS Queue Min Bandwidth | This parameter configures minimum bandwidth between 1 to 262143. |
| COSQ Max Bandwidth | This parameter configures maximum bandwidth between 1 to 262143. |
| COS Queue Flag | Use this parameter to set a flag for this queue. |

Table 5-31. COSQ Scheduling Algorithm Settings Page Parameters

Time Management

The Time Management link of the System page opens the Time Management page. This page allows you to configure QoS through following pages:

- NTP Settings
- Clock Settings

NTP Settings

| SUPERMICI SWITCH SSE-G24-TG | 1 | year tea teat | | Refresh -1 LED STATU | Support 5 • | | About | Log Out |
|--|--------------|--|--|---------------------------------------|---|---|-------|---------|
| SMIS | NTP Settings | Clock Settings | | | | | | |
| Home | | | NTP Se | ettings | | | | |
| * System Kignt System Settings Pile Nanagement Pinnare Upgnde Nanagement Security ACL Web Settings State Open Open Setting State State State State State State Layer? Mgmt Layer? Mgmt States Statistics | | NTP Client Ntp Status Receive Server Up NTP Servers Server IP Address Key Prefered Add Chieta Cerven Update | DISABLED - date UNICAST - popy - server - P Koy/Preferred Delete Server | Timezon NTP Ser Key Is Key S | e Settings Hour Offset Minutes Offset Set Timeze ver Keys I Add Key Zoloci, Kay Ki (K Delete Ke | 0 | | |

Figure 5-44. NTP Settings Page

Clicking the NTP link brings up the NTP SETTINGS page (Figure 5-44), which configures the Network Time Protocol (NTP). The parameters for this page are shown in Table 5-32.

| Parameter | Description |
|--------------------------|--|
| NTP Client Settings | |
| NTP Status | This field enables or disables NTP in the switch. Configure the NTP SERVERS section to enable NTP. |
| Receive Server Update | The value for this parameter could be <i>Broadcast</i> or <i>Unicast</i> . To process the broadcast NTP updates from the server, choose the <i>Broadcast</i> option. |
| Timezone Settings | |
| Hour Offset | This parameter allows you to enter an hour offset from GMT for local time. |
| Minutes Offset | This parameter allows you to enter a minutes offset (after hour offset) from GMT for local time. |
| NTP Servers | |

| Tahle | 5-32 | NTP | Settings | Page | Parameters |
|-------|-------|-----|----------|------|-------------|
| able | J-JZ. | | Jettings | raye | r arameters |

| Parameter | Description |
|-------------------|--|
| Server IP Address | Use this parameter to enter the NTP server IP address. |
| Кеу | Choose the key from the configured list. These keys are configurable in this page in the NTP SERVER KEYS section's fields. |
| Preferred | This parameter allows you to choose the preferred server. Choose Yes if this server needs to be preferred over other configured NTP servers. You can add multiple NTP servers. |
| NTP Servers Keys | |
| Key ID | Use this parameter to select a number to identify the configured key strings. |
| Key String | Use this paramter to specify any string to be used as a key to handshake with NTP servers. |

Table 5-32. NTP Settings Page Parameters (Continued)

Clock Settings



Figure 5-45. Clock Settings Page

Clicking the CLOCK SETTINGS link brings up the CLOCK SETTINGS page (Figure 5-45), which allows to configure the Time and Date in the switch. The parameters for this page are shown in Table 5-33.

| Parameter | Description |
|---------------|---|
| Clock Display | This display shows the time and date that the switch current has. |
| Clock Set | These controls allow you to set or modify the time and date. HH:MM:SS for the Time, and DD:MM::YYYY for the Date. |

Table 5-33. NTP Settings Page Parameters

Stack

The Supermicro Intelligent switch supports stacking of the SSE-G24-TG4 and SSE-G48-TG4 Supermicro switch units. Switch stacking is created by connecting switches in a daisy chain. One of the stacked switches is selected as a Master based on its configurations. The Master switch provides management support for the whole stack. Other switches in the stack are referred to as slave switches.



NOTE: Make sure all stacked switches are running the same version of firmware.

The Master switch manages the control plane traffic for all stacked switches. When the current master switch fails, the backup master is then selected as the current master. The Master selection algorithm is based on a priority configuration. If two switches have the same priority, the switch with the lowest MAC address is selected as the Master switch.

Enabling Stacking

By default, Supermicro switches act as stand-alone switches. This stand-alone default facilitates using 10G Ethernet ports as Extrement Ethernet ports for uplinks.

When stacking is enabled the stacking ports are dedicated for stacking purposes. Stacking can be enabled using the command stack with the switch identifier and priority. The detailed command syntax is explained below.



NOTE: When stacking is enabled, the switch needs to be rebooted to make it effective.



NOTE: When a switch is acting as a stand-alone switch with stacking disabled, all physical interfaces are numbered as 0/1 to 0/n.

When the switch is in stacking mode, the interfaces are numbered as <switch id>/1 to <switch id> / n.

In non-stacking mode, the switch ID is considered to be ${\bf 0}.$

The interface numbers change between stacking and non-stacking cases due to the switch ID. So configurations saved for stacking are not valid for non-stacking cases and vice versa.



NOTE: If you choose stacking using the stack command from a non-stacking case, and the configurations are already saved for restoring the switch, it will rename the configuration file by adding a suffix _nonstack and will not restore this file when the switch reboots with stacking enabled.

Similarily if you choose non-stacking using the no stack command from the stacking case, and the configurations are already saved for restoring the switch, it will rename the configuration file by adding a suffix _stack and will not restore this file when the switch reboots with stacking disabled.

Adding Stacking Members

Connect the stacked switches using stacking cables. For better redundancy, connect the switches daisy chained as shown in the diagram below (Figure 5-46). This chain connectivity helps to maintain stacking in case a single link or switch fails.

Before connecting switches in stacking, make sure stacking is enabled in all switches and that the switch identifier and priorities are all configured properly.

There is no other specifical configuration required to add stacked switches. If two stacking-enabled switches connect through stacking cables, they form a stack.



NOTE: Do not use the same switch ID for multiple switches on the stack.







NOTE: In a stack only one switch can be configured as master. Otherwise the slave switches will not allow you to configure anything except *stacking disabled*. To login to slave switches, use a login name as "**stackuser**" and password as "**stack123**".

Removing a stacked switch

To remove a switch from stacking follow the below recommended procedure:

- 1. Disconnect stacking cables.
- 2. Reboot the removed switch as a standalone switch.
- 3. Disable stacking.
- 4. Reboot the switch again to operate as regular stand-alone switch.



NOTE: When a switch is moved from stacking to stand-alone mode, the saved stacking configurations can not be loaded in stand-alone mode. When stacking is disabled, the switch software renames the existing configuration file to avoid automatic restoration of stacking configurations on a stand-alone switch.

The following pages are available for configuring Stack settings;

- Stack Configuration
- Stack Details
- Stack Link Status
- Stack Counters

Stack Configuration

| Figure 5-47 | Stack | Configuration | Page |
|-------------|-------|---------------|------|
|-------------|-------|---------------|------|



Clicking the STACK SETTINGS tab brings up the STACK CONFIGURATION page (Figure 5-47), which configures the stacking feature. The parameters for this page are shown in Table 5-34.

| Parameter | Description |
|-----------|---|
| Switch ID | This parameter defines a switch identifier number for this switch. This identifier should be unique in the stack, since the number is used in referring all physical interfaces available in this switch. |
| | So for example, if this parameter is choosen as 2, the physical interfaces will be referred as <i>Gi2/1</i> , <i>Gi2/1</i> and so on. |
| | For non-stacking, stand-alone cases this switch ID is considered as zero. |
| Priority | This parameter chooses the priority for this switch in the Stacking Master selection. It could be configured as <i>Preferred Master</i> , <i>Backup Master</i> or <i>Preferred Slave</i> . |
| Stacking | This parameter enables or disables stacking. NOTE: Any change in stacking status requires a reboot of the switch. |

| Table 5-34. | Stack | Configuration | Page | Parameters |
|-------------|-------|---------------|------|------------|
| | | •••····· | | |

Stack Details



Figure 5-48. Stack Details Page

Clicking the STACK DETAILS tab brings up the STACK DETAILS page (Figure 5-48), which displays stacking details. The parameters for this page are shown in Table 5-35.

| Parameter | Description | |
|---|---|--|
| Self Status | | |
| Stack Ports | This is the number of stacking ports configured in this switch. | |
| Switch ID | This parameter is used to specify the switch identifier of this switch. | |
| Stack IP | This parameter is used to specify the IP address of this switch. This IP address is used to communicate between stack member switches. | |
| Stack MAC | This parameter is used to specify the MAC address of this switch. This MAC address is used to communicate between stack member switches. | |
| Configured State | This parameter is used to specify the priority of this switch. | |
| Current State | This parameter is used to specify the current status of this switch as <i>Master</i> or <i>Slave</i> . | |
| Peer Status - The following parameters display information about all connected stack Slave switches | | |
| Switch ID | This parameter is used to specify the switch identifier of the Slave switch. | |
| Stack IP | This parameter is used to specify the IP address of the Slave switch. This IP address is used to communicate between stack member switches. | |

Table 5-35. Stack Details Page Parameters

| Parameter | Description |
|--------------|---|
| Stack MAC | This parameter is used to specify the MAC address of the Slave switch. This MAC address is used to communicate between stack member switches. |
| Switch State | This parameter is used to specify the current status of the Slave switch. |
| Card Name | This parameter is used to specify the type of Slave switch. |

Stack Link Status





Clicking the STACK LINK STATUS tab brings up the STACK LINK STATUS page (Figure 5-49), which displays stacking link status. The parameters for this page are shown in Table 5-36.

| Table 5-36. | Stack L | ink Status. | Page | Parameters |
|-------------|---------|-------------|------|------------|
|-------------|---------|-------------|------|------------|

| Parameter | Description |
|-----------|---|
| Port | This parameter displays the stacking ports of the module configured in this switch. |
| Status | This shows the status of stacking ports as either Up or Down. |

Stack Counters

| SUPERMI SWITCH SBM-GE | | | Speed Link: Work 6 Gi 1 2 3 4 5 6 7 8 9 10 11 12 | h Support | Help | About | Log Out |
|--|--|-----------------------------|--|-------------------------------|------|-------|---------|
| Home System Mant System Settings Printage Sectors Printage Sectors Printage Sectors Printage Sectors Printage Sectors Sec | | Pert InC Peri Out 1 0 | Stack Counter Details | UnifCotet 0 0 0 0 | | | |

Figure 5-50. Stack Counter Details Page

Clicking the STACK COUNTERS tab brings up the STACK COUNTERS DETAILS page (Figure 5-50), which displays statistics for stacking ports. The parameters for this page are shown in Table 5-37.

| Parameter | Description |
|----------------------------|---|
| Port | This parameter displays the stacking port identifier. |
| Received Statistics | |
| InOctet | This parameter displays the number of bytes received. |
| InUcast | This parameter displays the number of unicast packets received. |
| InDiscard | This parameter displays the number of received packets that were discarded. |
| InErrors | This parameter displays the number of packets received with errors. |
| InHCOctet ^a | This parameter displays the number of bytes received with HC. |
| Transmit Statistics | |
| OutOctet | This parameter displays the number of bytes transmitted. |
| OutUcast | This parameter displays the number of unicast packets transmitted. |
| OutDiscard | This parameter displays the number of packets discarded in transmission. |
| OutErrors | This parameter displays the number of packets transmitted got errors. |
| OutHCOctet ^a | This parameter displays the number of bytes transmitted with HC. |

Table 5-37. Stack Counter Details Page Parameters

a. HC refers to the High Capacity of the counter used. The regular counter is 32-bit, whereas the HC counter is 64-bit.

CX4 Cable Length

Stacking is supported with CX-4 cables only. The CX-4 cable used for stacking should be no more than 3-meters in length, because stacking internally runs at 12-Gbps and therefore requires a more robust signal than longer cable lengths might provide reliably. The industry standard stacking cable length is 3-meters.



NOTE: For stacking ports, you do not need to configure CX4 cable length. It is fixed as "short" for stacking ports.

When used for 10G Ethernet uplinks, the CX-4 ports can be from 1-meter to 12-meters in length; the maximum CX-4 cable length supported on Supermicro switches is 12-meters.

It is acceptable to use a 1-meter stacking cable for port 1 and a 12-meter uplink cable for port 2. You will only need to configure the long cable preference for port 2. Do this by selecting the Port Number in the CX4 CABLE LENGTH screen (Figure 5-51) and then selecting the "long" option.



Figure 5-51. Configuring CX4 Cable Length

This configuration is done on an individual port basis. Thus, you can use "short" for one port and "long" for the other port. Alternatively you might use both "short" or, if neither are for stacking, both can be "long" cables.

5-5 Layer 2 Management

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| A B elay B Get More Add-ons . 55 | oggested Stes • | | | | | | | |
| | | | | Refresh | Support | Help | About | Log Out |
| SUPERMICI | R | | Speed • • • • • • • • • • • • • • • • • • | 8 9 1011 12 13 14 15 16 17 18 19 20 21 2 | 12 23 24 EXI EX2 EX3 | EX4 | | |
| SWITCH SSE-G24-TG | 14 | | | | | | | |
| SMIS | | | | | | | | |
| Home | | | Welcome to the I | _ayer2 Managem | ent Page | | | ń |
| System Mgmt System Settings Management IP File Management Firmware Upgrade | The vario | ous layer2 features of switc | ch can be configured through the I | inks available in this page. | | | | |
| Management Security Syslog ACL Web Settings SIMMP | | Layer2 Basic Settings configure MAC address | | | | | | |
| RMON QoS Time Management Stack CK4 Cable Length | * | Port Manager configure all physical port | ts | | | | | |
| Layer2 Mgmt Layer2 Basic Settings Port Manager VLAN | - 2 (a) - 2 (a) - 2 (a) | configure PVID, static an Dynamic VLAN | d dynamic vlans | | | | | 1 |
| Dynamic VLAN RSTP NSTP LA | 1 | view and modify dynamic RSTP | a vlan status | | | | | |
| Fiters Link Tracking Loop Protect | 1111 | view and modify RSTP sta MSTP | afus | | | | | |
| Multicast Statistics | | view and modify MSTP st | tatus | | | | | |
| | 9 9 | View and modify LA statu | 15 | | | | | |
| | | 802.1x configure security inform | ation | | | | | |
| | I. | Filters configure L2 unicast and | multicast filters | | | | | |

Figure 5-52. Layer2 Management Page

The LAYER2 MANAGEMENT page (Figure 5-52) contains the following links for Layer2 controls:

- Layer 2 Basic Settings
- Port Manager
- VLAN
- Dynamic Vlan
- RSTP
- MSTP
- LA
- 802.1x
- Filters
- Line Tracking
- Loop Protect

Layer 2 Basic Settings

Figure 5-53. MAC Address Table Settings Page

| SUPERMI | |
|--|--|
| SWITCH SBM-GE | 4-X2C |
| SMIS | |
| Home * System Figure Mynt * System Figure Segment Fig Management Fig Management Fig Management Fig Management Accentry Radow Cope State State Cope State Cope State Cope State Cope State Cope State Cope State State Cope State | MAC Aging Time 300 Apply |
| Clicking | the LAVER2 BASIC STTINGS link brings up the MAC ADDRESS TARLE SETTINGS |

Clicking the LAYER2 BASIC STTINGS link brings up the MAC ADDRESS TABLE SETTINGS page (Figure 5-53), which gives you the option to change MAC aging time. MAC address confirmation can be done with this time interval.

Port Manager

The PORT MANAGER link has links to the following web pages:

- Port Basic Settings
- Port Monitoring
- Storm Control/Rate Limiting



NOTE: In all port based configuration pages, the port number group links are provided on the top.

In the normal standalone operation of the switch, there is only one link and the corresponding port configuration is displayed below it.

In case of stacking, multiple groups of port links are displayed. These links provide the configuration of ports from different stack member switches. To view the configuration of ports from a particular stack member switch, select the corresponding port links. For example, if three switches having switch identifier as 1, 2, and 3 are stacked together, the links will be as follows.

Gi1/1-Ex1/2 | Gi2/1-Ex2/2 | Gi3/1-Ex3/2

So to view the ports of switch 2, you need to select the Gi2/1-Ex2/2 link.

Port Basic Settings

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|------------------------------------|---|
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| DUTERMIN | |
| SWITCH ME-G24-7 | Data Designed by a set of a se |
| 4463 | Rent Memory Part Rentrating Rent Canada Rent Landing |
| Harne | Port Basic Settings |
| * Laure L Report Laure L Report | Smith.11 |
| VALUE CARD | Development Developme |
| 857P | ALL Diama Same Frank Parkets and Tables Statement |
| ML.LA | CODE C - Yes - Yes - 100 Evalue - 100 |
| Los Tracking | 042 2 - 14 + Tes + Tele + 190 Ended + |
| * Liner3 Mget | 640.3 W 100 + Tea + Tephent + 1000 Enabled + |
| · Statistics | GALE T Las + Year + Year + 1600 Enderd + |
| | - Gal * The law + Year + 1900 (findeal + |
| | Gald To Law + Yes + Yes + 100. Ended + |
| | GALT T LU + Yes + Frybul + 100 Exated + |
| | GLI T T Litt + Yes + Hybrid + 1000 Ended + |
| | GLS TE IN + Yes + Febra + 100. Ended + |
| | GALTE TO Let + Yes + Hybrid + 100 Ended + |
| | Gill 12 TF Lip + Yes + Hybrid + 1000 Evaluat + |
| | Coll 12 T Up + Yes + Pyter + 100 Evalue + |
| | Gal 11 TE Lip + Twi + Prylod + 1000 Enabled + |
| | C Gal 14 TE Lip + Vec + Pephei + 1500 Evalual + |
| | GALLY T Up + Yes + reduct + 100 Evaluat + |
| | - 64116 TE Lp + Yes + Yes + 100 Ended + |
| | Gal IT 7 Lo + Yes + Hybed + 1500 Enddad + |
| | Galille T up + Ves + Hybrid + 1500 Enabled + |
| | CG2719 T Up + Yes + Hybert + 100 Enabled + |
| | 642 20 T Lto + Yes + (ryfror + 1500 Enabled + |
| | GALOT T Up + Yes = 199ml + 1900 Ended + |
| | Galizz T Las + Yes + Hybert + 100 Enabled + |
| | Seal 23 To + I Yes + I Yes + 1000 Ended: + |
| | Galda T (0 +) Yes + (rybed +) 100. Ended + |
| | Bill U + Yes + Hybrid + 1980 Evadual + |
| | Bala Try Le • Two • Two • 1000 Ended • |
| | Table of the tas + Yes + Yes + 1980 Ended + |
| | (Avera) |

Figure 5-54. Port Basic Settings Page

Clicking the BASIC SETTINGS tab brings up the PORT BASIC SETTINGS page (Figure 5-54), which allows you to configure port status and mode information. This page also helps configuring priority and MTU. The parameters for this page are shown in Table 5-38.

| Parameter | Description |
|-----------------------|--|
| Port | This displays the port number. |
| Link status | This column shows the physical link status as an UP or Down arrow. A green up arrow indicates that the status of the port is up, while the red down arrow indicates that the status of the port is down. |
| Admin State | This parameter allows you to administratively configure the admin state as <i>Up</i> or <i>Down</i> . |
| Default User Priority | This parameter allows you to set the priority from 0 to 7. |
| Switch Port | By default all ports are switch ports for layer 2 switching. To configure a port as a layer 3 routed port, choose <i>No</i> . |
| Switch Port Mode | Use this control allows to set the access mode as either Trunk or Hybrid. |
| MTU | This sets the MTU value. The Minimum is <i>90</i> and Maximum is <i>9210</i> . A port must be administrativly down in order to change the MTU. Jumbo frames of up to 9210 bytes are supported on 1G and 10G links. |
| Link Up/Down Trap | This parameter enables or disables SNMP trap generation for port up and down events. |

| Table 5-38 | Port Basic | Settings | Page | Parameters |
|------------|-------------|----------|-------|----------------|
| | 1 011 04010 | ooungo | · age | i al'alliotoro |

Port Monitoring



Figure 5-55. Port Monitoring Page

Clicking the PORT MONITORING tab brings up the PORT MONITORING page (Figure 5-55), which allows you to enable or disbale monitoring on port interface. The parameters for this page are shown in Table 5-39.

| Table 5-39 | . Port | Monitoring | Page | Parameters |
|------------|--------|------------|------|------------|
|------------|--------|------------|------|------------|

| Parameter | Description |
|--------------------|---|
| Status | This parameter enables or disables the port monitoring. |
| Port | This displays the port number. |
| Receive Monitoring | This parameter enables or disables the receive monitoring. |
| Trasmit Monitoring | This parameter enables or disables the transmit monitoring. |

Storm Control/Rate Limiting

| 2 | | | | | | | Bally | | Repport. | Hally | About | Log Out |
|--|--|-----|--------|-----------------------|-------------|------------------|-----------------------|--------------|----------|-------|-------|---------|
| SUDEDATIC | 10.0 | | | | 0W | ICH TLED S | nangs • | | | | | |
| SUPERMIC | K U | | | 100 | | | | | | | | |
| NWYTECH NAME-GIZA T | 64 | | | Autor 1 12 | | · 10 11 11 10 10 | - 14 14 17 18 19 19 1 | | | | | |
| 81615 | Desix Settings Part Municipal Part Control Desix Control Rev | | - | | | | | | | | | |
| 12611 | | | _ | Sto | rm Contr | ol / Rate | Limiting | | | | | 1 |
| Control Mgmt Caper 2 Mgmt Layer 2 Mgmt | | | | | 22 | auch 11 | | | | | | |
| Part Managel | | 141 | Purt | | Store Cargo | | Egre | ss RataLine® | | | | |
| Dunummi VLAR RETR | | | | DUP Inconstruction | Broadcast | Manager and | ternstru | 1 | - | | | |
| LA | | 125 | 00/1 | 0 | 0 | 0 | 0 | 0 | | | | |
| ritura . | | | 011/2 | 0 | 0 | 0 | a | 0 | 1 | | | |
| Long Protect | | | 0:1/3 | 0 | 0 | 0 | 0 | 0 | | | | |
| Malant | | | 011/4 | 0 | 0 | 0 | 0 | 0 | | | | |
| - LUONOOS | | | 011.5 | 0 | 0 | 0 | 0 | 0 | | | | |
| | | | OILE | 0 | 0 | 8 | 0 | 0 | | | | |
| | | | 011/7 | 0 | 0 | 0 | 0 | 0. | | | | |
| | | | 01.8 | 0 | 9 | 0 | 0 | 0 | | | | |
| | | | 011/9 | 0 | 0 | 0 | 0 | 0 | 3 | | | |
| | | | 01.5 | 0 | 0 | 0 | 9 | 0 | 8 | | | |
| | | | 00.11 | 0 | 0 | 0 | 0 | 0 | - T | | | |
| | | | 01/2. | 0 | 0 | 0 | 10 | - | | | | |
| | | | our | 0 | 0 | 0 | 1 | 0 | | | | |
| | | | our | | 0 | 0 | 0 | 0 | | | | |
| | | | CH1/M | 0 | 0 | 0 | 0 | 0 | | | | |
| | | | 011/1 | 10 | 0 | 6 | 10 | 6 | | | | |
| | | | 01/1 | | 0 | 0 | 10 | 0 | | | | |
| | | | 01111 | 0 | 0 | 0 | 0 | 0 | | | | |
| | | | 01/2 | 0 | 0 | 0 | 0 | 0 | | | | |
| | | | 011/21 | 0 | 0 | 0 | 0 | 0 | | | | |
| | | | 011/22 | 0 | 0 | 0 | 0 | | | | | |
| | | | 01/2 | 0 | 0 | 0 | 0 | 0 | | | | |
| | | | 011/24 | 0 | 0 | 0 | 0 | 9 | 3 | | | |
| | | | 211.1 | 0 | 0 | 0 | 0 | 0 | | | | |
| | | | 812 | 0 | 0 | 0 | 8 | 0 | | | | |
| | | | 811.75 | 0 | 0 | 0 | 0 | 0 | | | | |

Figure 5-56. Storm Control/Rate Limiting Page

Clicking the STORM CONTROL/RATE LIMITING tab brings up the STORM CONTROL/RATE LIMITING page (Figure 5-56), which allows you to configure specific parameters of the port. You can choose between *Auto-negotiation* and *No-negotiation* for a port. If *No-negotiation* is chosen, then the speed of the link, FlowControl and duplex modes can be configured. The parameters for this page are shown in Table 5-40.

| Parameter | Description |
|----------------------------------|--|
| Port | This displays the port number. |
| Mode | This parameter allows you to select either Auto Negotiation or No-negotiation. |
| Duplex | This parameter allows you to select either Full Duplex or Half Duplex. |
| Speed | This parameter allows you to select the speed as 10 Mbps, 100 Mbps or 1 Gb/s. |
| Flow Control Admin Status | This parmeter allows you to specify the Flow Control Admin Status as either <i>Disabled</i> , Trasmit Flow Control <i>Enabled</i> , Receive Flow Control <i>Enabled</i> or both Transmit and Receive Flow Control <i>Enabled</i> . |
| Flow Control Operation Status | This parameter displays the status of the flow control. |
| HOL Block Prevention | This parameter allows you to enable or disable Head of Line block prevention. |
| The following parameter | ers are configurable for Ingress Rate Limiting. |
| DLF Level | This parameter allows you to specify the destination lookup failure packets per second. |
| Broadcast Level | This parameter allows you to specify the broadcast packets per second. |

Table 5-40. Storm Control/Rate Limiting Page Parameters

| Parameter | Description | | | | | |
|---|--|--|--|--|--|--|
| Multicast Level | This parameter allows you to specify the multicast packets per second. | | | | | |
| The following parameters are configurable for Egress Rate Limiting. | | | | | | |
| Egress Port Rate Limit | This parameter allows you to specify the egress limit of packets per second. | | | | | |
| Egress Port Burst Size | This parameter allows you to specify the egress limit of packet burst size. | | | | | |

Table 5-40. Storm Control/Rate Limiting Page Parameters (Continued)

VLAN

The VLAN link allows to configure the VLAN information. VLAN configuration information has been provided in the following pages:

- VLAN Basic Settings
- Port Settings
- Static VLAN
- Protocol Group
- Port Protocol
- MAC VLAN
- Wildcard
- Switch Port Filtering VLAN

VLAN Basic Settings

| JPERMIC | CR | | | Speed Link Switch 0 G | | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 6 7 8 9 1011 | 12 13 14 15 1 | 6 17 18 19 20 21 | 0 0 0 0 0 0 0 0 22 23 24 E | XI EX2 EX3 | EX4 | |
|--|---------------|--------------|------------------------|-----------------------------|------------------------------|--|--------------------------------|-------------------------------------|----------------------------------|-------------------------------|---|--|
| SWITCH SSE-G24- | IG4 | | | | | | | | | | _ | |
| SMIS | BasicSettings | PortSettings | StaticVLANs | Protoco | lGroup | PortProtocol | III. | AC Vian | Wildo | ard | Switchportfiltering | |
| ne | | A | | | 1 | LAN Bas | ic Settin | ngs | | | | |
| stem Mgmt yer2 Mgmt Layer2 Basic Settings Port Manager (LAM) Dynamic VLAN | | | Garp System Control | Learning Mode | MAC Based On All Ports | Port and Protocol Based On All Ports | Dynamic Vian Oper Status | Dynamic Multicast Oper Status | Maximum VLAN ID | Maximum Supported VLANs | Number of VLANs in the System | |
| ASTP ASTP | | | Start • | ML • | Disabled • | Enabled • | Disabled * | Disabled . | 4069 | 1024 | 1 | |
| 02.1x Rters Ink Tracking | | | | | | A | pply | | | | | |
| oop Protect yer3 Mgmt | | | Note : To | Shutdown | GARP, D | namic Vla | n & Dyna | mic Multic | ast shou | ld be dis | abled. | |
| atistics | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

Figure 5-57. VLAN Basic Settings Page

Clicking the BASIC SETTINGS tab brings up the VLAN BASIC SETTINGS page (Figure 5-57), which displays VLAN global configuration information. The parameters for this page are shown in Table 5-41.

| Parameter | Description |
|---|---|
| Garp System Control | This parameter starts or shuts down GARP in the switch. |
| Learning Mode | This parameter specifies the Learning Mode (<i>Independent, Shared, Hybrid</i> or <i>VLAN Learning</i>). |
| MAC Based on All Ports | This parameter enables or disables the per Port MAC based classification. |
| Port and Protocol Based on all Ports | This parameter enables or disables the per Port Protocol based classification. |
| Dynamic VLAN Oper Status | This setting is disabled and cannot be changed. |
| Dynamic Multicast Oper Status | This setting is disabled and cannot be changed. |
| Maximum VLAN ID | This parameter specifies the largest (4094) valid VLAN ID, which this switch can accept, above which all will be discarded. |

Table 5-41. VLAN Basic Settings Page Parameters

| Parameter | Description |
|-------------------------------|--|
| Maximum Supported VLANs | This parameter specifies the maximum number of VLANs that this device can scale. |
| Number of VLANs in the System | This parameter specifies the active number of VLANs configured in the device. |

Table 5-41. VLAN Basic Settings Page Parameters (Continued)

In addition, the BASIC SETTINGS page provides the configuration3 of Bridge Mode (*Customer /Provider*) and the priority for tunneled STP BPDUs. When you configure BRIDGE MODE TO PROVIDER, the Port Protocol based classification and MAC-based classification on all ports must be disabled.

Port Settings

| | | De B.C. | 2 | | | | | | | | |
|--------------------------------|------------------|------------------|-------------|----------|------------------------|-----------|-----------------------------------|------------------|---------------------|-------|---------|
| Ele Edt New Fprontes Look | jelp | minuments b + EO | 4 3 MD | ~ | | | | | | | |
| 🍅 🕘 elley 🗿 Get More Add-ons 🔹 | Suggested Stes • | | | | | | | | | | |
| | | | | | | | Refresh | Support | Help | About | Log Out |
| CUDEDAU | | | | Speed | | | | | | | |
| SUPERMIC | ∠K ● | | | Switch 0 | 1123450 | 7 8 9 1 | 011 12 13 14 15 16 17 18 19 20 21 | 2 2324 EXI EX2 E | X3 EX4 | | |
| SWITCH SSE-G24- | TG4 | | | | | | | | | | |
| SMIS | BasicSettings | PortSettings | StaticVLANs | Protoco | Group | PortProto | col MAC Vian | Wildcard | Switchportfiltering | | |
| | | | | | | LAN I | Port Settings | | | | |
| Home Sustem Maret | | | | | | | | | | | |
| Layer2 Mgmt | | | | | | Gi | 0/1-Ex0/4 | | | | |
| Port Manager | | | | ALL Port | Port and | PVID | Acceptable Frame Types | Ingress | | | |
| Dynamic VLAN RSTP | | | | | Protocol Based VLAN | | | Filtering | | | |
| NSTP LA | | | | Gi0/1 | Enabled · | 1 | All | Disabled | | | |
| 802.1x Fitters | | | | Gi0/2 | Enabled • | 1 | All | Disabled | | | |
| Loop Protect | | | | Gi0/3 | Enabled • | 1 | All | Disabled | | | |
| Layer3 Mgmt Multicast | | | | Gi0/4 | Enabled • | 1 | All | Disabled | | | |
| Statistics | | | | Gi0/3 | Enabled · | 1 | All | Disabled | | | |
| | | | | Gi0/6 | Enabled • | 1 | All | Disabled | | | |
| | | | | Gi0/7 | Enabled • | 1 | All | Disabled | | | |
| | | | | Gi0/8 | Enabled • | 1 | All | Disabled | | | |
| | | | | G10/5 | Enabled • | 1 | All | Disabled | | | |
| | | | | Gio/I | 1 Eachlad | 1 | All | Disabled | | | |
| | | | | Gi0/1 | 2 Enabled | 1 | All | Disabled | | | |
| | | | | Gi0/1 | 3 Fnabled · | 1 | All | Disabled | | | |
| | | | | Gi0/1 | 4 Enabled · | 1 | All | Disabled | | | |
| | | | | Gi0/1 | 5 Enabled · | 1 | All | Disabled | | | |
| | | | | Gi0/1 | 6 Enabled · | 1 | All | Disabled | | | |
| | | | | Gi0/1 | 7 Enabled · | 1 | All | Disabled | | | |

Figure 5-58. VLAN Port Settings Page

Clicking the PORT SETTINGS tab brings up the VLAN PORT SETTINGS page (Figure 5-58), which is used to associate the VLAN ID to the port for Port based VLAN classification.

While associating different ports to VLANs, you can also configure INGRESS FILTERING (at the port level) and ACCEPTABLE FRAME TYPES (accept *Tagged Frame Alone* or *All* frames).

The other configurations provided in this page are, enabling/disabling per Port MAC based classification and Port Protocol based classification, enabling/disabling of tunneling and enabling/disabling of STP BPDU Tunneling. To enable STP BPDU Tunneling on an interface, you must first enable tunneling on that interface.

Static VLAN

| Ein Eds jew Fyrothes Joch Hel | Theorem and the state of the st | ildidametric P • 2C | é 295 | x | | | | | | | n + 0 |
|-------------------------------|--|---------------------|-----------------|--|---|----------------|---------------------|---------------------------|----------------|-------|---------|
| SUPERMIC SWITCH SSE-G24-T | R ₆₄ | | | Speed OO Link OO Switch 0 Gi 1 2 3 | 456789101 | 1 12 13 14 | Refresh | Support 2222324 EX1 EX2 E | Help X3 EX4 | About | Log Out |
| SMIS | Basiciemoja | PortSettings | Suscriture 2 | Protocol/broup S | PertProtecce Static VLAN VLAN ID VLAN ID VLAN Name Member Ports Untagged Ports Eorbidden Port Add Anna Memb Canton Areby | Confi Reset | MAC Van guration | Wildcard Forbidden Ports | Set-bootflaing | | |

Figure 5-59. Static VLAN Configuration Page

Clicking the STATIC VLANs tab brings up the STATIC VLAN CONFIGURATION page (Figure 5-59), which allows you to configure the VLAN related information statically.

Using the first table you can create new entries for uncreated VLANs. VLAN ID is the mandatory field in configuring a VLAN. You can also enter a VLAN NAME, MEMBER PORT LIST, UNTAGGED PORT and the FORBIDDEN PORTS for a VLAN.

The second table displays the VLAN configurations saved in the switch.

Protocol Group

| General Statstate General Statstate Ele List yew Payartes Look the general statstate General Sta | Othernepiege, html/Cambits (odie) (o Suggested Sites • | pipiniterennin Ø • ≧ 0 | X 946 | × | | | | | | n * 0 |
|--|--|------------------------|-------------|--|--|------------------------------------|-----------------------------|---------------------|-------|---------|
| SUPERMIC | R e _{G4} | | | Speed • • • • • • • • • • • • • • • • • • | 9 1011 12 13 1 | Refresh 415 16 17 18 19 20 21 2 | Support 222324 EX1 EX2 E | Help X3 EX4 | About | Log Out |
| SMIS | BasicSettings | PortSettings | StaticVLANs | ProtocolGroup PortP | rotocol | MAC Vian | Wildcard | Switchportfiltering | | |
| Horne Stream Surgia Management Manageme | | | | VLAN Pro Frame Type Protocol Value Group Identifier And Enet-v2 | tocol Gro Enet-v2 ARP Reset performed V ARP Delete | up Settings | | | | |
| Clicking | the PRO | TOCOL C | GROUP ta | ab brings up | the V | LAN PR | отосс | L GROUP | Setti | NGS |

Figure 5-60. VLAN Protocol Group Settings Page

Clicking the PROTOCOL GROUP tab brings up the VLAN PROTOCOL GROUP SETTINGS page (Figure 5-60), which is used to map Protocol Templates to Protocol Group Identifiers.

The FRAME TYPE gives you the data-link encapsulation format. The PROTOCOL VALUE is the value of the protocol in a protocol template. The GROUP ID represents a group of protocols that are associated together.
Port Protocol



Figure 5-61. Port VLAN Protocol Settings

Clicking the Port PROTOCOL tab brings up the PORT VLAN PROTOCOL SETTINGS page (Figure 5-61), which displays a table used for Port and Protocol based VLAN classification. The GROUP ID designates a group of protocols in the Protocol Group Database. The VLAN ID is the ID associated with a group of protocols for each port.

MAC VLAN

| C The start of the | homepage.html?Gambits.bokelbok | odgilisteensjece (D = 20) | X 342 | × | | | | | | n + 0 |
|---|--------------------------------|---------------------------|-------------|--|--|------------------------------|----------|---------------------|-------|---------|
| SUPERMIC switch sse-g24-D | R G4 | | | Speed O O Link O O Switch 0 Gi 1 2 3 4 | 4 5 6 7 8 9 1011 121 | Refresh 31415161718192021 | Support | Help X3 EX4 | About | Log Out |
| SMIS Home | BasicSettings | PortSettings | StaticVLANs | ProtocolGroup | PortProtocol MAC Based | MAC Vian VLAN | Wildcard | Switchportfiltering | | |
| Home Style: August 1 Style: August 2 March 2 Port | | | | | Mac Addr Vian Id And Re RALL Mee Ad | et internet | | | | |

Figure 5-62. MAC Based VLAN Settings Page

Clicking the MAC VLAN tab brings up the MAC BASED VLAN page (Figure 5-62), which allows to add the MAC Address and Vlan ID to VLANs system. The parameters for this page are shown in Table 5-42.

Table 5-42. VLAN Port MAC Map Page Parameters

| Parameter | Description |
|-----------|--|
| Mac Addr | This parameter allows you to enter MAC Address. |
| Vlan ID | This parameter allows you to manually enter the VLAN ID. |

Wildcard

| C 2 2 12126.127 | nongaga html?Saniata ja di din ggested Stes • | iliðdrægar P • 26 | X 295 | × | | Refresh | Support | Help | About | n * ö |
|--|--|-------------------|-----------|---|---------------------------|---------------------------------|--------------------|--------------------|-------|-------|
| SUPERMICI SWITCH SSE-G24-TG | ₹● 4 | | | Speed | 4 5 6 7 8 9 1011 121 | 3 1 4 1 5 1 6 1 7 1 8 1 9 20 21 | 22 23 24 EXI EX2 E | X3 EX4 | | |
| SMIS Home • A Gave Agorit Lawy Base Satings Base | BasicSettings | PortSettings | SubcilANe | Protocol/Group Context In Address S Ports | PersProtect Wildcard S | WACVier | Widad | Switchportfilering | | |

Figure 5-63. Wildcard Settings Page

Clicking the WILDCARD tab brings up the WILDCARD SETTINGS page (Figure 5-63), which configures wildcard MAC addresses and ports for VLANs. The parameters for this page are shown in Table 5-43.

| Parameter | Description |
|-------------------|---|
| Context ID | This parameter allows you to select the CONTENT ID. |
| Address Selection | Use this parameter to select the address type. |
| Ports | This parameter allows you to enter a port. |

Table 5-43. Wildcard Settings Page Parameters

Switch Port Filtering VLAN

| | | | | Speed 0 | | Refresh | Support | Help | About | Log Out |
|--------------------------------------|----------------|---------------|----------------|-------------------------|--------------|-----------------------|-------------|------|----------|---------------------|
| SUPERMI | CR | | | Link 0 Switch 0 Gi 1 | 2345678 | 9 10 11 12 13 14 15 1 | exi exi exi | | | |
| SWITCH SBM-GEN | 4-X2C | | | | | | | | | |
| SMIS | Pagic Sattinge | Port Settinge | Static\/I Alle | ProtocolGroup | PortProtocol | Portilac II | n Heicar | the | Wildcard | Switchportfiltering |
| onno | Basic setungs | PortSettings | StaucyLAns | Protocolaroup | POILPIOLOCO | Portunac-m | onicas | umae | WildCald | switchportunitering |
| Home | | | | Switch | Port Vlan | Filtering | | | | |
| System Mgmc System Settings | | | | | CION T-OF | | | | | |
| Firmware Upgrade | | | | | GIU/I-EAU/. | 21 | | | | |
| Syslog ACL | | | | Clear All | Vlan Port No | Utility Criteria | | | | |
| Web Settings SNMP | | | | Select All | | | | | | |
| AGENT AGENTX | | | | | Gi0/1 | default - | | | | |
| RMON QoS | | | | | Gi0/2 | default - | | | | |
| Stack | | | | | Gi0/3 | default - | | | | |
| Layer2 Mgmt Layer2 Basic Settings | | | | | Gi0/4 | default - | | | | |
| Port Manager VLAN | | | | - | Gi0/6 | default + | | | | |
| RSTP | | | | | Gi0/7 | default - | | | | |
| LA | | | | | Gi0/8 | default - | | | | 1 |
| Filters | | | | | Gi0/9 | default - | | | | |
| Multicast | | | | - | Gi0/10 | default - | | | | |
| Statistics | | | | | Gi0/11 | default - | | | | |
| | | | | | Gi0/12 | default + | | | | |
| | | | | | Gi0/13 | default • | | | | |
| | | | | | Gi0/14 | default • | | | | |
| | | | | | Gi0/16 | default - | | | | |
| | | | | | Ex0/1 | default - | | | | |
| | | | | | Ex0/2 | default - | | | | |
| | | | | - E | Ex0/3 | default - | | | | |
| | | | | | Apply | | | | | - |

Figure 5-64. Switch Port VLAN Filtering Page

Clicking the SWITCH PORT FILTERING tab brings up the SWITCHPORT VLAN FILTERING page (Figure 5-64), which configures utility criteria for SwitchPort Vlan filtering. The parameters for this page are shown in Table 5-44.

Table 5-44. SwitchPort Vlan Filtering Page Parameters

| Parameter | Description |
|------------------|---|
| VLAN Port No. | This parameter displays the VLAN Port Number, which can be selected by the check box to the left of the column. |
| Utility Criteria | Use this parameter to select the utility criteria for the VLAN port selected. |

Dynamic Vlan

The Dynamic VLAN link allows you to configure the Dynamic VLAN information. Dynamic VLAN configuration information has been provided in the following pages

- Dynamic VLAN Global Configuration
- Port Configuration
- GARP Timers

Dynamic VLAN Global Configuration

Refersion Support Heig About Log Out SUICE SERVICE/C SUICE SERVICE/C Text Settings Optimizer The Optimizer Optimizer Suice Settings Optimizer Optizer <

Figure 5-65. Dynamic VLAN Global Configuration Page

Clicking the DYNAMIC VLAN tab brings up the DYNAMIC VLAN GLOBAL CONFIGURATION page (Figure 5-65), which allows you to enable or disable Dynamic VLAN.

Port Configuration

| SUPERMI | CR | | | Speed O O O Link Switch 0 Gi 1 2 3 | R | tefresh 11 12 13 14 15 16 | Support EXTEX2EX3 | Help | About | Log Out |
|---|-------------|---------------|------------|------------------------------------|--------------|------------------------------|----------------------|------|-------|---------|
| SWITCH SBM-GEN | 4-X2C | | | | | | | | | |
| SMIS | DynamicVlan | Port Settings | GarpTimers | | | | | | | |
| Home | | | | Dynamic Vlan | Port Conf | iguration | | | | Â |
| System Mgmt System Settings File Management Firmware Ungrade | | | | <u>Gi0</u> | 1-Ex0/3 | | | | | |
| Management Security Syslog | | | | Port Port | Dynamic Vlan | Postricted | | | | |
| ACL Web Settings | | | | Select All | Status | VLAN | | | | |
| AGENT | | | | Gi0/1 | Enabled - | Disabled · | | | | |
| RMON | | | | Gi0/2 | Enabled · | Disabled • | | | | |
| NTP Stack | | | | 🖾 Gi0/3 | Enabled · | Disabled - | | | | |
| Layer2 Mgmt | | | | 🔄 Gi0/4 | Enabled • | Disabled • | | | | |
| Port Manager | | | | Gi0/5 | Enabled · | Disabled • | | | | |
| Dynamic VLAN | | | | Gi0/6 | Enabled • | Disabled • | | | | |
| MSTP | | | | Gi0/7 | Enabled • | Disabled • | | | | E |
| 802.1x | | | | Gi0/8 | Enabled · | Disabled • | | | | |
| Layer3 Mgmt | | | | Gi0/9 | Enabled • | Disabled • | | | | |
| Multicast Statistics | | | | Gi0/11 | Enabled • | Disabled • | | | | |
| | | | | Gi0/12 | Enabled • | Disabled • | | | | |
| | | | | Gi0/13 | Enabled • | Disabled - | | | | |
| | | | | Gi0/14 | Enabled - | Disabled • | | | | |
| | | | | Gi0/15 | Enabled - | Disabled - | | | | |
| | | | | 🖸 Gi0/16 | Enabled · | Disabled • | | | | |
| | | | | Ex0/1 | Enabled · | Disabled • | | | | |
| | | | | Ex0/2 | Enabled · | Disabled • | | | | |
| | | | | Ex0/3 | Enabled - | Disabled - | | | | |
| | | | | | Apply | | | | | - |

Figure 5-66. Dynamic VLAN Port Configuration Page

Clicking the PORT SETTINGS link brings up the DYNAMIC VLAN PORT CONFIGURATION page (Figure 5-66), which allows you to configure parameters for Dynamic VLAN ports. The parameters for this page are shown in Table 5-45.

| Parameter | Description |
|---------------------------------|--|
| Port | This parameter displays the Port Number, which can be selected by the check box to the left of the column. |
| Dynamic VLAN Status | Use this parameter to enable/disable the DYNAMIC VLAN STATUS. |
| Restricted VLAN Registration | This parameter allows you to enable/disable RESTRICTED VLAN REGISTRATION. |

Table 5-45. Dynamic VLAN Port Configuration Page Parameters

GARP Timers

| SUPERMI SWITCH SBM-GEN | CR M-X2C | Port Settings | GaroTimers | | Speed Link Switch 0 Gi 1 2 | Refres | h Support | Help | About | Log Out |
|---|-------------|---------------|-------------------------|--------------|----------------------------------|--------------------------|-----------------------------|------|-------|---------|
| Home System Mgmt | | | | | Garp Tim | ers Configuratio | on | | | î |
| File Management Firmware Upgrade Management Security Syslog ACL | | | Clear All Select All | Port G No | arpJoinTime (msecs) | GarpLeaveTime (msecs) | GarpLeaveAllTime (msecs) | 1 | | |
| SNMP AGENT | | | | Gi0/1 2 | 200 | 600 | 10000 | | | |
| AGENTX RMON | | | | Gi0/2 2 | 200 | 600 | 10000 | | | |
| QoS NTP | | | | Gi0/3 2 | 200 | 600 | 10000 | | | |
| Stack Layer2 Mgmt | | | | Gi0/4 2 | 200 | 600 | 10000 | | | |
| Layer2 Basic Settings Port Manager | | | | Gi0/5 2 | 200 | 600 | 10000 | | | |
| Dynamic VLAN | | | | Gi0/6 2 | 200 | 600 | 10000 | | | |
| MSTP | | | | Gi0/7 2 | 200 | 600 | 10000 | | | |
| 802.1x | | | | Gi0/8 2 | 200 | 600 | 10000 | | | |
| Layer3 Mgmt | | | | Gi0/9 2 | 200 | 600 | 10000 | | | |
| Statistics | | | | Gi0/10 2 | 200 | 600 | 10000 | | | |
| | | | | Gi0/12 2 | 200 | 600 | 10000 | | | |
| | | | | Gi0/13 2 | 200 | 600 | 10000 | | | |
| | | | | Gi0/14 2 | 200 | 600 | 10000 | 1 | | |
| | | | | Gi0/15 2 | 200 | 600 | 10000 | 1 | | |
| | | | | Gi0/16 2 | 200 | 600 | 10000 | 1 | | |
| | | | | Ex0/1 2 | 200 | 600 | 10000 | | | |
| | | | | Ex0/2 2 | 200 | 600 | 10000 | | | |
| | | | | Ex0/3 2 | 200 | 600 | 10000 | | | |

Figure 5-67. Garp Timers Configuration Page

Clicking the GARP TIMERS tab brings up the GARP TIMERS CONFIGURATION page (Figure 5-67), which displays the various parameters for changing Garp times. The parameters for this page are shown in Table 5-46.

| Parameter | Description |
|--------------------------------|--|
| Port No | This parameter displays the Port Number. |
| Garp Join Time (msecs) | This parameter allows you to change the Garp Join Time. |
| Garp Leave Time (msecs) | This parameter allows you to change the Garp Leave Time. |
| Garp Leave All Time (msecs) | This parameter allows you to change the Garp Leave All Time. |

Table 5-46. Garp Timers Configuration Page Parameters

RSTP

The RSTP link provides links to the following configuration pages:

- RSTP Global Settings
- RSTP Basic Settings
- Port Settings
- Port Status

RSTP Global Settings

Clicking the GLOBAL SETTINGS tab brings up the GLOBAL CONFIGURATION page

Figure 5-68. Global Configuration Page

Clicking the GLOBAL SETTINGS tab brings up the GLOBAL CONFIGURATION page (Figure 5-68), which allows you to configure RSTP global parameters. The parameters for this page are shown in Table 5-47.

| Parameter | Description |
|----------------------------------|---|
| Select Control | This parameter allows you to select RSTP Global Settings to use in the Switch. |
| Context ID | This parameter shows the unique ID of RSTP Global Settings. |
| System Control | This parameter starts or Shutsdown RSTP in the switch. |
| Status | This parameter allows you to enable/disable the protocol at a global level on the switch. |
| Dynamic Path Cost Calculation | This parameter allows you to enable or disable the DYNAMIC PATH COST CALCULATION. |

Table 5-47. Global Configuration Page Parameters

RSTP Basic Settings

| | | | | | | Refresh | Support | Help | About | Log Out |
|---|-----------------|----------------|---------------|--|---|---|-----------------------------|------|-------|---------|
| SUPERMI | ICR | | | Speed 0 0 Link 0 0 Switch 0 Gi 1 2 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 3 4 5 6 7 8 9 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 10 11 12 13 14 15 1 | 6 EXI EX2 EX3 | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | | |
| SMIS | Global Settings | Basic Settings | Port Settings | Port Status | | | | | | |
| Home | - | | | RSTR | ^o Configur | ration | | | | |
| Home System Mont System Settings Version Settings Heads and the settings ACL Webs ettings ACL Webs ettings ACL ACH ACH ACH ACH ACH ACH ACH ACH | | | Setect Cont | ext (Priority Version | Tx Default Hold T Count Apply | PathOst Max ype Age | Helio Forward Time Delay | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| 01.1.1 | | 0 | | | DOTO | | | | | 00 |

Figure 5-69. RSTP Configuration Page

Clicking the BASIC SETTINGS tab brings up the RSTP CONFIGURATION page (Figure 5-69), which displays the various parameters for RSTP configuration. The parameters for this page are shown in Table 5-48.

| Parameter | Description |
|---------------------------|--|
| Select Control | This parameter allows you to select RSTP Global Settings to use in the switch. |
| Context ID | This parameter shows the unique ID of RSTP Global Settings. |
| Priority | |
| Version | |
| Tx Hold Count | |
| Default Path Cost Type | This parameter allows you to configure the path cost either as a 16-bit value or a 32-bit value. This is provided mainly for backward compatibility with STAP. |
| Max Age | |
| Hello Time | |
| Forward Delay | |

Table 5-48. RSTP Configuration Page Parameters

Port Settings

| Start 12 mpr 20.11.0 m spent companyone common common dynamic (P + 12 C X 20 MC X | n x o |
|--|---------|
| | |
| 🖕 🕑 elivy 🕑 Get Mare Add-ons * 🔁 Supported Stas * | |
| Refresh Support Help About | Log Out |
| Speed | |
| SUPERMICE switch 0 Gi 1 2 3 4 5 6 7 8 9 1011 12131415161718192021222324EX1 EX2EX3EX4 | |
| SWITCH SSF-624-TG4 | |
| | |
| Simis Grout searcy Basic Searcy Port searcy Port Search Status Configuration | |
| Home | |
| * System Mgmt Switch 0 | |
| Layer2 bask Settings Port Manager Port Marger Port A STP [Path] Protocol [AdminEdualAdmin] Auto Restricted[Restricted] | |
| VLAT Role Priority Status Cost Migration Port Edge Role TCN | |
| HSTP Point Point | |
| 102.1x Apply | |
| Link Tracking Loop Protect | |
| P Layer3 Mont P | |
| ▶ Statistics | |
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Figure 5-70. Port Status Configuration Page

Clicking the PORT SETTINGS tab brings up the PORT STATUS CONFIGURATION page (Figure 5-70), which allows you to set the configuration per port related to RSTP. The parameters for this page are shown in Table 5-49.

| Parameter | Description |
|----------------------|---|
| Port | This parameter specifies the port identifier. |
| Port Role | This parameter enables or disables the RSTP protocol status on a particular port. |
| Port Priority | This parameter specifies the port priority used in role selection. |
| RSTP Status | |
| Path Cost | This parameter specifies the path cost associated with this port. |
| Protocol Migration | This parameter controls the migration from RSTP to STP, if the other side of the switch runs STP. The migration takes place only if this is Enabled. |
| AdminEdge Port | |
| Admin Point-to-Point | This parameter allows you to configure ports explicitly as Point-to-point (Force true), Non-point-to-point or leave the decision to be made Dynamically (from the AL or MAC layer). |
| Auto Edge Detection | If this parameter is set to true, the edge port status is dynamically calculated. |

Table 5-49. Port Status Configuration Page Parameters

| Parameter | Description |
|-----------------|--|
| Restricted Role | This parameter specifies the RESTRICTED ROLE status of the port. |
| Restricted TCN | This parameter indicates the RESTRICTED TCN status of the port. |

Table 5-49. Port Status Configuration Page Parameters (Continued)

Port Status



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|-------------------------------|--|------------------------|---------------|---|----------------------------|--------------|--------------------------------|-----------|------------|---------|
| Ein Edt Vew Fprottes Joch Hel | p Sussested Star # | | | | | | | | | |
| | Allow Sec. | | | | | Refresh | Support | Help | About | Log Out |
| SUPERMIC | R | | | Speed O O O O O O O O O O O O O O O O O O | | • • • • • • | • • • • • • • • • • • • • • | | | |
| SOLERIVIC | | | | Switch 0 Gi 1 2 3 4 | 5 6 7 8 9 1011 12 13 14 15 | 161718192021 | 222324 EXTEXTERS | JEX4 | | |
| SWITCH SSE-G24-T | G4 | | | | | | | | | |
| SMIS | Global Settings | Basic Settings | Port Settings | Port Status | a series and series and | | | | | |
| Home | | | | | RSTP Port Stat | us | | | | |
| System Mgmt Layer2 Mgmt | | | | | Switch 0 | | | | | |
| Port Manager VLAN | | Port Desig | nated Root | Designated Cost | Designated Bridge | Der | signated Port | Type Role | Port State | |
| Dynamic VLAN RSTP | | | | | | | | | | |
| MSTP LA 802.1x | | | | | | | | | | |
| Filters Link Tracking | | | | | | | | | | |
| Loop Protect Layer3 Mgmt | | | | | | | | | | |
| Multicast Statistics | | | | | | | | | | |
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Clicking the PORT STATUS tab brings up the RSTP PORT STATUS page (Figure 5-71), which displays RSTP port specific information. The parameters for this page are shown in Table 5-50.

| Parameter | Description |
|-------------------|--|
| Port | This parameter specifies the port identifier. |
| Designated Root | This parameter specifies the unique Bridge Identifier of the bridge that is recorded as the root for the segment to which the port is attached. |
| Designated Cost | This parameter specifies the path cost of the Designated Port of the segment connected to this port. |
| Designated Bridge | This parameter specifies the Bridge Identifier of the bridge, which this port considers to be the Designated Bridge for this port's segment. |
| Designated Port | This parameter specifies the Port Identifier of the port on the Designated Bridge for this port's segment. |

| Table 5-50 | RSTP | Port | Status | Page | Parameters |
|-------------|------|-------|--------|------|------------|
| Table 3-30. | NOT | I UIL | Juaius | raye | rarameters |

| Parameter | Description |
|------------|--|
| Туре | This parameter specifies the operational point-to-point status of the LAN segment attached to this port. It indicates whether a port is considered to have a <i>Point-to-point</i> connection or <i>Shared Media</i> . |
| Role | This parameter specifies the port's current role as defined by the Spanning Tree Protocol. |
| Port State | This parameter specifies the port's current state as defined by application of the Spanning Tree Protocol. |

Table 5-50. RSTP Port Status Page Parameters (Continued)

MSTP

The MSTP link leads you to the following configuration pages:

- MSTP Basic Settings–Global Configuration
- MSTP Timers
- Port Configuration
- VLAN Mapping
- Port Settings
- CIST Port Status

MSTP Basic Settings–Global Configuration





Clicking the BASIC SETTINGS tab brings up the GLOBAL CONFIGURATION page (Figure 5-72), which can access the MSTP global configuration. The parameters for this page are shown in Table 5-51.

| Parameter | Description |
|----------------------------------|--|
| Select | This parameter allows you to select Global Configuration to use in the switch. |
| Context ID | This parameter shows the unique ID of the Global Configuration. |
| System Control | This parameter Starts or Shutsdown MSTP in the switch. |
| MSTP Status | This parameter specifies the protocol that can be enabled/disabled at a global level on the switch using this field. |
| Maximum MST Instances | This parameter allows you to specify the maximum MST instances. |
| Bridge Priority | This parameter specifies the Priority value assigned to the bridge that is used to select the root bridge. |
| Path Cost Type | This parameter allows you to configure the path cost either as a 16-bit value or a 32-bit value. This is provided mainly for backward compatibility with STAP. |
| Protocol Version | This parameter specifies the protocol version number of the configuration to be used. |
| Region Name | This parameter specifies the name for the Region's configuration. By default, the region name will be equal to the Bridge MAC Address. |
| Region Version | This parameter specifies the region version number of the configuration to be used. |
| Dynamic Path Cost Calculation | This parameter allows you to enable or disable the Dynamic Path Cost Calculation. |

Table 5-51. Global Configuration Page Parameters

MSTP Timers



Figure 5-73. Timers Configuration Page

Clicking the TIMERS tab brings up the TIMERS CONFIGURATION page (Figure 5-73), which configures the time for MAXIMUM HOP COUNT, FORWARD DELAY, MAXIMUM AGE, TRANSMIT HOLD AGE and HELLO TIME.

Port Configuration

| SUPERMI SWITCH SBM-GE | CR O M-X2C | | | | | Speed 0 0 Link 0 0 Switch 0 Gi 1 2 | 3 4 5 6 7 | Refre: | ih 5 13 14 15 16 EX | Support Excess | • | lelp | About | Log Out |
|--|----------------------|-------------------------|--------|---------------|----------|--|----------------------|--------------------|------------------------|-------------------|--------------------|--------------------|-------------------|---------|
| SMIS | Basic Settings | Timers | ; | Port Configur | ation | VLAN Mapping | Port Se | ttings (| IST Port Sta | itus | | | | |
| Home System Mgmt System Settings File Management Firmware Upgrade Management Seturity | | | | | | CIS G | 6T Setti 10/1-Ex(| ings <u>)/3</u> | | | | | | |
| Syslog ACL Web Settings | | Clear All Select All | Port | Path Cost | Priority | PointToPoint Status | Edge Port | MSTP Status | Protocol Migration | Hello Time | AutoEdge Status | Restricted Role | Restricted TCN | |
| AGENT | | | Gi0/1 | 200000000 | 128 | Auto - | False - | Enable - | False - | 2 | True • | False • | False - | |
| RMON | | | Gi0/2 | 200000000 | 128 | Auto - | False - | Enable - | False - | 2 | True • | False • | False - | |
| NTP Stack | | | Gi0/3 | 200000000 | 128 | Auto - | False - | Enable - | False - | 2 | True • | False - | False - | |
| Layer2 Mgmt Layer2 Basic Settings | | | Gi0/4 | 200000000 | 128 | Auto - | False • | Enable - | False • | 2 | True 👻 | False • | False • | 1 |
| Port Manager VLAN | | | Gi0/5 | 200000000 | 128 | Auto - | False - | Enable - | False - | 2 | True 👻 | False - | False - | |
| Dynamic VLAN RSTP | | | Gi0/6 | 200000000 | 128 | Auto - | False • | Enable + | False + | 2 | True 👻 | False • | False • | |
| MSTP | | B (| Gi0/7 | 200000000 | 128 | Auto - | False - | Enable - | False - | 2 | True 🔻 | False • | False • | |
| 802.1x Filters | | | Gi0/8 | 200000000 | 128 | Auto • | False - | Enable - | False • | 2 | True • | False • | False • | |
| Layer3 Mgmt | | | Gi0/9 | 200000000 | 128 | Auto - | False - | Enable - | False • | 2 | True 🕶 | False • | False - | |
| Statistics | | | Gi0/10 | 200000000 | 128 | Auto - | False • | Enable - | False • | 2 | True • | False • | False • | |
| | | | Gi0/11 | 200000000 | 128 | Auto - | False - | Enable - | False + | 2 | True 🕶 | False • | False - | |
| | | | Gi0/12 | 200000000 | 128 | Auto - | False • | Enable • | False • | 2 | True • | False • | False • | |
| | | | Gi0/13 | 200000000 | 128 | Auto - | False - | Enable - | False • | 2 | True • | False • | False - | |
| | | | Gi0/14 | 20000000 | 128 | Auto - | False • | Enable - | False - | 2 | True • | False • | False - | |
| | | | Gi0/15 | 20000000 | 128 | Auto - | False - | Enable - | False - | 2 | True 🕶 | False • | False - | |
| | | | Gi0/16 | 200000000 | 128 | Auto - | False • | Enable - | False + | 2 | True • | False • | False - | |
| | | | Ex0/1 | 200000000 | 128 | Auto - | False - | Enable - | False • | 2 | True • | False • | False • | |
| | | | Ex0/2 | 200000000 | 128 | Auto - | False - | Enable - | False • | 2 | True • | False • | False • | |
| | | | Ex0/3 | 200000000 | 128 | Auto - | False - | Enable • | False - | 2 | True • | False - | False - | 1 |

Figure 5-74. CIST Settings Page

Clicking the PORT CONFIGURATION tab brings up the CIST SETTINGS page (Figure 5-74), which sets the configuration per Port related to MSTP. The parameters for this page are shown in Table 5-52.

| Parameter | Description |
|-----------------------|--|
| Port | This parameter specifies the port identifier. |
| Admin Status | This parameter specifies the MSTP protocol status that can be enabled/disabled on the particular port. |
| Priority | This parameter specifies the port priority used in role selection. |
| Path Cost | This parameter specifies the path cost associated with this port. |
| Protocol Migration | This parameter controls the migration among MSTP, RSTP and STP protocols, if the other side of the switch runs a different mode. Migration takes place only if this is enabled. |
| Edge Status | This parameter must be configured if the corresponding port is an edge port. |
| Point-to-Point Status | This parameter allows you to configure the ports explicitly as point-to-point (<i>Force</i> true), as a non-point-to-point port, or leave the decision to be made dynamically (from the AL or MAC layer). |
| Hello Time (Seconds) | This parameter specifies the administrative value of Hello Time for the port. |
| Auto Edge Status | If set to True, the edge port status will be dynamically calculated. |

Table 5-52. CIST Settings Page Parameters

| Parameter | Description |
|-----------------|--|
| Restricted Role | This parameter specifies the Restricted role status of the port. |
| Restricted TCN | This parameter indicates the Restricted TCN status of the port. |

| Table 5-52. CIST Settings Page | Parameters (Continued) |
|--------------------------------|------------------------|
|--------------------------------|------------------------|

VLAN Mapping



| | | | | 100 | R | efresh | Support | Help | About | Log Out |
|--|----------------|--------|--------------------|--|--|-------------|---------------|------|-------|---------|
| SUPERMI | CR | | | Speed 0 0 Link 0 0 Switch 0 Gi 1 2 3 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 0 0 0 0 0 0 | 6 EX1 EX2 EX3 | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | | |
| SMIS | Basic Settings | Timers | Port Configuration | VLAN Mapping | Port Settings | CIST Po | rt Status | | | |
| Home * System Mgnt System Settings File Management Security Acto Weak Settings * Addent Acto Acto Acto Acto Acto Acto Acto Act | | | | VLI MSTP 1 Add VL Delece Seteci(Inst | AN Mapping instance ID .AN - .AN - Add Reset | VUANC | | | | |

Clicking the VLAN MAPPING tab brings up the VLAN MAPPING page (Figure 5-75), whose table contains one entry for each instance of MSTP. The parameters for this page are shown in Table 5-53.

| Parameter | Description |
|------------------|--|
| MSTP Instance ID | This parameter specifies the Instance ID, which is the index of the table. |
| Map VLAN | This parameter specifies the list of VLANs to be mapped to this instance of the spanning tree. |
| Unmap VLAN | This parameter specifies the list of VLANs to be unmapped from this instance of the spanning tree. |
| Select | This control selects the Instance ID from the table. |
| Instance ID | This shows the Instance ID for each entry in the table. |
| Mapped VLANs | This shows the Mapped VLANs for each entry in the table. |

| Table 5-53 | VI AN | Mapping | Page | Parameters |
|-------------|--------------|---------|------|------------|
| Table 3-33. | | mapping | raye | rarameters |

Port Settings

Figure 5-76. Port Settings Page

| - | 7 | | SWITCH | Refresh I-1 LED ST/ | Support | Help | About | Log Out | | | | |
|---|----------------|-----------------------------|--|------------------------|--------------|---------------|--------|------------|--|--|--|--|
| SUPERMIC SWITCH SSE-G24-TV | G4 | Speed Link Switch I G | Speed Square Square Squar | | | | | | | | | |
| SMIS | Basic Settings | Timers | Port Configuration | VLAN Map | pping | Port Settings | CIST | ort Status | | | | |
| Home System Mamt | | | Port S | ettings | | | | | | | | |
| Layer2 Mgint Layer2 Basi Settings Port Manager VLAN RSTP MSTP MSTP LO2.1x Filters Link Tracking Loger3 Mgint Multicast Statistics | | ľ | ALL Port MSTP | Port State | Priority Cos | st. | | | | | | |
| Clicking the D | | tob bring | a up the Dopt | CETTIN | 00 000 | | 0 E 76 |) which | | | | |

Clicking the PORT SETTINGS tab brings up the PORT SETTINGS page (Figure 5-76), which displays the various parameters for port settings. The parameters for this page are shown in Table 5-54.

| Table 5-54 | . Port | Settings | Page | Parameters |
|------------|--------|----------|------|------------|
|------------|--------|----------|------|------------|

| Parameter | Description |
|------------------|---|
| Port | This parameter specifies the interface index of the port on which MSTP is being run. |
| MSTP Instance ID | This parameter specifies the instance ID of the STP that is associated with this instance. |
| Port State | This parameter specifies the current state of the port. |
| Priority | This parameter specifies the priority related to this port. |
| Cost | This parameter specifies the cost associated with this port, which will be added to the cost of any path that includes this port. |

CIST Port Status

| 2.0 | | | | | | | Retrest | - | lupport | | ele . | About |
|----------------------|----------------|--------------------------------|---------|---|-----------|--------------|---|----------|---------|------------|------------|---------------|
| SUDEDAUG | TD. | | | | | switces a | LED STATUS + | | | | | |
| SUPERMIC | . K o | | | Sec. | | | | | | | | |
| SWITCH SSE-024-T | 104 | | | Reach 1 Ca | | | | IN MARKE | 11110 | | | |
| 5445 | Basic Settings | Timers Part Configuration | 1 10 | Mi Mapping Port 5 | etterga | CIST Part No | - | | | | | |
| | | | | | MST | P CIST P | ort Status | | | | | |
| Home Existen Mond | | | | | | | | | | | | |
| *Layer2 Mgmt | | | | | | Switch | 11 | | | | | |
| Ward Managet | | Port Designated East | Red | Designated Bridge | Designate | Designated | Registed Bard | Regione | Benjapa | True | Role | Ford State |
| Dynamic WLAM | | | Proving | | Port | Cost | | Root | Path | | | |
| METH | | | - | and the second se | | | In other states of the | morey | Cost | | | COLUMN TWO |
| 465.3+ | | CHUT BORROWIANTELISTIC | 11768 | BOOD OF THE STREET | all la | 20000 | NUMBER OF STREET, STREET, ST. | 11768 | | Destables | Designated | Forwarding. |
| Cest Transma | | CALC REPORT OF REPORT OF | 11148 | about to dispose to | 10.15 | | EDODOD ID IE SO SA IC | 11748 | | Khaneff an | Thursday | Plan and inc. |
| Long Probact | | Cally Brohm in at most le | 12568 | ADDRESS IN ADJUST 10 | 80.25 | | 10000031414041414 | 12768 | | Shareff an | Disabled | Discasting |
| Maiticant | | Q114 800000 10 48 40 58 14 | 12568 | 80-00-00-10-48-0-64 Lc | 80.71 | | 1000003248+0.641c | 32768 | | Charoff an | Disabled | Discurling |
| * Statistics | | Oil-6 800000 50 48 m 64 54 | 32768 | \$100-00-30 48 +0.64 1c | 60.22 | | 80 00 00 30 48 +0 54 10 | 32768 | | Shared) an | Deatherst | Discuting |
| | | Gil/7 #0:00:00:30 #8 #0:54 to | 32768 | \$1000003048+0641c | 80.23 | | 80.00.0030.48.0054.14 | 32768 | | SharedI.m. | Disabled | Discenting |
| | | GIL# 80:00:00:30.48.+0.64.14 | 32768 | \$0.00.003048.00541c | 80.24 | 0 | 80.0000.30.48.00.64.3c | 12718 | | SharedLas. | Distilied | Discuting |
| | | Q119 800000.30.48±0.641c | 32748 | \$0:00:00.30.4Ex0:64.1c | 1025 | 0 | 8000003948+0434 | 32768 | 0 | SharedLas: | Disabled | Discenting |
| | | CH1/35 80:00:00.30 48:00:64 14 | 32568 | 8290-003048#064ttc | 80.26 | | 80:00:00:30 48:40:54 34 | 12768 | | SharedLas | Disabled | Discording |
| | | 00/11 00:00:00.50.48.e0:64.14 | 32768 | \$0.50.0030.48#0.643c | 80.27 | Ū. | 80.00.00.3048.e0.6434 | 32768 | | SharedLasi | Disabled | Docedas |
| | | Oi1/12 80:00:00.50.48.x0:64.14 | 32768 | \$0:00:003048.00641c | 80.28 | 0 | 80000003048#0543# | 32768 | 8.0 | SharedLas | Disabled | Discarding |
| | | OH/13 80:00:00.50.48.e0.64.1c | 32768 | \$0.00.003048+0.641c | 80.29 | 0 | 80.00.00.30.48.e0.64.14 | 32768 | | SharedLau | Disabled | Deceding |
| | | CH1/34 80:00:00:30:48:e0:64.3c | 32768 | 8202003048+0.641c | 80.28 | 0 | 80.0000.3048.00.6434 | 32768 | 0 | SharedLas. | Disabled | Discasting |
| | | CH1/15 80:00:00:30:48 #0:64.1c | 32768 | \$2500003048x0541c | \$0.25 | 0 | 80:00:00:30:48:#0:64:3c | 32768 | 8 | ShandLan | Duabled | Discarding |
| | | Cil/16 80:00:00:30:48:e0:64.3c | 32768 | 80:00:00:30:48:00:64 Jc | 80:2c | 0 | 80.00:00.30:48.+0:54.3c | 32768 | 0 | Shared!.m | Disabled | Discarting |
| | | CH1/17 80:00:00:30:48:e0:64.1c | 32768 | 8000003048+0543c | 8024 | 0 | 8000003248+24434 | 32768 | 0 | SharefLan | Disabled | Discetting |
| | | Oil/18 80:00:00:30:48:00:64:1c | 32768 | 8100303048,05434 | 80.21 | 0 | 80.00.00.3048.e0.54.14 | 32768 | | SharefLas | Disabled | Decenting |
| | | Gil/39 80:00:00:30:48 #0:64 1c | 32%8 | 80.00.003048#0.041c | 30/2f | 0 | 80.00:00:30:48.w0:64.1c | 32768 | | SharedLas. | Deabled | Decedera |
| | | CH1/20 80:00:00:50:48:±0:64.34 | 32768 | \$0:00:0030;48:#0:64;1c | 80.30 | 0 | 8000003248+05436 | 32768 | | SharedLas | District | Decedeg |
| | | CH1/21 80:00:00:30:48 e0:64 1c | 32568 | \$1.00:00.3048+0:64:1c | 80.31 | | 80.00003048.005434 | 32768 | | SharedLas | Deabled | Decedes |
| | | Oil/22 80:00:00.30.48+0:64.5c | 32768 | \$100:00.30.48.r0.64.1c | 80.32 | 0 | 80.00.00.3248.e0.643c | 32768 | | SherdLas | Deabled | Decerting |
| | | GH1/23 B0/00:00:30:48 #0:64.14 | 32768 | \$0:00:0030.48.e0:64.1c | 80.33 | 0 | 80.00.00.3048.e0.643c | 32768 | | SherdLas | Disabled | Discrifing |
| | | CH1/24 80:00:00.30.48:e0.64.24 | 32568 | 80.00.00.30.48.e0.64.14 | 80,34 | | 80.00.00.30.48.#0.#4.16 | 32768 | | SharodLan | Deabled | Decieding |
| | | Ex3/1 80:00:00:30:48:00641c | 32568 | \$20000304890541c | 80.35 | 0 | 80.00.50.30 18 10.6436 | 32798 | 0 | ShavedLag | Disabled | Discarting |
| | | En1/2 80:00:30:48:00:54:1c | 32768 | \$890:003048x0:541c | 80.36 | | 80:00:00.3048.wb643c | 32768 | | SharvdLan | Duabled | Decenting |
| | | Ex13 8000003048a06434 | 32568 | 8000003048+06416 | 80.37 | 0 | 80.00/00/30 48 #164 36 | 32768 | - 0 | SharedLas. | Disabled | Discarding |

Figure 5-77. MSTP CIST Port Status Page

Clicking the CIST PORT STATUS tab brings up the MSTP CIST PORT STATUS page (Figure 5-77), which displays MSTP CIST port specific information. The parameters for this page are shown in Table 5-55.

| | Table | 5-55. | MSTP | CIST | Port | Status | Page | Parameters |
|--|-------|-------|------|------|------|--------|------|------------|
|--|-------|-------|------|------|------|--------|------|------------|

| Parameter | Description |
|--------------------|---|
| Designated Root | This parameter specifies the unique Bridge Identifier of the Bridge recorded as the Root for the segment to which the port is attached. |
| Designated Bridge | This parameter specifies the Bridge Identifier of the bridge, which this port considers to be the Designated Bridge for this port's segment. |
| Designated Port | This parameter specifies the Port Identifier of the port on the Designated Bridge for this port's segment. |
| Designated Cost | This parameter specifies the path cost of the Designated Port of the segment connected to this port. |
| Regional Root | This parameter specifies the unique Bridge Identifier of the bridge recorded as the CIST Regional Root Identifier in the configuration BPDUs transmitted. |
| Regional Path Cost | This parameter specifies the contribution of this port to the path cost of paths towards the CIST Regional Root, which includes this port. |
| Туре | This parameter specifies the operational point-to-point status of the LAN segment attached to this port. It indicates whether a port is considered to have a point-to-point connection or shared media. |

| Parameter | Description |
|------------|--|
| Role | This parameter specifies the ports current role as defined by the Spanning Tree Protocol. |
| Port State | This parameter specifies the port's current state as defined by the application of the Spanning Tree Protocol. |

Table 5-55. MSTP CIST Port Status Page Parameters (Continued)

LA

The LA link provides links to the following configuration pages:

- LA Basic Settings
- Interface Settings
- Port Settings

LA Basic Settings

Figure 5-78. LA Basic Settings Page

| SUPERMIC SWITCH SSE-G24-TG | R • 54 sw | Speed | Refresh Sup SWITCH-1 LED STA 8 9 10 11 12 13 14 15 1 | port Help TUS - | About 23 24 EX1 EX2 | Log Out |
|---|---------------------|-------------------------------------|---|---------------------|------------------------|---------|
| SMIS | Basic Settings | InterfaceSettings | Port Settings | | | |
| Home System Mgmt Layer2 Mgmt Layer2 Basic Settings Port Manager VLAN Dynamic VLAN RSTP LA 802.1x Filters Link Tracking Loop Protect Layer3 Mgmt Multicast Statistics | | LA Status System Pr System Id | Basic Setting Enabled • 32768 entifier 00:30:48:e0 Apply | S 2:64:1c | | |

Clicking the BASIC SETTINGS tab brings up the LA BASIC SETTINGS page (Figure 5-78), which displays the various parameters for LA basic settings. The parameters for this page are shown in Table 5-56.

| Parameter | Description |
|-----------------|---|
| LA Status | This is used to enable or disable LA in the switch. |
| System Priority | This parameter specifies the priority value associated with the Actor's system ID. |
| System ID | This parameter specifies the Bridge MAC Address that is displayed. This is a read-only parameter. |

Table 5-56. LA Basic Settings Page Parameters

Interface Settings



| SUPERMIC SWITCH SSE-024-1 | CRO G4 | | Speed Lask Sectors 1 | Gi 1 2 3 4 5 | SWITCH | Refresh 4-1 LED STAT | Support US • | | About | Log Out |
|--|----------------|--|----------------------------|--------------|------------|-------------------------|-----------------|---|------------|---------|
| SMIS | Basic Settings | InterfaceSettings | Port | Settings | | | | | | |
| Home | | | P | ortChanne | el Interf | ace Basic | : Settings | | | |
| System Mgmt Laver2 Momt | | | | Po | rt Channel | ID | | | | |
| Layer2 Basic Settings Port Manager | | | | | Add | Reset | | | | |
| VLAN Dynamic VLAN RSTP MSTP LA | ALL | Port Ports No annel List Of ID Ports | Admin State | Oper State | MTU | Load | Balancing | D | escription | |
| B02.1x Filters | | 1 0 | Down - | Down | 1500 | MAC Source | and Destination | • | | |
| Loop Protect | | | | | Apply | Delete | | | | |
| Multicati Statistics | | | | | | | | | | |

Clicking the INTERFACE SETTINGS tab brings up the PORT CHANNEL INTERFACE BASIC SETTINGS page (Figure 5-79), which allows you to configure port channels. The parameters for this page are shown in Table 5-57.

| Table 5-57. Port | Channel | Interface | Basic | Settings | Page | Parameters |
|------------------|---------|-----------|-------|----------|------|------------|
|------------------|---------|-----------|-------|----------|------|------------|

| Parameter | Description |
|-----------------|---|
| Port Channel ID | This parameter specifies the identifier of the port channel interface. The valids values are between <i>1</i> to <i>65535</i> . |

Port Settings

| | | | | | | | Radowsk . | Repport | Hally | About | |
|--|--|-----------|------------------|--|-------|------------------|--|--------------|-------|-------|--|
| DEDMICT | | | | | | ewitce+11 | CD STATUS - | | | | |
| JPERMICK | | | | Terration of the local division of the local | | | | | | | |
| SWITCH BEE-G24 TO4 | | | | Design of the | G 1 | | 1.12 La 18 jai 1° 18 ja 19 ja 11 10 jai 18 | 1101101 | | | |
| 81615 | is Settings Interface Settings Part In | - | | | | | | | | | |
| 1997 - Carlos Ca | | | | | | LA Port Set | tings | | | | |
| rever palante Mignel per 2 Mignel Landri Sanse Salterge | | | | | | Switch 1 | | | | | |
| Purit Ranager MURI December 10,00 | | BALL Part | Part Channel | Made | Port | Timesout Time (s | Part State | Approgration | | | |
| 84(19) HETP | | 041/1 | Not Configured + | + | 128 | Long + 2 | Up, independent | | | | |
| 12.6e | | 01.2 | Not Configured + | | 126 | Long = 2 | Up, instrument | | | | |
| Rans nili Tracking | | 041-3 | Not Configured + | | 1,25 | Long = 3 | Down, Nut in Bundle | | | | |
| weit Wgent | | 613.4 | Not Configured + | • | 128 | Long = 2 | Down, Not in Bundle | | | | |
| division. | | 015/5 | No Configured + | | 128 | Long = 2 | Down, Not in Dunde | 3 | | | |
| | | Cét 4 | Not Configured + | + | 126 | Long + 2 | Down, Not to Dumba | | | | |
| | | 00.7 | Not ConApred + | | 128 | Long + 2 | Down, Not to Dutche | | | | |
| | | 04.9 | Not Configured + | • • | 138 | Ling + 2 | Dipan, Not II Dunda | | | | |
| | | 012/9 | Not Conligated + | | 128 | Ling + 2 | Down, Note in DutoBar | | | | |
| | | OK110 | Not Conleared + | • | 1,29 | Long + 2 | Down, Not in Europe | | | | |
| | | 01111 | Not Conligand . | • | 121 | Long + 2 | Durant, Not in Dansle | | | | |
| | | 041/12 | Not Conliquied + | | 121. | Long + 2 | Down, Nut in Datable | | | | |
| | | G6113 | Not Configured + | • | 128 | Long + 2 | Dorent, Noth in Duesdier 2011 | | | | |
| | | - Gi134 | Not Conligued + | | 128 | Long + 2 | Driven, Not to (tumbe | | | | |
| | | 0111 | Not Configured + | + | 128 | Long + 2 | Down, Not in Dumbe | | | | |
| | | Oil 16 | Not Configured * | | 1,28 | Long * J | Down, Nut in Dundle | | | | |
| | | 0.1/17 | Not Configured + | • | 128 | Long = 2 | Down, Not in Dundw | | | | |
| | | 6411 | Not Configured + | | 128 | Long + 2 | Doleh, Nol In Bundle | | _ | | |
| | | C 64119 | Not Configured + | + | 128 | Long + 2 | Dijwen, Noti si Dumbe | | | | |
| | | 0(12) | Not ConApared + | | 126 | Long + Z | Down, Not to Dutube | | | | |
| | | 08121 | Not Configured + | • | 128 | Long + 2 | Down, Hut in Dunille | | | | |
| | | 01/22 | Not Configured + | | 128 | Ling + 2 | Down, Hot in Datelle | | | | |
| | | - GE1/28 | Not Conligated + | | 128 | Long - 2 | Dirent, Not in Exandre | | | | |
| | | | Not Configured + | • | t28 | Ling + 2 | Dissen, 1831 in Dundler | <u></u> | | | |
| | | Eas 1 | Not Conliquied + | • | 128 | Long + 3 | Down Not in Danille | | | | |
| | | Ent-2 | Not Configured + | • | 128 | Long = 2 | Down, Hot In Danille | | | | |
| | | (Dal.3) | Not Conlipsed * | | 138 | Long + 2 | Dilleri, Noti in Duitdle | | | | |

Figure 5-80. LA Port Settings Page

Clicking the PORT SETTINGS tab brings up the LA PORT SETTINGS page (Figure 5-80), which configures LA properties at a per-port level. The parameters for this page are shown in Table 5-58.

| Table 5-58 | LA | Port | Settings | Page | Parameters |
|------------|----|------|----------|------|------------|
|------------|----|------|----------|------|------------|

| Parameter | Description |
|-------------------|--|
| Port | This parameter specifies the Interface Index. |
| Port Channel | |
| Mode | This parameter specifies the various port modes, such as LACP, Manual or Disable. |
| Port Priority | This parameter specifies the priority value of the Port. |
| Timeout | This parameter sets the time within which LACP PDUs must be received on a port to avoid timing out of the Aggregated Link. If a <i>Long</i> timeout is chosen then the ports will time out of the Port Channel in 90-seconds. If a <i>Short</i> timeout is chosen then the ports will time out of the Port Channel in 3-seconds. |
| Wait Time | This parameter configures the waiting time for a port after receiving Partner information and before entering aggregation. |
| Port State | |
| Aggregation State | |

802.1x

The 802.1x link provides link to the following configuration pages:

- Basic Settings
- Port Settings
- Timers
- Local AS

Basic Settings



Figure 5-81. 802.1x Basic Settings Page

Clicking the BASIC SETTINGS tab brings up the 802.1X BASIC SETTINGS page (Figure 5-81), which displays the various 802.1x Basic Settings parameters. The parameters for this page are shown in Table 5-59.

| Parameter | Description |
|-----------------------------|--|
| System Control | This parameter starts or shutsdown 802.1x in the switch. |
| 802.1x Authentication | This parameter allows enabling or disabling of the 802.1x based port security feature in the switch. |
| Authentication Server | This parameter specifies the Authentication Server Location as Remote or Local |
| Network Access Server ID | This parameter specifies the Authenticator ID, which originates the Access-Request Packets. |
| Protocol Version | |

Table 5-59. 802.1x Basic Settings Page Parameters

Port Settings

| a. | | | | | | | SWITCH 112 | ID STATUS + | - | | | About | Log that |
|------------------------------------|-------------|-----------------|--------------------------------|-----------------|--------------------|-----------------|--------------------|---|---------------|----------------|---------|---------------|--------------|
| SUPERMIC | IR e | | | | | | | | | | | | |
| SWITCH MML 0.24 1 | CH. | | | | | | | | | | | | |
| SMIS | Resix Seets | Part Salls | Time | • Lata | (AS 8 | | BUT In Boat B. | A CONTRACTOR OF | | | | | |
| Home Setter Aget Cayer2 Mpet | | | | | | | Switch 1 | ennigs | | | | | i i |
| Port Renaged | and Part | Part Carry I | Access | Auth PartStatus | Supp Partitutus | Authentication | Configured Control | Operational Control Direction | Auth-SM State | Supp SN State | Restart | Authenticatio | Retry Result |
| 8570 #0779 | 0111 | Forowhattorized | + NACINE + | Advised - | Astoreed - | Port Daniel + | fast + | Num + C | Foreshills + | Forcadutte | False + | 1 | Deather + |
| 10 000.14 | 0112 | Forowfuthorized | + BACTNE + | Adverged - | Autorpad - | Port Saint - | Date + | Dom - | Foresham - | Farcelum | fate + | 2 | Dealler + |
| Fillers Let Thacking | 0119 | ForowAuthorged | + NACTNE + | Authorized | Undufficitized 1 | | Buth * | | Industry . | Deconschel | False + | 2 | Deathed * |
| Loop Pedant PLayer 2 Mpre | 0114 | FolosAuthorized | + MACINE + | Adhorped | Unsubcound + | | Both + | | makalara + | Germentet | False + | 2 | Disabled + |
| * Multical | 00.5 | Forowhattorged | + RMCTNF + | Autoreat - | | | fash + | | anales - | | False 4 | 2 | Deater + |
| | 0114 | ForosAutorand | + INACTAL + | | | | Ball 1 | | tender v | | Fase + | 2 | Deadled + |
| | 0117 | Forowfathorized | + BACTNE + | Adherded - | Quadrocited + | | Buth + | | Autodate | Decomethel | False + | 1 | Duality. + |
| | 0118 | ForceAuthorized | · BIACTIVE · | Authorized | Unpathotized + | | Both + | | analps + | Deciremited | False + | 2 | Deating + |
| | 01.9 | Forpehationzed | · BIACTIVE · | Adhonaed - | Unsattorated. + | | Both + | | initializa - | (Incomethed | False + | 2 | Deated + |
| | 0(1/32 | FirowAuthorzed | - PAACENE - | Adherent - | | | Both = | Burn - | saulty - | Discoverine in | Fase + | 2 | Dealled + |
| | 0/01/11 | FolosAutorand | · MACINE · | Authorized - | theatherpost + | | that + | Dolb + | vealure v | (Deconsulted | Fate + | 3 | Dealled + |
| | 61112 | Forowhattorized | + BAACTIVE + | Amorped - | Unadtoriped - | Port Second . | Bath + | Bolt + | velokov v | (Inconverted | False + | 2 | Dnathed = 1 |
| | 01113 | ForceAuthorized | · BACINE · | Authorized | Unastronized. 1 | Port Based + | Guth + | Both + | Velodity r | Disconsected | Fatse + | 2 | Deather + |
| | Gil/14 | Forowhattorized | + BANCINE + | National - | Unadhirped - | Post Daniel | 6an - | ALCON. ** | totality - | (Incidented | False * | 2 | Decading. * |
| | 011/15 | Forowhathorized | + BAACTIVE + | Advirged - | Unsuffering + | Port Sained . + | Both + | for - | andra - | (Income the) | False + | 2 | Doated + |
| | 01136 | ForosAutionand | + BAAGTINE + | Adhorated | Unsufficient - | | Buth + | BUB + | antakan - | (Decodewched) | False + | 2 | Deated + |
| | 00/37 | Foroefuthorized | INACTIVE + | Adhorped - | | | Boh + | Hom + | estatus - | | False + | 2 | Deated + |
| | 0.011.18 | ForceAuthorized | + BACTNE + | Nationalast - | Unadhirped - | Portilated - | finds + | Rom - | mindes - | | False + | 2 | Dualied + |
| | 01:00119 | Forowhathorged | + MACTIVE + | Astronaed - | Deadforped - | Port Based: + | Bath + | Bull: + | hilden 1 | (Incomented) | False + | 2 | Doubled + |
| | 0(1/20 | Forowfutforund | + BACTNE + | Amontel 1 | Unadirected + | Port Sales - | Ball + | Dott + | nanahira - | Germanited | False + | 1 | Deated + |
| | 015/21 | Forowfulterized | · BIACTNE · | Amorpel 1 | Unsafficitized + | Port Saved . + | Both + | Both + | assuiga - | Clocoreacted | False + | 2 | Deatled + |
| | 0.00/22 | ForowAuthorized | + BACTNE + | Adherine | Unadtorized + | Port Reset. + | Both + | them + | minutary + | Circoremoted : | False + | 2 | Deating + |
| | 01/24 | Forowkathorged | · PACTNE · | Adhoriped - | Unadtorged - | Port Saved + | Buth + | Rate + | valuation - | (Datumented) | False + | 2 | Dealer - |
| | 01.34 | Foroekathorized | · MACTNE · | Autoriped - | commonied - | Not Issuel - | Sun - | hoth + 1 | reador - | (heconected) | Fase + | 1 | Deadled + |
| | D B03 | ForceAuthorized | + BACTNE + | Autorated | (Insufferinged, * | | Bath + | Bully + | value * | (Inconvected) | False + | 1 | Drugited * |
| | 0 847 | FurceAuthorized | · BACINE · | Aithorpet | Unadtercost. + | Portfanet + | Dath + | Both + | Velodite + | Owconwided | False + | 7 | Deather + |
| | S.J. Dato | ForceAuthorized | + BACINE + | | | | Bath + | Batt > 0 | trades - | | False + | 3 | Deatind + |

Figure 5-82. 802.1x Port Settings Page

Clicking the PORT SETTINGS tab brings up the 802.1X PORT SETTINGS page (Figure 5-82), which configures security information at the individual port levels. The parameters for this page are shown in Table 5-60.

| Table 5-60. | 802.1x Port | Settings | Page | Parameters |
|-------------|--------------|----------|------|------------|
| 14010 0 001 | 002117.1 010 | oottingo | | aramotoro |

| Parameter | Description |
|----------------------------------|---|
| Port | This parameter specifies the Index of the port for which its fields (such as PORT CONTROL, PORT AUTHORIZATION STATUS, and so on) are configured. |
| Port Control | This parameter specifies the control values of the Authenticator Port. The control values can be: Force Authorize - All the traffic through this port will be allowed always. Force Unauthorize - All the traffic through this port will be blocked always. Auto - The 802.1x authentication process will be imposed over this port. |
| Port Authorization Status | This parameter specifies current status of the port either as <i>Authorized</i> or <i>Un-Authorized</i> . |
| Authentication Mode | This parameter specifies the configuration for selecting the AUTHENTICATION MODE to be <i>Port Based</i> . |
| Admin Control Direction | This parameter specifies whether security is to be imposed for In - the incoming traffic Both - both incoming and outgoing traffic |
| Operational Control Direction | This parameter specifies the current security status. |

| Parameter | Description |
|--------------------------------------|---|
| Port Initialize | This parameter specifies the initialization control for the port. Setting this value to <i>True</i> causes the port to be initialized. The value reverts to <i>False</i> once initialization is complete. |
| Maximum Authentication Request | This parameter specifies the maximum number of authentication requests that can be sent from the authenticator before getting a response from the supplicant. |
| Reauthentication | This parameter provides configuration to enable or disable the reauthentication mechanism on the port. |

Table 5-60. 802.1x Port Settings Page Parameters (Continued)

Timers

| Figure 5-83 | 802.1x | Timer | Configuration | Page |
|-------------|--------|-------|---------------|------|
|-------------|--------|-------|---------------|------|



Clicking the TIMERS tab brings up the 802.1X TIMER CONFIGURATION page (Figure 5-83), which configures Timer parameters at the individual port level. The parameters for this page are shown in Table 5-12.

| able 5-61. 802.1x Time | r Configuration | Page Parameters |
|------------------------|-----------------|------------------------|
|------------------------|-----------------|------------------------|

| Parameter | Description |
|---------------------------|--|
| Port | This parameter is the index of the port for which fields such as QUET PERIOD, TRANSMIT PERIOD, and such are configured. |
| Quiet Period (Seconds) | This parameter specifies the duration for which the authenticator will be silent and will not attempt to acquire a supplicant. It can be configured to any value in the range from 1 to 65535 seconds. |

| Parameter | Description |
|---------------------------------------|---|
| Transmit Period (Seconds) | This parameter specifies the time period used by the Authenticator State machine to define when the EAPOL PDU is to be transmitted. It can be configured to any value in the range from 1 to 65535 seconds. |
| Re-authentication Period (Seconds) | This parameter specifies the time between periodic re-authentication of the supplicant. |

Table 5-61. 802.1x Timer Configuration Page Parameters (Continued)

Local AS

Figure 5-84. Local Authentication Server Configuration Page

| SUPERMIC SWITCH SSE-024-1 | CRO G4 | | Speed Sp | SWITC | Refresh H-1 LED STATU | Support 5 • | | About | Log Out |
|---|----------------|---------------|--|---|---|----------------|-----|-------|---------|
| SMIS Home System Mgmt Cayer2 Mgmt Layer2 Mgmt ULAN Soft Manager ULAN Soft Manager La Boltss Filters Layer3 Mgmt Statistics Statistics | Basic Settings | Port Settings | Timers Local Auti | Jeer Name Parasword Permission Auth-TimeOut Port List Add Apply D | A3 Server Co ADMIN ADION -* Reset emission Anth- (se elete | TimeOut Port L | ist | | |

Clicking the LOCAL AS tab brings up the LOCAL AUTHENTICATION SERVER CONFIGURATION page (Figure 5-21), which configures Local Authentication Server information. The parameters for this page are shown in Table 5-12.

| Table 5-62. Local Authentication Serve | Configuration Pa | ge Parameters |
|--|------------------|---------------|
|--|------------------|---------------|

| Parameter | Description |
|-----------|---|
| User Name | This parameter specifies the identity of the user who is seeking authentication, and is set by a string of not more than 20 printable characters. |
| Password | This parameter specifies the password specific to the user name, and is set by a string of not more than 20 printable characters. |

| Parameter | Description |
|------------|--|
| | This parameter represents the allowance and denial of access. The values that can be configured are: |
| Permission | Allow - When set to Allow, the authentication request is allowed over the set of ports in the PORT LIST. |
| | Deny - When set to Deny, the authentication request is NOT allowed over the set of ports in the PORT LIST. |
| Port List | This parameter represents the complete set of ports of the authenticator to which the user is allowed or denied access. It is based on permission. |

Table 5-62. Local Authentication Server Configuration Page Parameters (Continued)

Table 5-63. MAC Session Info Page Parameters

| Parameter | Description |
|---------------------------|---|
| Session Intialize | This parameter is the initialization control for this Supplicant MAC address. Setting this attribute to <i>True</i> causes the Supplicant session with this MAC address, to be initialized. The attribute value reverts to <i>False</i> once initialization has completed. |
| Session ReAuthenticate | This parameter is the reauthentication control for this Supplicant MAC address. Setting this attribute to <i>True</i> causes the Authenticator PAE state machine for this MAC address to reauthenticate the Supplicant. Setting this attribute to <i>False</i> has no effect. This attribute always returns to <i>False</i> when it is read. |

Filters

The Filters link allows you to configure Layer 2 packet filtering.

The Layer 2 packet filtering management has the following configuration pages:

- Unicast Filters
- Multicast Filters

Unicast Filters



| SUPERMIC | Spec Lini G4 Switch | Refresh Support Help About Log Out SWITCH-1 LED STATUS - rd - < |
|--|---------------------------|---|
| SMIS | Unicast Filters | Multicast Filters |
| Home System Mgmt Layer2 Mgmt Layer2 Basic Settings Port Manager VLAN Dynamic VLAN RSTP A5 B02.1x Filters Link Tracking Loop Protect Layer3 Mgmt Layer3 Mgmt Layer3 Mgmt Statistics | | L2 Unicast Filter Configuration |

Clicking the UNICAST FILTERS tab brings up the L2 UNICAST FILTER CONFIGURATION page (Figure 5-21), which sets the filter configuration to control the unicast packets that the switch needs to process. The parameters for this page are shown in Table 5-12.

| Table 5-64. L2 Unicast Filte | er Configuration | Page Parameters |
|------------------------------|------------------|------------------------|
|------------------------------|------------------|------------------------|

| Parameter | Description |
|---------------|--|
| FDB ID | This parameter specifies the forwarding database ID. |
| MAC Address | This parameter specifies the destination MAC address of the received packet. |
| Receive Port | This parameter specifies the port on which the packet was received. |
| Allowed Ports | This parameter specifies the list of ports on which the received packet, with the above set MAC address (if received from the configured port) can be forwarded. |
| Status | You can choose to set this configuration to any one of the following types: Other – For entries currently in use, but whose conditions remain different from the following values. Permanent – Entries that reside even after the restart of the switch. DeleteOnReset – This deletes the entry on restart. |
| | DeleteOnTimeout – This deletes the entry on expiration of the ageing timer. |

Multicast Filters



Figure 5-86. L2 Multicast Filter Configuration Page

Clicking the MULTICAST FILTERS tab brings up the L2 MULTICAST FILTER CONFIGURATION page (Figure 5-21), which allows you to set the filter configuration to control the multicast packets that the switch needs to process. The parameters for this page are shown in Table 5-12.

| Parameter | Description |
|-----------------|--|
| VLAN ID | This parameter specifies the VLAN ID. |
| MAC Address | This parameter specifies the destination MAC address of the received packet. |
| Allowed Ports | This parameter specifies the list of ports on which the received packet, with the above set MAC address (if received from the configured port) can be forwarded. |
| Forbidden Ports | This parameter specifies the list of ports on which the received packet, with the above set MAC address (if received from the configured port) must NOT be forwarded. |
| Status | You can choose to set this configuration to any one of the following types: Permanent – This configuration resides even after restart of the switch. DeleteOnReset – This configuration deletes the entry on restart. DeleteOnTimeout – This configuration deletes the entry on expiration of the ageing timer. |

Table 5-65. L2 Multicast Filter Configuration Page Parameters

Line Tracking

| Concession of Concession | | | | _ | | | |
|--|---|---|--|------------------------|------|-------|---------|
| File Edit View Favorites Tools Hel | hamapage/ten/Tiambiliddidididididiaterenijet Ø + ≧CX e | SV15 × Keogle | | | | | n * 0. |
| 🚖 🕘 ellay 🗿 Get More Add-ons = 🔁 | Suggested Stes • | | | | 2000 | | |
| | | | Refresh | Support | Help | About | Log Out |
| SUPERMIC | R | Speed • • • • • • • • • • • • • • • • • • | 8 9 1011 12 13 14 15 16 17 18 19 20 21 | 22 23 24 EXI EX2 EX3 E | X4 | | |
| SWITCH SSE-G24-T | G4 | | | | | | |
| SMIS | | | | | | | |
| Home + Section Martin Management Branch Management Branch Management Branch Management Martin Harden H | | Link Status Tracking Disable • Apply EAL Group ID Upstream | Configure Group Id Upstream Interfaces Downstream Interfaces Asso Neterfaces Upstate Deletes | New Group | | | |

Figure 5-87. Link Status Tracking/Configure New Group Page

Clicking the LINK TRACKING link brings up the LINK STATUS TRACKING/CONFIGURE NEW GROUP page (Figure 5-87), which allows you to set the filter configuration to control the multicast packets that the switch needs to process. The parameters for this page are shown in Table 5-66.

| Parameter | Description |
|----------------------|---|
| Link Status Tracking | This parameter allows you to ENABLE and DISABLE Link Status Tracking. |
| Configure New Group | This parameter allows you to set the GROUP ID, UPSTREAM INTERFACES and DOWNSTREAM INTERFACES for a new group. |

Loop Protect



Figure 5-88. Loop Protection Page

Clicking the LOOP PROTECT link brings up the LOOP PROTECTION page (Figure 5-88), which allows you to set the filter configuration to control the multicast packets that the switch needs to process. The parameters for this page are shown in Table 5-67.

| Parameter | Description |
|-------------------|--|
| Loop Protection | This parameter allows you to ENABLE and DISABLE Loop Protection. |
| Transmit Interval | This parameter allows to set the time interval in seconds. |
| Disable Period | This Parameter allows to set the disable period in seconds. |
| Receive Action | This parameter allows to SEND DISABLE or NO DISABLE a received action. |
| Ports List | This parameter allsows to specify the ports list. |

Table 5-67. Loop Protection Page Parameters

5-6 Layer 3 Management



Figure 5-89. Layer3 Management Page

The LAYER 3 MANAGEMENT home page (Figure 5-89) has the following links to all Layer 3 features:

- IP
- IP V6
- DHCP Server
- DHCP Relay
- RIP
- RIPng
- OSPF
- OSPF V3
- BGP
- RRD
- RRD6
- VRRP

IP

The IP link enables you to perform IP related configuration. This can be done through the following pages.

- Vlan Interface
- IPv4 AddrConf
- IP Route
- LoopBack Basic Settings

Vlan Interface

Figure 5-90. VLAN Interface Basic Settings Page



Clicking the VLAN INTERFACE tab brings up the VLAN INTERFACE BASIC SETTINGS page (Figure 5-90), which allows configuring of L3 VLAN interfaces. The parameters for this page are shown in Table 5-68.

| Parameter | Description |
|----------------|---|
| VLAN Interface | This parameter specifies the VLAN identifier. |
| Admin State | This parameter specifies the admin state as either Up or Down. |
| MTU | This parameter specifies the maximum transfer unit size in bytes. |
| Select | |

Table 5-68. VLAN Interface Basic Settings Page Parameters

| Parameter | Description |
|-------------|-------------|
| Oper State | |
| Description | |

Table 5-68. VLAN Interface Basic Settings Page Parameters (Continued)

IPv4 AddrConf



Figure 5-91. IPv4 Address Configuration Page

Clicking the IPv4 ADDR CONF tab brings up the IPv4 ADDRESS CONFIGURATION page (Figure 5-91), which allowsyou to configure the IP address for L3 VLANs. The parameters for this page are shown in Table 5-69.

| Parameter | Description |
|-------------------|---|
| Interface VLAN ID | This parameter specifies the VLAN interface. |
| IP Address | This parameter specifies the IP Address of the specified interface. |
| Subnet Mask | This parameter indicates the mask for the specified IP Address. |
| Address Type | This parameter specifies the type of address, which can be <i>Primary</i> or <i>Secondary</i> . |

IP Route



Figure 5-92. IP Route Configuration Page

Clicking the IP ROUTE tab brings up the IP ROUTE CONFIGURATION page (Figure 5-92), which allows you to configure the static IP routes. The parameters for this page are shown in Table 5-70.

| Parameter | Description |
|---------------------|--|
| Destination Network | This parameter specifies the network address for which the route is being added. |
| Subnet Mask | This parameter indicates the subnet mask for the Destination Network address. |
| Gateway | This parameter denotes the Next Hop Gateway to reach the IP address. |
| Interface | This parameter specifies the outgoing interface. |
| Distance (Metric) | This parameter specifies the metric value of the destination. |

| lable 5-70. IP Ro | oute Configurat | ion Page Parameters |
|-------------------|-----------------|---------------------|

LoopBack Basic Settings



Figure 5-93. LoopBack Basic Settings Page

Clicking the LOOPBACK SETTINGS tab brings up the LOOPBACK BASIC SETTINGS page (Figure 5-93), which allows you to configure loopback IP interfaces. The parameters for this page are shown in Table 5-71.

| Parameter | Description |
|--------------------|---|
| LoopBack Interface | This parameter is the name of the loopback interface getting created. |
| Interface Type | This parameter is always the loopback for this configuration. |
| Interface Status | This parameter for the INTERFACE STATUS can be set to Up or Down. |
| IP Address | This parameter specifies the IP address for this loopback interface. |
| Subnet Mask | This parameter specifies the subnet mask for this loopback interface. |

| Table 5-71. Loo | pBack Basic S | ettings Page | Parameters |
|-----------------|---------------|--------------|------------|

IP V6

The IPv6 link allows you to perform IPv6 related configurations. This can be accomplished through the following six pages.

- IPv6 Route Configuration
- IPv6 Interface
- ND Cache
- Address Settings
- Address Profile
- Prefix Settings

IPv6 Route Configuration

| SUPERMI SWITCH SPM.GPM | CR | | | Spe Lis Switch | ed 00000000 sk 000000000000000000000000000 | Refresh 8 9 10 11 12 13 14 15 | Support | Help | About | Log Out |
|--|---------------|----------------|---|----------------------|---|----------------------------------|-------------------|-------------|-------|---------|
| SMIS | IDr6 Porto | ID:6 Interface | ND Cacho | Address S | attinge Addrage | Profile Profix | Sottinge | | | |
| Smits Home System Mgntt • Layed Mgnt • Layed Mgnt REP RCP REP REP REP REP REP REP REP REP REP RE | iii-ve koasto | UPV6 Interface | ND Cache Destin Prefix: Gatew Interford Distan | Address S | Viani - Tra Length/Routing | eset Protocol[Geteway | [Interface]Distan | nse(Metric) | | |

Figure 5-94. IP6 Route Configuration Page

Clicking the IPv6 ROUTE tab brings up the IP6 ROUTE CONFIGURATION page (Figure 5-94), which configures various IP6 Route parameters. The parameters for this page are shown in Table 5-72.

| Parameter | Description |
|---------------------|---|
| Destination Network | This parameter specifies the network address for which the IPv6 route is being added. |
| Prefix Length | This parameter specifies the subnet mask for the above said address. |

Table 5-72. IP6 Route Configuration Page Parameters
| Parameter | Description |
|-------------------|--|
| Gateway | This parameter specifies the Next Hop Gateway to reach the IP address. |
| Interface | This parameter indicates the outgoing interface. |
| Distance (Metric) | This parameter denotes metric value of the destination. |

Table 5-72. IP6 Route Configuration Page Parameters (Continued)

IPv6 Interface

Figure 5-95. IPv6 Interface Settings Page

| SUPERMIC | 'R o | | | SWITCH-1L | Refresh ED STATUS | Support • | Help | About | Log Out |
|--|------------------------------|----------------|---|---------------------|----------------------|------------------|------------------|--------------|----------------|
| SWITCH SSE-G24-1 | ·G4 | | tiped 5 Link 6 0 iemth 1 Gi 1 2 3 | | 01419161719 | 19 20 21 22 23 2 | 4123112321233 | | |
| SMIS | IPv6 Route | IPv6 Interface | ND Cache | Address Settings | Address | Profile P | Prefix Settings | | |
| Home | | | 1 | Pv6 Interface | Settings | | | | |
| System Mgmt Laver2 Mgmt | Select Port Admin | Oper RA Status | Hop Limit | Def-Rtr Time RA Rol | Time RA Re | trans Time | Prefix-Adv State | IS RA Interv | al DAD Retries |
| Layer3 Mgmt | vlan1 up | up Disabled | • 64 | 1800 30 | 1 | | Enabled · | 600 | 1 |
| PonicP RIP RIPng BGP RRD RRD RRD SGB RRD SGB SGB SGB SGB SGB SGB SGB SGB SGB SGB | | | | Арру | | | | | |

Clicking the IPv6 INTERFACE tab brings up the IPv6 INTERFACE SETTINGS page (Figure 5-95), which displays the various parameters for the IPv6 Interface. The parameters for this page are shown in Table 5-73.

| Parameter | Description |
|--------------|---|
| Port | This parameter specifies the Index of the VLAN interface. |
| Admin | This parameter indicates the Administrative Status of IPv6 on the Interface. |
| Oper | This parameter specifies the Operational Status of IPv6 on the given Interface, which is a read-only field. |
| RA Status | This parameter indicates the Router Advertisement status on the Interface. |
| Hop Limit | This parameter denotes the Hop Limit value to be placed in the Router Advertisements sent on the Interface. |
| Def-Rtr Time | This parameter specifies the Default router lifetime to be placed in the Router Advertisements sent on the interface. |

| Table \$ | 5-73. | IPv6 | Interface | Settings | Page | Parameters |
|----------|-------|------|-----------|----------|--------|------------|
| | | | | | · - 9- | |

| Parameter | Description |
|-------------------|---|
| RA Rch Time | This parameter indicates the Reachable time to be placed in the Router Advertisements sent on the interface. |
| RA Retrans Time | This parameter specifies the RA Retransmit time to be placed in the Router Advertisement sent on the interface. |
| Prefix-Adv Status | This parameter specifies the Prefix Advertisement status on the Interface. |
| RA Interval | This parameter specifies the minimum time in seconds allowed between sending unsolicited router advertisements. |
| DAD Retries | This parameter specifies the maximum number of Duplicate Address Detection retries. |

Table 5-73. IPv6 Interface Settings Page Parameters (Continued)

ND Cache





Clicking the ND CACHE tab brings up the ND CACHE CONFIGURATION page (Figure 5-96). The parameters for this page are shown in Table 5-74.

| Parameter | Description |
|-------------------|---|
| Interface VLAN ID | This parameter indicates index of the VLAN interface. |
| Destination | This parameter specifies Destination IPv6 address. |
| MAC Address | This parameter denotes the physical address of the Destination address. |

Table 5-74. ND Cache Configuration Page Parameters

| Parameter | Description |
|-----------|---|
| State | This parameter indicates the Reachability state of the entry, which is a read-only field. |
| Age | This parameter specifies the Age Time. |

Table 5-74. ND Cache Configuration Page Parameters (Continued)

Address Settings



| | tefresh Support | t Help | About | Log Out |
|--|-------------------------------|-----------|-------|---------|
| SUPERMICRO | 11 12 13 14 15 16 EXI EX? EX3 | | | |
| SWITCH SBM-GEM-X2C | | | | |
| SMIS IPv6 Route IPv6 Interface ND Cache Address Settings Address Profile | Prefix Settings | | | |
| Concerned Perdoda Defended Notative Notative Neurophic Neurophics Section System Mant: System Mant: Layer2 Maint Layer2 Maint Layer2 Maint Profix Length Address Profix Length Address Profix Length Address Profix Length | dress Type Address Pr | attes (C) | | |

Clicking the ADDRESS SETTINGS tab brings up the ADDRESS SETTINGS page (Figure 5-97), which allows you to configure address settings for IPv6. The parameters for this page are shown in Table 5-75.

| Parameter | Description |
|--------------------|--|
| Interface VLAN ID | This parameter specifies the index of the VLAN Interface. |
| Address | This parameter specifies the IPv6 address. |
| Prefix Length | This parameter indicates the length of the prefix (in bits) associated with this entry's IPv6 address. |
| Address Type | This parameter specifies that the type of address can be Link- <i>Local</i> , Global- <i>Unicast</i> or <i>Anycast</i> . |
| Address Profile ID | This parameter indicates the index to the IPv6 address Profile table. |

Table 5-75. Address Settings Page Parameters

Address Profile



Figure 5-98. Address Profile Settings Page

Clicking the ADDRESS PROFILE tab brings up the ADDRESS PROFILE SETTINGS page (Figure 5-98). The parameters for this page are shown in Table 5-76.

| Parameter | Description |
|----------------------|---|
| Profile ID | This parameter specifies the index of the Address Profile entry. |
| Adv Status | This parameter specifies the Prefix Advertise status. |
| On Link Adv Status | This parameter indicates the On-Link Advertise Flag status. |
| Auto Conf Adv Status | This parameter denotes the Autonomous Configuration Advertise Flag status. |
| Preferred Time | This parameter specifies the Preferred Lifetime of the prefix address that uses this profile. |
| Valid Time | This parameter indicates the Valid Lifetime of the prefix address that uses this profile. |
| Valid Flag | This parameter specifies if the Valid Lifetime Flag is Variable or Fixed. |
| Preferred Flag | This parameter specifies if the Preferred Lifetime Flag is Variable or Fixed. |

Table 5-76. Address Profile Settings Page Parameters

Prefix Settings

| SUPERM | | | | Speed 0 0 Link 0 0 Switch 0 Gi 1 2 | | 1 12 13 14 15 16 EXI EX2 EX3 | | |
|--|-----------|----------------|---|---|--|-------------------------------|---|--|
| emie | M-A2C | | | | | | | |
| Home b Space Mont b Space Mont T p or or or or or or or or or or | BPYE KOLO | UPPE MINERALES | Interfacio Prefac Prefac Prefac E | Address Solings Prefit te VLAN ID | Access Polie x Configurati Add Reset D(Prefix Prefix Lene Delete | on gib (Prefix Profile ID) | • | |

Figure 5-99. Prefix Configuration Page

Clicking the PREFIX SETTINGS tab brings up the PREFIX CONFIGURATION page (Figure 5-99). The parameters for this page are shown in Table 5-77.

Table 5-77. Prefix Configuration Page Parameters

| Parameter | Description |
|-------------------|--|
| Interface VLAN ID | This parameter specifies the index of the VLAN Interface. |
| Prefix | This parameter indicates the IPv6 address prefix to be advertised in RA. |
| Prefix Length | This parameter indicates the PREFIX LENGTH (in bits). |
| Prefix Profile ID | This parameter specifies index to the IPv6 address profile table. |

DHCP Server

The DHCP Server link helps you to manage the DHCP server in the switch through the following two pages:

- DHCP Basic Settings
- Pool Settings

DHCP Basic Settings

| C 9 S Inter 20112748 interestic her | nepage3tm??Sambitsischultsistsdych | ichenerajece (2 + 2 C X 🧃 👧 | 5 × | | | | | | n + 0 |
|---|------------------------------------|-----------------------------|---|--|---------------------------------|---|------|-------|---------|
| File Edit View Favorites Joch Help | | | A - 11 | | | | | | |
| S C ENV C DELANCE ADD ONL - C MU | Menn ME . | | | | Refresh | Support | Help | About | Log Out |
| SUPERMICE SWITCH SSE-G24-TG4 | 1 | | Speed Link Switch 0 Gi 1 | 2 3 4 5 6 7 8 9 1011 | 12 13 14 15 16 17 18 19 20 21 1 | 22 23 24 EX1 EX2 EX3 | EX4 | | |
| Smis | Basic seconds | Poor Settings | | DHCP Serv | ver Settings | | | | |
| Honde Usver2 Mgnt Usver2 Mgnt Pro Pro Pro Pro Pro Pro Pro Pro | | | DHCP Server Offer Re-Use Timer PING Next Server Boot File <i>I</i> | Datket - 5 Nets Datket - 00000 Non Non DHCP Server, DI | CP Relay Status sho | ASCII - lyston - ns List vald be disabled. | | | |

Figure 5-100. DHCP Server Settings Page

Clicking the DHCP SETTINGS tab brings up the DHCP SERVER SETTINGS page (Figure 5-100). The parameters for this page are shown in Table 5-78.

| Parameter | Description |
|-----------------------------------|---|
| DHCP-Server | With this parameter you can enable or disable the DHCP server using this configuration. |
| Offer-reuse Time out (seconds) | This parameter specifies the Reuse Timeout value that can be configured in this field, which is used by DHCP. |
| ICMP Echo | This parameter enables or disables the ICMP Echo feature. |

Table 5-78. DHCP Server Settings Page Parameters

Pool Settings

| | | | | Refresh | Support | Help | About | Log Out |
|---------------------------|----------------|---------------|---|--|------------------|------------------|-------|---------|
| SUPERMI | CR | | Speed Link 0000 Switch 0 Gi 1 2 3 4 5 4 | 0 | 6 EX1 EX2 EX3 | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | |
| SMIS | Basic Settings | Pool Settings | | | | | | |
| Homo | | | DHCP Poo | I Settings | | | | |
| System Mgmt | | | B-1ID | | | | | |
| *Layer3 Mgmt | | | Subnet Pool | | | | | |
| IP IPv6 | | | Network Mask | | | | | |
| DHCP Server DHCP Belay | | | Start IP Address | | | | | |
| RIP RIPng | | | End IP Address | | | | | |
| OSPF OSPFv3 | | | Lease Time (Secs) | | | | | |
| BGP RRD | | | Utilization Threshold | | | | | |
| VRRP | | | Add | Reset | | | | |
| • Statistics | | Select Pool | D Subnet Pool Network Mask Start IP Addr | ess End IP Address | ease Time (secs) | Threshold Status | | |
| | | | Apply | Delete | | | | |
| | | | | | | | - | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Figure 5-101. DHCP Pool Settings Page

Clicking the POOL SETTINS link brings up the DHCP POOL SETTINGS page (Figure 5-101), which allows you to configure the IP address pool that can be used by the DHCP server to allocate IP addresses. The parameters for this page are shown in Table 5-79.

| Parameter | Description |
|-----------------------|---|
| Pool ID | This parameter specifies the pool ID to index among the different subnet pools configured. |
| Network | This parameter specifies the subnet of the IP address in the pool. |
| Subnet Mask | This parameter specifies the subnet mask of the IP address in the pool. |
| Start IP | This parameter specifies the first IP address in the address pool that is used for dynamic allocation by the DHCP server. |
| End IP | This parameter specifies the last IP address in the address pool that is used for dynamic allocation by the DHCP server. |
| Lease Time | This parameter specifies the time interval for which the IP address is valid. |
| Utilization Threshold | This parameter specifies the DHCP Pool Utilization Threshold value. |
| Status | This parameter specifies the status of the entry. |

Table 5-79. DHCP Pool Settings Page Parameters

DHCP Relay

The DHCP Relay link helps you to manage the DHCP relay in the switch through the following two pages:

- DHCP Relay Basic Settings
- Interface Settings

DHCP Relay Basic Settings

| SUPERMI switch sbm-ge smis | Activity Support metry Audult Coy Cult Series M-X2C Rese Serings Interface Cont |
|--|--|
| Home Pyteringht | DHCP Relay Configuration Service DHCP-Relay Insabled P DHCP Relay Information Option Detabled P DHCP Relay Information Detabled P DHCP Rela |

Figure 5-102. DHCP Relay Configuration Page

Clicking the BASIC SETTINGS tab brings up the DHCP RELAY CONFIGURATION page (Figure 5-102), which displays the various parameters for configuring the DHCP relay. The parameters for this page are shown in Table 5-80.

| Parameter | Description |
|-------------------------------------|---|
| Service DHCP-Relay | This parameter specifies the DHCP relay status that can be enabled or disabled in the switch using this field. |
| IP DHCP Relay Information Option | You can enable/disable this field to control the processing related to the Relay Agent Information options. |
| DHCP Server Address | This parameter indicates the IP address of the DHCP Server to which the Relay Agent needs to forward the packets from the client. |

Table 5-80. DHCP Relay Configuration Page Parameters

Interface Settings

| SUPERM SWITCH SBM-GE | | | | | | | |
|--|-------------------------------|------------------------------------|--|--|--|--|--|
| SMIS | Basic Settings Interface Conf | | | | | | |
| Home P System Might: + System Might: + System System - System | | DHCP Relay Interface Configuration | | | | | |

Figure 5-103. DHCP Relay Interface Configuration Page

Clicking the INTERFACE CONF tab brings up the DHCP RELAY INTERFACE CONFIGURATION page (Figure 5-103), which allows you to configure the DHCP relay for VLANs. The parameters for this page are shown in Table 5-81.

| Parameter | Description |
|----------------|--|
| VLAN Interface | This parameter specifies the VLAN Interface name. |
| Circuit ID | This parameter specifies the DHCP Relay Circuit identifer. |
| Remote ID | This parameter specifies the Remote identifer. |

Table 5-81. DHCP Relay Interface Configuration Page Parameters

RIP

The RIP link opens the following links for configuration of RIP protocol:

- RIP Basic Settings
- Interfaces
- Neighbors List
- Security Settings
- Address Summarization

RIP Basic Settings

Figure 5-104. RIP Basic Settings Page

| | | | | 1.44 | Refresh | Support | Help | About | Log Out |
|--|----------------|-----------|-----------|---|---|--------------------------------------|------|-------|---------|
| SUPERMI | CR | | | Speed 0 0 0 0 0 0 0 0 Link 0 0 0 0 0 0 0 0 Switch 0 Gi 1 2 3 4 5 6 7 8 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 9 10 11 12 13 14 15 | 0 0 0 0 0 0 0 0 16 EXI EXI EXI | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | |
| SMIS | Basic Settings | Interface | Neighbors | Security Summarize | ition | | | | |
| Home * System Might • Layer A Might • Layer A Might • Drich Server Drich Relay Rinne Roman Roman B Roman Roman Serva Serva * Statistics | | | | RIP Basic Se Admi Status Space Periodic Updates Neighbour Filter Auto-summary status Default Metric Apply | ttings Enabled • Disabled • Enabled • 3 | | | | |

Clicking the BASIC SETTINGS tab brings up the RIP BASIC SETTINGS page (Figure 5-104). The parameters for this page are shown in Table 5-82.

| Table 5-82. | RIP | Basic | Settings | Page | Parameters |
|-------------|-----|-------|----------|------|------------|
|-------------|-----|-------|----------|------|------------|

| Parameter | Description |
|---------------------|--|
| Output-delay | This parameter specifies the delay that needs to be enabled for RIP to split the periodic update packets before they are sent out. |
| Neighbor Filter | This parameter enables or disables neighbor filtering. Neighbor filtering helps you to filter routes from specific neighbors. |
| Auto-summary status | This parameter enables or disables the Auto-summary feature. |

Interfaces



Figure 5-105. RIP Interface Page

Clicking the INTERFACE tab brings up the RIP INTERFACE page (Figure 5-105). The parameters for this page are shown in Table 5-83.

Table 5-83. RIP Interface Page Parameters

| Parameter | Description |
|-------------------------------|--|
| Interface | This parameter specifies the Interface ID for which RIP needs to be configured. |
| IP Address | This parameter specifies the IP address of the RIP interface. |
| Status | This parameter specifies the admin status of the interface. |
| Split Horizon | This parameter specifies the operational status of Split Horizon in the system. |
| Default Route Installation | This parameter specifies whether Default Route Installation can be done or not. |
| Send Version | This parameter allows selecting the RIP packets sent to be compatible to either <i>RIPV1</i> , <i>RIP1 Compatible</i> or <i>RIPv2</i> . |
| Receive Version | This parameter is similar to SEND VERSION, but it allows you to choose the RIP packets to be received as either <i>RIPV1, RIPV2</i> , both <i>RIPv1 and RIPv2</i> or <i>None</i> . |
| Route Age Timer | This parameter specifies the time interval after which the routes will be flushed. |
| Update Timer | This parameter specifies the time interval between successive RIP updates. |
| Garbage Timer | This parameter specifies the time interval after which the invalid routes will be removed from the routing table. |

Neighbors List

| SUPERMI | CR | | | Speed Link Switch 0 Gi 1 2 | | 1 is 16 EX1 EX2 EX3 | | |
|---|----------------|-----------|---|----------------------------------|----------------|---------------------|--------|--|
| SWITCH SBM-GE | M-X2C | | | | | | | |
| SMIS | Basic Settings | Interface | Neighbors | Security | Summarization | | | |
| Home * System Might * System Might P ne Drich Server Drich Server Rifty Boo Rapps * Stabilities * Stabilities | | | | RIP IP Add | Neighbour List | | | |
| 01.11.1 | | | 1.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2 | | N | | F 400) | |

Figure 5-106. RIP Neighbor List Page

Clicking the NEIGHBORS tab brings up the RIP NEIGHBOR LIST page (Figure 5-106), which is used to configure the RIP neighbors, by configuring their IP address.

The single parameter for this page is IP ADDRESS, which specifies the IP Address of the neighbor router to which the unicast update has to be sent.

ort

Help

About Log Out

Security Settings

| SUPERMI | ICR | | | Speed Link Switch 0 Gi 1 | 2 3 4 5 6 7 8 9 10 11 | 12 13 14 15 16 EXI EX2 EX3 | | |
|--|----------------|-----------|-----------|--------------------------------|-----------------------|----------------------------|--|--|
| SWITCH SBM-GE | M-X2C | | | | | | | |
| SMIS | Basic Settings | Interface | Neighbors | Security | Summarization | | | |
| Home + System Mgnt + System Mgnt + Layer3 Mgnt pro | | | 2 | RIP 8 | Security Settin | igs | | |

Figure 5-107. RIP Security Settings Page

Clicking the SECURITY tab brings up the RIP SECURITY SETTING page (Figure 5-107). The parameters for this page are shown in Table 5-12.

Table 5-84. RIP Security Setting Page Parameters

| Parameter | Description |
|---------------------|--|
| IP Address | This parameter displays the active RIP interfaces. You can select the interface for which you want to configure authentication. |
| Authentication Type | This parameter specifies the authentication type. You can choose <i>No Authentication</i> , or <i>Simple Password</i> , or the <i>md5</i> authentication type. |
| Authentication Key | This parameter specifies the key used for authentication if the authentication type is other than <i>No Authentication</i> . |

Address Summarization

Figure 5-108. RIP Interface Specific Address Summarization Page



Clicking the SUMMARIZATION tab brings up the RIP INTERFACE SPECIFIC ADDRESS SUMMARIZATION page (Figure 5-108). The parameters for this page are shown in Table 5-85.

Table 5-85. RIP Interface Specific Address Summarization Page Parameters

| Parameter | Description |
|-------------------|---|
| Interface | This parameter specifies the Interface ID for which the RIP aggregate address needs to be configured. |
| Aggregate Address | This parameter specifies the aggregate address. |
| Subnet Mask | This parameter specifies the mask of the aggregate address. |

RIPng

The RIP6 link allows you perform RIPv6 related configuration for the switch. This can be accomplished through the following two pages:

- RIP6 Interface
- Filters

RIP6 Interface



Figure 5-109. RIP6 Interface Configuration Page

Clicking the RIP6 INTERFACE tab brings up the RIP6 INTERFACE CONFIGURATION page (Figure 5-109). The parameters for this page are shown in Table 5-86.

| Parameter | Description |
|----------------|---|
| Interface ID | Specifies the Interface Id for which RIPv6 needs to be configured. |
| Status | This parameter specifies the administration status of the interface. |
| Prof ID | This parameter indicates the Index of the Address Profile entry. |
| Metric Offset | This parameter specifies the metric for the routes that are being re-distributed. |
| Def Rt Adv | This parameter indicates the default router lifetime to be placed in the Router Advertisements sent on the interface. |
| Prof Horizon | This parameter specifies the operational status of Profile Horizon in the system. |
| Per-Updt Timer | This parameter specifies the time interval between successive RIP6 updates. |
| Trig-Dly Time | This parameter indicates the time interval in seconds by which further triggered updates are delayed, after one triggered update is sent. |
| Route Age Time | This parameter specifies the time interval after which, the routes are flushed. |
| Garbage Timer | This parameter specifies the time interval after which, the invalid routes are removed from the routing table. |

| Table 5-86. | RIP6 | Interface | Configuration | Page | Parameters |
|-------------|------|-----------|---------------|-------|-------------|
| | | menuoc | ooningaration | i uge | i urumeters |

Filters

Figure 5-110. RIP6 Filter Configuration Page

| | | | Refresh Support Help About Log Out |
|---|----------------|---------|---|
| SUPERMI | ICR | | Speed 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |
| SWITCH SBM-GE | M-X2C | | |
| SMIS | RIP6 Interface | Filters | |
| SMIS Home + System Mgnt + Layer2 Mgnt - Drice Server Drice Server Drice Server Drice Server Serva S | RIP6 Interface | Filter | RIP6 Filter Configuration |
| | | | |
| | | | |

Clicking the FILTERS tab brings up the RIP6 FILTER CONFIGURATION page (Figure 5-110). The parameters for this page are shown in Table 5-87.

Table 5-87. RIP6 Filter Configuration Page Parameters

| Parameter | Description |
|----------------|---|
| Filter Address | This parameter specifies the FILTER ADDRESS for the RIP6 interface. |
| Filter Type | This parameter specifies the FILTER TYPE for which RIP6 needs to be configured. |

OSPF

The OSPF link allows you to configure the OSPF protocol through the following pages:

- OSPF Basic Settings
- Area
- Interface
- Virtual Interface
- OSPF Neighbor
- OSPF RRD Route Configuration
- OSPF Area Aggregation
- External Aggregation

OSPF Basic Settings

Refr Help Log Out **SUPERMICR** SWITCH SBM-GEM-X2C SMIS Interface Virtual Interface Neighbor RRD Route AsExtAggregation Basic Settin Aggregation Home System Mgmt Layer2 Mgmt Layer3 Mgmt IP IPv6 DWCP **OSPF Basic Settings** OSPF Status Disabled • Router ID DHCP DHCP Serve DHCP Relay RIP RIPng OSPH No • Yes • us System Border Router RFC 1583 Compatibility Yes -NSSA ASBR-Default-Route Translator Disabled -OSPFv3 BGP RRD RRDv6 VRRP ABR-type Standard -No -Default External Route Default External Route Metric Multicast Statistics Default External Route Metric Type 2 -Apply

Figure 5-111. OSPF Basic Settings Page

Clicking the BASIC SETTINGS tab brings up the OSPF BASIC SETTINGS page (Figure 5-111). The parameters for this page are shown in Table 5-88.

Table 5-88. OSPF Basic Settings Page Parameters

| Parameter | Description |
|---------------------------------------|---|
| OSPF Status | This parameter specifies the global status of the protocol in the switch. |
| Router ID | This parameter specifies the router identifier. |
| Autonomous System Border Router | This parameter indicates the flag to denote whether or not the router is to be configured as an Autonomous System Border Router. |
| RFC 1583 Compatibility | This parameter specifies the compatibility to RFC 1583 for choosing the route among multiple AS for the same destination. |
| External Link State Database Limit | This parameter specifies the maximum number of non-default AS-external-LSA entries that can be stored in the link state database. |

Area

.



Figure 5-112. OSPF Area Configuration Page

Clicking the AREA tab brings up the OSPF AREA CONFIGURATION page (Figure 5-112). The parameters for this page are shown in Table 5-89.

| Parameter | Description |
|------------------------|--|
| Area ID | This parameter specifies the identifier for the area. |
| Туре | This parameter allows you to configure the area type, as a <i>Stub</i> area, a <i>Normal</i> area or <i>NSSA</i> . |
| Send Summary Router | This field is used to control the import of summary LSAs to stub areas. This does not have any impact for other areas. |
| Default Cost | This parameter specifies the metric/cost associated with the routes. |

| Table 5-89. | OSPF | Area | Configuration | Page | Parameters |
|-------------|------|-------|---------------|-------|-------------|
| | 0011 | AI Ca | Configuration | i age | i arameters |

Interface

| | | | | Sped 0.0.0 | | Refresh | Support | Help | About | Log Out |
|----------------------------|---------------------------|----------------------|-------------------------------|---------------------------------|---------------|---------------------|-------------------------|---------------------|----------------------------------|-------------------------|
| SUPERM | ICR | | | Link 0 0 0 Switch 0 Gi 1 2 3 | 4 5 6 7 8 9 1 | 0 0 0 0 0 0 0 | 0 0 0 16 EX1 EX2 EX3 | | | |
| SWITCH SBM-G | M-X2C | | | | | | | | | |
| SMIS | Basic Settings | Area | Interface | Virtual Interface | Neighbor | RRD | Route | Aggregation | AsExtAggregation | |
| Homo | | | | OSPF Inter | face Conf | iguration | | | | |
| System Mgmt | | | | Interfere | start a | | 1 | | | |
| Layer2 Mgmt Layer3 Mgmt | | | | Area ID | 0.0.0.0 - | | | | | |
| IP IPv6 | | | | Priority | 1 | | | | | |
| DHCP Server | | | | Authentication T | ype None | • | | | | |
| RIP | | | | MD5 Key ID | | | | | | |
| OSPF OSPFv3 | | | | Authentication K | Ley | | | | | |
| BGP RRD | | | | Metric | 10 | | | | | |
| RRDv6 VRRP | | | | Passive | No - | | | | | |
| Multicast Statistics | | | | Demand Circuit | hroadcast | | | | | |
| | | | | Transit Delay | 1 | | | | | |
| | | | | Retransmit Inter | val 5 | | | | | |
| | | | | Hello Interval | 10 | | | | | |
| | | | | Dead Interval | 40 | | | | | |
| | | | | A | DD Reset | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | Select IP Ar Address I | ea Priority Des D | ignated Auther touter Type | MD5 Key Authen Id Key | Metric Passiv | e Demand Circuit | If Type | Transit Ro Delay | etransit Hello Delay Interval | Router Dead Interval |
| | | | | | | | | | | |
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Figure 5-113. OSPF Interface Configuration Page

Clicking the INTERFACE tab brings up the OSPF INTERFACE CONFIGURATION page (Figure 5-113). The parameters for this page are shown in Table 5-90.

| Parameter | Description |
|---------------------|---|
| Interface | This parameter specifies the interface index of the port. |
| Area ID | This parameter indicates the 32-bit integer uniquely identifying the area to which the interface connects. |
| Priority | This parameter specifies the priority of this interface, which is used in the DR election algorithm. |
| Authentication Type | This parameter allows you to choose <i>MD5</i> , <i>Simple Password</i> or <i>None</i> as the authentication type. |
| MD5 Key ID | This parameter specifies the secret key used to create the message digest appended to the OSPF packet, if the authentication type is <i>MD5</i> . |
| Authentication Key | This parameter specifies the key required for authentication, if authentication is enabled on this interface. |
| IP Address | This parameter specifies the IP Address of the OSPF interface. |
| Designated Router | This read-only field specifies the IP Address of the Designated Router. |
| Status | When this parameter is enabled, the interface is advertised as an internal route to some area. When disabled it denotes that the interface is external to OSPF. |

| Table 5-90 | OSPF Interface | Configuration | Page Parameter | s |
|-------------|----------------|---------------|------------------|---|
| Table 3-30. | | Configuration | i age i arameter | |

Virtual Interface





Clicking the VIRTUAL INTERFACE tab brings up the OSPF VIRTUAL INTERFACE CONFIGURATION page (Figure 5-114). The parameters for this page are shown in Table 5-91.

| Table 5-91. | OSPF | Virtual | Interface | Configuration | Page | Parameters |
|--------------|------|-----------|-----------|---------------|------|-------------|
| 10010 0 0 11 | | • in caai | meenaoo | ooningaradon | | i aramotoro |

| Parameter | Description |
|---------------------|--|
| Transit Area ID | This parameter specifies the transit area that the virtual link traverses. |
| Neighbor Router ID | This parameter specifies the router ID of the virtual neighbor. |
| Authentication Type | This parameter allows you to choose <i>MD5</i> , <i>Simple Password</i> or <i>None</i> as the authentication type. |
| MD5 Key ID | This parameter specifies the secret key used to create the message digest appended to the OSPF packet if the authentication type is <i>MD5</i> . |
| Authentication Key | This parameter specifies the key required for authentication, if authentication is enabled on this interface. |

Help About Log Out

OSPF Neighbor

| SUPERM | ICR | | | Spord 0 0 Link 0 0 Switch 0 Gi 1 2 | 0 | 12 13 14 15 16 EX1 EX2 EX | 0 | | |
|--|----------------|------------|----------|--|--|---------------------------|-------------|-----------------|--|
| SWITCH SBM-GE | M-X2C | | | | | | | | |
| Home Poyster Mynit Poyster | Take: Settings | <i>X64</i> | Milefaço | Vitical Merideo OSPF Nei Neighbor IP Ac Priority Select [Neighbo | International Action of the second se | er Priority | Aggregation | ALLXAG regation | |

Figure 5-115. OSPF Neighbor Configuration Page

Clicking the NEIGHBOR tab brings up the OSPF NEIGHBOR CONFIGURATION page (Figure 5-115), which allows you to configure OSPF neighbors. The parameters for this page are shown in Table 5-92.

| Table 5-92. OSPF Neighbo | r Configuration Page Parameters |
|--------------------------|---------------------------------|
|--------------------------|---------------------------------|

| Parameter | Description |
|---------------------|--|
| Neighbor IP Address | This parameter specifies the neighbor router ID. |
| Priority | This parameter specifies a number value for the router priority. |

OSPF RRD Route Configuration

| Figure 5-116. | OSPF RRD | Route | Configuration | Page |
|---------------|----------|-------|---------------|------|
|---------------|----------|-------|---------------|------|

| SUPERMI | ICR | | | Speed 0 0 Link 0 0 Switch 0 Gi 1 2 | | 12 13 14 15 16 EXI EX7 EX | | | |
|--|-------------------------|------|-----------|--|--|---------------------------|-------------|------------------|--|
| SWITCH SBM-GE | M-X2C Basic Settings | Area | Interface | Virtual Interface | Neighbor | RRD Route | Aggregation | AsExtAggregation | |
| tome System Mgmt Layer2 Mgmt Layer2 Mgmt Drop Rever Drop Rever Rep Rep Rep Rep Rep Statistics | | | Sat | OSPF RRD Destination Netv Network Mask Route Metric Ty Route Tag | Route Config 10 10 10 10 10 10 10 10 10 10 | guration | 1 | | |

Clicking the RRD ROUTE tab brings up the OSPF RRD ROUTE CONFIGURATION page (Figure 5-116), which displays the various parameters for RRD Route configuration. The parameters for this page are shown in Table 5-93.

| Parameter | Description |
|---------------------|---|
| Destination Network | This parameter specifies the DESTINATION NETWORK. |
| Network Mask | This parameter specifies the NETWORK MASK. |
| Route Metric | This parameter specifies the ROUTE METRIC. |
| Route Metric Type | This parameter specifies the ROUTE METRIC TYPE. |
| Route Tag | This parameter specifies the ROUTE TAG. |

 Table 5-93. OSPF RRD Route Configuration Page Parameters

OSPF Area Aggregation

| | | | | | | Refresh | Support | Help | About | Log Out |
|---------------------------|----------------|------|-----------|---------------------------|-----------------|------------------------------|----------------|-------------|------------------|---------|
| SUDEDM | CD | | | Speed 0 0 Link 0 0 | | 0 0 0 0 0 0 0 0 0 0 0 0 0 | • • • • | | | |
| SUPERMI | CR | | | Switch 0 Gi 1 | 3456789 | 10 11 12 13 14 15 | 16 EXI EX2 EX3 | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | | |
| SMIS | Basic Settings | Area | Interface | Virtual Interface | Neighbor | RRD | Route | Aggregation | AsExtAggregation | |
| Home | | | | OSPF | Area Aggre | gation | | | | |
| System Mgmt | | | | Area ID | | | | | | |
| ▼Layer3 Mgmt | | | | Lsdb Type | summaryLink | - * | | | | |
| IPv6 THCP | | | | Network | | • | | | | |
| DHCP Server DHCP Relay | | | | Mask | | | | | | |
| RIPng | | | | Advertise External Tax | advertiseMatch | ing 👻 | | | | |
| OSPFv3 BGP | | | | External ra | ADD Reset | | | | | |
| RRD RRDv6 VRRP | | | | | | | | | | |
| Multicast Statistics | | | - | | | | | | | |
| | | | Sel | ect Area ID Lsdb Ty | pe Network Masi | Advertise Ex | ternal Tag | | | |
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Figure 5-117. OSPF Area Aggregation Page

Clicking the AGGREGATION tab brings up the OSPF AREA AGGREGATION page (Figure 5-117). The parameters for this page are shown in Table 5-94.

| Table 5-94. | OSPF Area | Aggregation | Page | Parameters |
|-------------|-----------|-------------|------|------------|
|-------------|-----------|-------------|------|------------|

| Parameter | Description |
|--------------|---|
| Area ID | This parameter specifies the area associated with the OSPF address range. It is specified as an IP address. |
| Lsdb Type | This parameter specifies the link state data base type as a <i>Summary Link</i> or as a <i>NSSA External Link</i> . |
| Network | This parameter specifies the network address. |
| Mask | This parameter specifies the network mask. |
| Advertise | This parameter specifies the advertise option as Advertise Matching or Do Not Advertise Matching. |
| External Tag | This parameter is not used by the OSPF protocol itself. It may be used to communicate information between AS boundary routers. The precise nature of this information is outside the scope of OSPF. |

External Aggregation

Figure 5-118. OSPF As External Aggregation Configuration Page

| | | | | | Refresh | Support | Help | About | Log Out |
|----------------------------|----------------|-----------|--------------------|--|---|----------------|------|-------|---------|
| SUPERMI | CR | | 5+1 | Speed 000000000 Link 000000000 tch0Gi1234567 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 9 10 11 12 13 14 15 | 16 EX1 EX2 EX3 | | | |
| SWITCH SDM CE | N NOC | | | | | | | | |
| Switch SBM-OE | MPA2C | | | | | | | | |
| SMIS | Basic Settings | Interface | Area Ext Agg | regation | | | | | |
| Home | | | OSPF As E | external Aggreg | ation Confi | guration | | | |
| System Mgmt Layer2 Mgmt | | | Summary Prefix | | | • | | | |
| Layer3 Mgmt IP | | | Prefix Length | | | | | | |
| IPv6 THCP | | | Area ID | | • | | | | |
| DHCP Server DHCP Relay | | | Aggregation Effect | t advertise 👻 | | | | | |
| RIP | | | Translation | enabled - | | | | | |
| OSPFv3 BGP | | | | | set | | | | |
| RRD RRDv6 | | | | | | | | | |
| Multicast | | | Select Pre | fix Prefix Length Area | ID Advertise Tra | nslation | | | |
| Statistics | | | | | | | | | |
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Clicking the EXT AGGREGATION tab brings up the OSPF AS EXTERNAL AGGREGATION CONFIGURATION page (Figure 5-118), which allows you to configure OSPF external aggregation parameters. The parameters for this page are shown in Table 5-95.

| Table 5-95. | OSPF As | s External | Aggregation | Configuration | Page Parameters |
|-------------|---------|------------|-------------|---------------|------------------------|
| | | | | | |

| Parameter | Description |
|-----------|--|
| Network | This parameter specifies the external network address. |
| Mask | This parameter specifies the network mask. |
| Area ID | This parameter specifies the Area identifier. |

| Parameter | Description |
|--------------------|---|
| Aggregation Effect | This parameter specifies the Aggreation option as one of the following: Advertise – When set to advertise and associated Area ID is 0.0.0, then the aggregated Type-5 are generated. Otherwise if the associated Area ID is x.x.x. (other than 0.0.0.), then the aggregated Type-7 is generated in NSSA x.x.x. for the specified range. Do Not Advertise – When set to doNotAdvertise (2) and associated Area |
| | ID is 0.0.0.0, then the Type-5 is not generated for the specified range, while aggregated Type-7 are generated in all attached NSSA. While if the associated Area ID is x.x.x.x (other than 0.0.0.0), then the Type-7 are not generated in NSSA x.x.x.x for the specified range. |
| | Allow All – When set to allowAll and associated Area ID is 0.0.0.0, then the aggregated Type-5 are generated for the specified range. In addition aggregated Type-7 are generated in all attached NSSA for the specified range. |
| | Deny All – When set to denyAll neither Type-5 nor Type-7 will be generated for the specified range. |
| Translation | This parameter enables or disables the translation. |

Table 5-95. OSPF As External Aggregation Configuration Page Parameters

OSPF V3

The OSPFv3 link allows you to configure the OSPFv3 protocol through the following pages:

- **OSPFv3 Basic Settings**
- Interface •
- Area ٠
- **OSPF V3 External Aggregation** ٠

OSPFv3 Basic Settings

Refresh Help **SUPERMICR** SWITCH SBM-GEM-X2C SMIS Area Ext Aggregation sic Settings Interface Home System Mgmt Layer2 Mgmt IP IVCP DHCP DHCP Relay RIP OSPF OSPF OSPF OSPF RD RD RD RD **OSPFv3 Basic Settings** OSPFv3 Status Disabled -Router ID 0.000 Autonomous System Border Router Status False -Area Border Router Standard ABR • External LSBD Limit Exit Overflow Interval Demand Extension True + Reference Bandwidth 100000 SPF Delay SPF Hold Time False -Default Passive Interface 2048 Trace Level Apply

Figure 5-119. OSPFv3 Basic Settings Page

Log Out

Clicking the BASIC SETTINGS tab brings up the OSPFV3 BASIC SETTINGS page (Figure 5-119). The parameters for this page are shown in Table 5-96.

Table 5-96. OSPFv3 Basic Settings Page Parameters

| Parameter | Description |
|---|---|
| OSPFv3 Status | This parameter enables or disables OSPFv3 administratively. |
| Router ID | This parameter uniquely identifies the router in the Autonomous System. |
| Autonomous System Border Router Status | This parameter specifies the router as Autonomous System border router. |
| Area Border Router | This parameter specifies the router as an area border router. |

| Parameter | Description |
|------------------------------|--|
| External LSDB Limit | This parameter specifies maximum number of non-default AS-external-LSAs entries that can be stored in the link-state database. |
| Exit Overflow Interval | This parameter specifies the time interval in seconds a router will attempt to leave OverflowState. |
| Demand Extension | This parameter indicates the router's support for demand routing. |
| Reference Bandwidth | This parameter specifies Reference bandwidth in kilobits/seconds, for calculating default interface metrics. |
| SPF Delay | This parameter indicates the delay in routing calculation after a topology change. |
| SPF Hold Time | This parameter specifies the minimum time between two consecutive SPF calculations. |
| Default Passive Interface | This parameter specifies whether all the OSPFv3 interfaces created after this setting are passive or not. |
| Trace Level | This parameter defines the level of trace required for OSPFv3. |

Table 5-96. OSPFv3 Basic Settings Page Parameters (Continued)

Interface



Figure 5-120. Interface Settings Page

Clicking the INTERFACE tab brings up the INTERFACE SETTINGS page (Figure 5-120). The parameters for this page are shown in Table 5-97.

| Parameter | Description |
|-------------------------------------|---|
| VLAN/Tunnel Identifier | This parameter specifies the IPv6 interface over which OSPFv3 is enabled. |
| Area ID | This parameter specifies the area ID associated with the IPv6 interface. |
| Interface Type | This parameter specifies the type of OSPFv3 interface (broadcast, nbma, pointToPoint and pointToMultipoint). |
| Priority | This parameter specifies the priority of the interface. |
| Transit Delay | This parameter indicates the estimated number of seconds to transmit a link state update packet over the interface. |
| Retransmission Interval | This parameter indicates the number of seconds between the link-state advertisement retransmissions, for adjacencies belonging to the interface. |
| Hello Interval | This parameter indicates the length of time, in seconds, between the Hello packets that the router sends on the interface. |
| Dead Interval | This parameter specifies the number of seconds for which the router waits for hello packet from the neighbor before declaring this neighbor down. |
| Poll Interval | This parameter denotes the larger time interval, in seconds, between the Hello packets sent to an inactive non-broadcast multi- access neighbor. |
| Demand Procedures | This parameter indicates whether Demand OSPFv3 procedures must be performed on this interface. |
| Metric Value | This parameter specifies the metric assigned to this interface. |
| Neighbour Probing | This parameter enables or disables neighbor probing to determine whether the neighbor is active or inactive. |
| Neighbour Probe Retransmit Limit | This parameter indicates the number of consecutive LSA retransmissions before the neighbor is deemed inactive and the neighbor adjacency is brought down. |
| Demand Probe Interval | This parameter defines how often the neighbor is probed. |

Table 5-97. Interface Settings Page Parameters

Area



Figure 5-121. OSPFv3 Area Settings Page

Clicking the AREA tab brings up the OSPFv3 AREA SETTINGS page (Figure 5-121). The parameters for this page are shown in Table 5-98.

| Table 5-98. | OSPFv3 | Area | Settinas | Page | Parameters |
|-------------|--------|------|----------|------|------------|
| | | | | 9- | |

| Parameter | Description |
|----------------------------|---|
| Area ID | This parameter uniquely identifies an area. |
| Туре | This parameter indicates whether an area is a <i>Stub</i> area, <i>NSSA</i> , or <i>Standard</i> (normal) area. |
| Area Summary | This parameter controls the import of Inter-Area LSAs into stub areas. This can be noAreaSummary or sendAreaSummary. |
| Stub Metric | This parameter indicates the metric value advertised for the default route into <i>Stub</i> area and <i>NSSA</i> . |
| NSSA Translator Role | This parameter specifies the NSSA Border router's ability to perform NSSA translation of type-7 LSAs into type-5 LSAs. |
| NSSA Stability Interval | This parameter specifies the number of seconds after an elected translator determines its services are no longer required, in which it must continue to perform its translation duties. |
| Stub Metric Type | This parameter specifies the type of metric (OSPFv3 Metric, External Type 1, External Type 2) advertised as a default route. |

OSPF V3 External Aggregation

Figure 5-122. OSPF AS External Aggregation Configuration Page

| | | Refresh Support Help About Log Out |
|---------------------------|--------------------------|--|
| CUDEDIA | CD | Speed 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |
| SUPERMI | CR | Switch 0 Gi 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 EX1 EX1 EX3 |
| SWITCH SPM CE | M NOC | |
| Switch SBM-OL | M-A2C | |
| SMIS | Basic Settings Interface | e Area Ext Aggregation |
| Home | | OSPF As External Aggregation Configuration |
| System Mgmt | | |
| Layer2 Mgmt | | * Summary Prefix |
| IP | | Prefix Length |
| ▼ DHCP | | Area ID |
| DHCP Server DHCP Relay | | Aggregation Effect advertise |
| RIP | | Translation enabled - |
| OSPF OSPFv3 | | ADD Reset |
| BGP RRD | | |
| RRDv6 VRRP | | |
| Multicast Statistics | | Select Prefix Prefix Length Area ID Advertise Translation |
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Clicking the EXT AGGREGATION tab brings up the OSPF AS EXTERNAL AGGREGATION CONFIGURATION page (Figure 5-122), which allows you to configure OSPF external aggregation parameters. The parameters for this page are shown in Table 5-99.

| Table 5-99. | OSPF AS | External | Aggregation | Configuration | Page Para | neters |
|-------------|----------------|----------|-------------|---------------|-----------|--------|
| | | | 33 3 3 5 5 | | | |

| Parameter | Description |
|-----------|--|
| Network | This parameter specifies the external network address. |
| Mask | This parameter specifies the network mask. |
| Area ID | This parameter specifies the Area identifier. |

| Parameter | Description |
|--------------------|---|
| Aggregation Effect | This parameter specifies the Aggreation option as one of the following: Advertise – When set to advertise and the associated Area ID is 0.0.0, then aggregated Type-5 are generated. Otherwise if associated Area ID is x.x.x.x (other than 0.0.0.0), then aggregated Type-7 is generated in NSSA x.x.x.x for the specified range. |
| | Do Not Advertise – When set to doNotAdvertise (2) and the associated Area ID is 0.0.0.0, then Type-5 is not generated for the specified range, while aggregated Type-7 are generated in all attached NSSA. While associated Area ID is x.x.x.x (other than 0.0.0.0), then Type-7 are not generated in NSSA x.x.x.x for the specified range. |
| | Allow All – When set to allowAll and associated Area ID is 0.0.0.0, then aggregated Type-5 are generated for the specified range. In addition aggregated Type-7 are generated in all attached NSSA, for the specified range. |
| | Deny All – When set to <i>denyAll</i> neither Type-5 nor Type-7 will be generated for the specified range. |
| Translation | This parameter enables or disables the translation. |

Table 5-99. OSPF AS External Aggregation Configuration Page Parameters

BGP

The BGP link allows you to configure the BGP protocol. Following are the configuration parameters available to manage BGP through this interface:

- BGP Basic Settings
- BGP Peer Configuration
- BGP MED Configuration
- Local Preference
- BGP Filter
- Route Aggregations
- Advanced BGP Configuration
- BGP Community Management

BGP Basic Settings

Figure 5-123. BGP Basic Settings Page



Clicking the BASICS tab brings up the BGP BASIC SETTINGS page (Figure 5-123). The parameters for this page are shown in Table 5-100.

| Table | 5-100. | BGP | Basic | Settinas | Page | Parameters |
|-------|--------|-----|-------|----------|------|-------------|
| 10010 | 0 .00. | | Babio | oottingo | | i aramotoro |

| Parameter | Description |
|------------------------------------|---|
| Status | This parameter specifies the BGP admin status. Using this, the protocol can be enabled/disabled in the switch. |
| AS Number | This parameter specifies the autonomous system to which the switch is connected, which is a read-only field. |
| Synchronization | The synchronization between IGP and BGP can be ensured by enabling this field. |
| Overlap Router Policy | This parameter represents the policy for handling overlapping routes. When an overlapping route is received, depending upon the configured policy, either the less-specific routes or most-specific routes or both are installed in the RIB tree. |
| Default Local Preference | This parameter sets a preference value for the autonomous system path. |
| Advertisement of Non-BGP Routes | You can choose to advertise even the external non-BGP routes by enabling this feature. |
| Always Compare MED | By enabling this feature, you can choose to always compare the MED values of paths from different neighbors for the same prefix, for choosing the best path. |

BGP Peer Configuration



Figure 5-124. BGP Peer Configuration Page

Clicking the NEIGHBORS tab brings up the BGP PEER CONFIGURATION page (Figure 5-124), which allows you to configre BGP Neighbors. The parameters for this page are shown in Table 5-101.

| Parameter | Description |
|-------------------------------------|---|
| IP Address | This parameter specifies the IP address of the BGP neighbor. |
| EBGP MultiHop | By enabling this feature, BGP connections can be established between peers, which are not directly connected. |
| Next Hop | Using this parameter, next Hop can be set as <i>Self</i> or <i>Automatic</i> . By setting this field to <i>Self</i> , you can make the switch the next hop for all the routes that it distributes to its peers. |
| Keep Alive Time (Seconds) | This parameter specifies the maximum time interval between successive updates between any two BGP peers. |
| Hold Time (Seconds) | This parameter specifies the Hold time. This is the timer interval that a BGP will wait, before it decides that a connection to the peer is torn down. |
| Remote AS | This parameter represents the remote autonomous system number. |
| Advertisement Interval (seconds) | This parameter specifies the interval in seconds for the Minimum Route advertisement interval timer. |
| Status | This parameter specifies the status of the entry. |

Table 5-101. BGP Peer Configuration Page Parameters

BGP MED Configuration



Figure 5-125. BGP MED Configuration Page

Clicking the MULTI-EXIT DISC tab brings up the BGP MED CONFIGURATION page (Figure 5-125), which allows you to configure the MED value for routes learnt from BGP peers. The parameters for this page are shown in Table 5-102.

| Parameter | Description |
|-----------------------------|---|
| MED ID | This parameter specifies the index for this table. |
| Remote AS | This parameter specifies the AS number from which the route update is received. |
| IP Address Prefix | This parameter specifies the IP address prefix for which the update is received. |
| IP Address Prefix Length | This parameter is used to calculate the subnet. |
| Intermediate AS | This parameter represents the intermediate AS between the BGP peers. |
| Direction | This parameter can be set for the incoming or the outgoing packets using <i>In</i> and <i>Out</i> values. |
| Value | This parameter specifies the MED value to be associated with this path learnt. |
| Preference | This parameter is used to enable/disable filtering. |
| Status | This parameter indicates the status of the entry. |

Table 5-102. BGP MED Configuration Page Parameters

Local Preference



Figure 5-126. BGP Local Preference Configuration Page

Clicking the LOCAL PREF tab brings up the BGP LOCAL PREFERENCE CONFIGURATION page (Figure 5-126), which allows you to configure the Local Preference value for routes. The parameters for this page are shown in Table 5-103.

| Parameter | Description |
|-----------------------------|---|
| Local Preference ID | This parameter specifies the Local Preference ID, which is the index for this table. |
| Remote AS | This parameter specifies the AS number from which the route update is received. |
| IP Address Prefix | This parameter specifies the IP Address prefix for which the update is received. |
| IP Address Prefix Length | This parameter is used to calculate the subnet. |
| Intermediate AS | This parameter represents the intermediate AS between the BGP peers. |
| Direction | This parameter can be set for the incoming or the outgoing packets using <i>In</i> and <i>Out</i> values. |
| Value | This parameter specifies the Local preference value to be associated with this learnt path. |
| Preference | This parameter is used to enable/disable filtering. |
| Status | This parameter specifies the status of the entry. |

Table 5-103. BGP Local Preference Configuration Page Parameters

BGP Filter



Figure 5-127. BGP Filter Configuration Page

Clicking the FILTERS tab brings up the BGP FILTER CONFIGURATION page (Figure 5-127), which is used to set the filters on the routes being learnt. The parameters for this page are shown in Table 5-104.

| Parameter | Description |
|-----------------------------|--|
| Filter ID | This parameter specifies the filter index. |
| Remote AS | This parameter specifies the remote AS associated with the BGP peer from which the router is being distributed. |
| IP Address | This parameter specifies the IP address for which the route is being learnt. |
| IP Address Prefix Length | This parameter specifies the prefix length to calculate the Subnet. |
| Intermediate AS | This parameter represents the intermediate AS between the BGP peers. |
| Direction | This parameter indicates the direction of the packet. |
| Action | With this parameter you can choose either to <i>Allow</i> (not to filter) or <i>Deny</i> (Filter) for the above configuration set. |
| Status | This parameter specifies the status of the entry. |

Table 5-104. BGP Filter Configuration Page Parameters
Route Aggregations

Log Out **SUPERMICR** SWITCH SBM-GEM-X2C SMIS Multi-Exit Disc Local Pref Filters Route Aggr Advanced Comm Basics BGP Route Aggregation Configuration ID IP Address Prefix IP Address Prefix Length Route Advertise Summary Only -ADD Reset elect ID IP Address Prefix Prefix Length Route Advertise St

Figure 5-128. BGP Route Aggregation Configuration Page

Clicking the ROUTE AGGR tab brings up the BGP ROUTE AGGREGATION CONFIGURATION page (Figure 5-128), which is used to aggregate and configure the routes advertised by BGP. The parameters for this page are shown in Table 5-105.

| Parameter | Description |
|-----------------------------|--|
| ID | This parameter specifies the index to this table. |
| IP Address Prefix | This parameter specifies the IP address prefix that needs to be aggregated. |
| IP Address Prefix Length | This parameter, in combination with the IP Prefix, decides the aggregated route to be distributed by this switch. |
| Route Advertise | With this parameter you can either choose to advertise only the aggregated routes by setting <i>Summary only</i> , or choose to advertise all routes by setting <i>All</i> . |
| Status | This parameter specifies the status of the entry. |

Table 5-105. BGP Route Aggregation Configuration Page Parameters

Advanced BGP Configuration

| | | | | | Refresh | Support | Help | About | Log Out |
|--|--------|-----------|----------------|---|---------------------------------------|----------------|----------|-----------|---------|
| CURERA | CID | | | Speed 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | • • • • | | | |
| SUPERMI | CR | | | Switch 0 Gi 1 2 3 4 5 | 6 7 8 9 10 11 12 13 14 15 | 16 EXI EX2 EX3 | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | |
| CMIC | | | | | | | | | |
| SIMIS | Basics | Neighbors | Mulb-Exit Disc | Local Pref F | Hillers Rout | e Aggr | Advanced | Community | |
| Home | | | | Advanced BGF | Configuration | n | | | |
| System Mgmt Layer2 Mgmt | | | | Client to Client Reflection | Enabled - | | | | |
| *Layer3 Mgmt | | | | Dampening Half Life Time | 900 | | | | |
| IPv6 | | | | Dampening Reuse Value | 500 | | | | |
| DHCP Server DHCP Relay | | | | Dampening Suppress Value | 3500 | | | | |
| RIP RIPng | | | | Dampening Max Suppress | Time 3600 | | | | |
| OSPF OSPFv3 | | | | Dampening Decay Granular | ity 1 | | | | |
| BGP RRD | | | | Dampening Reuse Granulari | ity 15 | | | | |
| RRDv6 VRRP | | | | Dampening Reuse Array Siz | ze 1024 | | | | |
| Multicast Statistics | | | | Confederation Identifier | 0 | | | | |
| | | | | Best Path MED Confed | Disabled - | | | | |
| | | | | Confederation Deers | Add | | | | |
| | | | | concornation r cers | Remove | | | | |
| | | | | Ap | ply | | | | |
| | | | | Vaplation | | | | | |
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Figure 5-129. Advanced BGP Configuration Page

Clicking the ADVANCED tab brings up the ADVANCED BGP CONFIGURATION page (Figure 5-129), which configures dampening and confederation parameters. The parameters for this page are shown in Table 5-106.

| Parameter | Description |
|--------------------------------|---|
| Client to Client Reflection | This parameter configures the Route Reflector to support route reflection to client peers. |
| | By default, the Route Reflector will reflect routes learnt from a client peer to all other client peers. If required, the administrator can disable this feature by disabling client-to-client reflection. |
| | If disabled, then the Route Reflector will not advertise routes learnt from a client peer to other client peers. This occurs when all peers within a cluster are fully-meshed and the client peer itself is able to advertise routes to other clients of the route-reflector. |
| Dampening Half Life Time | This parameter specifies the time (in seconds) after which a penalty is decreased by half. Once a route has been assigned a penalty, the penalty is decreased by half after the half-life time. |
| Dampening Reuse Value | If the penalty associated with a suppressed route falls below this value, the route is re-used. |
| Dampening Suppress Value | A route is suppressed when the penalty associated with the route exceeds this value. |

Table 5-106. Advanced BGP Configuration Page Parameters

| Parameter | Description |
|--------------------------------|---|
| Dampening Max Suppress Time | This parameter specifies the maximum time (in seconds) a route can be suppressed. |
| Dampening Decay Granularity | This parameter specifies the time granularity in seconds used to perform all decay computations. |
| Dampening Reuse Granularity | This parameter specifies the time interval between evaluations of the reuse-lists. Each reuse lists corresponds to an additional time increment. |
| Dampening Reuse Array Size | This parameter specifies the size of the reuse index arrays. This size determines the accuracy with which suppressed routes can be placed within the set of reuse lists, when suppressed for a long time. |
| Confederation Identifier | This parameter specifies the BGP confederation identifier. The possible values are between <i>1</i> to 65535. Configuring 0 removes the existing configuration. |
| Best Path MED Confed | This parameter enables or disables MED comparison among paths learnt from confed peers. |
| Confederation Peers | This parameter configures the ASs that belongs to the confederation. |

BGP Community Management



Figure 5-130. BGP Community Management Page

Clicking the COMMUNITY tab brings up the BGP COMMUNITY MANAGEMENT page (Figure 5-130), which configures BGP community and extended community parameters. The parameters for this page are shown in Table 5-107.

| Parameter | Description |
|---|---|
| Community Route Configurations | This parameter configures an entry in the Additive or Delete Community table. |
| Community Filter Configurations | This parameter configures the permit or deny function for the community attribute while receiving or advertising. |
| Community Peer Configurations | This parameter enables or disables advertisement of community attributes to the peer. |
| Community Policy Configurations | This parameter configures the community attribute advertisement policy for a specific destination. |
| Extended Community Route Configurations | This parameter configures an entry in the Additive or Delete Extended Community table. |
| Extended Community Filter Configurations | This parameter configures the permit or deny function for the Extended Community attribute while receiving or advertising. |
| Extended Community Peer Configurations | This parameter enables or disables advertisement of the Extended Community attributes to the peer. |
| Extended Community Policy Configurations | This parameter configures the Extended Community attribute advertisement policy for the specific destination. |

Table 5-107. BGP Community Management Page Parameters

RRD

The RRD link allows you to manage the Route Redistribution with the help of the following pages:

- RRD Basic Settings
- BGP
- RIP
- OSPF

RRD Basic Settings

| SUPERMI SWITCH SBM-GE | CR M-X2C | | | Speed O | Refresh | Support | Help | About | Log Out |
|--|-------------|------|-----|---|----------------|---------|------|-------|---------|
| Home Psystem Mgnt • Lyve Mgnt • Dref • McC B • Cref B • Cref Cref Cref B • Cref Cref C • Cref C • Cref Cref C • Cref Cref Cref C • Cref C • Cref C | | 5,54 | 189 | RRD I RRD Status AS Number Router ID | Basic Settings | : | | | |

Figure 5-131. RRD Basic Settings Page

Clicking the BASIC SETTINGS tab brings up the RRD BASIC SETTINGS page (Figure 5-131). The parameters for this page are shown in Table 5-108.

| Table 5-108. RRD Basic Settings Page Parameters | Table | 5-108. | RRD | Basic | Settings | Page | Parameters |
|---|-------|--------|-----|-------|----------|------|------------|
|---|-------|--------|-----|-------|----------|------|------------|

| Parameter | Description |
|------------|--|
| RRD Status | By enabling this parameter, Route Re-distribution can be enabled in the switch. |
| AS Number | This parameter is used to configure the Router AS number to which this switch belongs. |
| Router ID | This parameter represents the Router ID of the switch. |

BGP



Figure 5-132. RRD BGP Configuration Page

Clicking the BGP tab brings up the RRD BGP CONFIGURATION page (Figure 5-132), which allows you to re-distribute the routes that are learnt through other routing protocols to BGP. The parameters for this page are shown in Table 5-109.

| Parameter | Description |
|----------------|--|
| BGP Status | This parameter enables or disables redistribution for BGP. |
| Default Metric | This parameter specifies the metric for the routes that are being re-distributed. |
| Import | With this parameter you can choose to import <i>Direct routes</i> , <i>Static routes</i> , <i>RIP routes</i> and/or <i>OSPF routes</i> to BGP. |

Table 5-109. RRD BGP Configuration Page Parameters

RIP

Figure 5-133. RRD RIP Configuration Page



Clicking the RIP tab brings up the RRD RIP CONFIGURATION page (Figure 5-133), which allows you to re-distribute the routes that are learnt through other routing protocols to RIP. The parameters for this page are shown in Table 5-110.

| Parameter | Description |
|----------------|---|
| RIP Status | This parameter enables or disables redistribution for RIP. |
| Default Metric | This parameter specifies the metric for the routes that are being re-distributed. |
| Import | You can use this parameter to choose to import <i>Direct routes, Static routes, OSPF routes</i> and <i>BGP routes</i> to RIP. |
| Route Tag Type | This parameter describes whether a tag is <i>manually</i> configured or <i>automatically</i> generated. |
| Route Tag | This parameter indicates the route tag in case you configure a manual option for the tag type. |

Table 5-110. RRD RIP Configuration Page Parameters

OSPF



Figure 5-134. RRD OSPF Configuration Page

Log Out

Help

Clicking the OSPF tab brings up the RRD OSPF CONFIGURATION page (Figure 5-134), which allows you to e-distribute the routes that are learnt through other routing protocols to OSPF. The parameters for this page are shown in Table 5-111.

| Parameter | Description |
|-------------|---|
| OSPF Status | This parameter enables or disables redistribution for OSPF. |
| Import | With this parameter you can choose to import <i>Direct routes, Static routes, RIP routes</i> and <i>BGP routes</i> to OSPF. |

Table 5-111. RRD OSPF Configuration Page Parameters

RRD6

The RRD6 link allows you to perform RRD6 related configuration through the following pages.

- RRD6 Basic Settings
- Filters
- RRD V6 OSPF
- RRD RIP

RRD6 Basic Settings

Figure 5-135. RRD6 Basic Settings Page

| SMIS texes before Horne PSystem Mynt Layer2 Agant Layer3 Agant PHOP Control Ready Control Ready Control Ready Control Ready Control Ready RB Control | SUPERMI SWITCH SBM-GE | CR M-X2C | | | Speed 0 0 0 Link 0 0 0 Switch 0 Gi 1 2 3 | Refresh | Support | Help | About | Log Out |
|---|--|----------------|---------|--------|--|----------------|---------|------|-------|---------|
| Home Psystem Might The Link 000 The Core Core Server Diff Server | SMIS | Basic Settings | Filters | OSPFv3 | RIP6 | | | | | |
| | Home + System Mgnt + Layer2 Mgnt = Layer2 Mgnt = Too DirCo Server DirCo Server Statistics | | | | RRD6 | Basic Settings | | | | |

Clicking the BASIC SETTINGS tab brings up the RRD6 BASIC SETTINGS page (Figure 5-135), which has the single parameter option of changing the throat limit for RRD6.

Filters



| | | | | | Refresh | Support | Help | About | Log Out |
|--|----------------|---------|------------------------|--|--|----------------|----------------|-------|---------|
| SUPERMI | | | | Speed 0 0 0 0 Link 0 0 0 0 Switch 0 Gi 1 2 3 4 | 0 | 16 EXI EX2 EX3 | | | |
| DOI LIUM | | | | a second data to second | | | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | |
| SMIS | Basic Settings | Filters | OSPFv3 | RIP6 | | | | | |
| Homo | | C | | RRD6 Filte | r Configuration | | | | |
| System Mgmt | | | TD C - I | | | | | | |
| Layer2 Mgmt Layer3 Mgmt | | | Drofer I | anoth | | | | | |
| IP IPv6 | | | Source | Any • | | | | | |
| DHCP DHCP Server | | | Destinat | tion Any • | | | | | |
| RIP | | | Action | Permit - | | | | | |
| OSPF OSPFv3 | | | | ADD | Reset | | | | |
| BGP RRD | | retect | IDvé | addrose | Profix Longth | Source Dort | ination Action | | |
| RRDv6 VRRP | | 0 (| 0.00.00.00.00.00.00.00 | 0.00.00.00.00.00.00.00 | 128 | Any - Any | * Permit * | | |
| Statistics | | | | | Delete | | | | |
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Clicking the FILTERS tab brings up the RRD6 FILTER CONFIGURATION page (Figure 5-136). The parameters for this page are shown in Table 5-112.

| Parameter | Description |
|---------------|---|
| IPv6 address | This parameter specifies the IPv6 Address. |
| Prefix Length | This parameter indicates the length of the prefix (in bits) associated with this entry's IPv6 address. |
| Source | This parameter denotes the address of the Source. |
| Destination | This parameter specifies the address of the Destination. |
| Action | With this parameter you can either choose to <i>Permit</i> (not to filter) or <i>Deny</i> (Filter) for the above configuration set. |

| Table 5-112. | RRD6 | Filter | Configuration | Page | Parameters |
|--------------|---------|---------|---------------|-------|-------------|
| | IVIN DO | 1 IIICI | ooninguration | i age | i arameters |

RRD V6 OSPF



Figure 5-137. RRD6 OSPFv3 Configuration Page

Clicking the OSPFv3 tab brings up the RRD6 OSPFv3 CONFIGURATION page (Figure 5-137). The parameters for this page are shown in Table 5-113.

Table 5-113. RRD6 OSPFv3 Configuration Page Parameters

| Parameter | Description |
|-----------|---|
| Status | This parameter enables or disables redistribution for OSPFv3. |
| Import | With this parameter you can choose to import <i>Direct routes</i> , <i>Static routes</i> or <i>RIPv6 routes</i> . |

RRD RIP

| SUPERM | ICR | | | Speed East Sweak (G) 1 2 -9 4 5 6 7 8 19 30 11 12 12 10 16 16 82 12 12 12 12 |
|---|----------------|---------|-------|--|
| SWITCH SBM-G | EM-X2C | | | |
| SMIS | Basic Settings | Filters | OSPv3 | RP6 PD PIPu6 Configuration |
| Home * System Mynt * Lava Mynt * Lava Mynt * Die Die Die Die Die Die Die Die | | | | Stans Defnik Meric Export Static rotes OSPFv3 Apply |

Figure 5-138. RRD RIPv6 Configuration Page

Clicking the RP6 tab brings up the RRD RIPv6 CONFIGURATION page (Figure 5-138). The parameters for this page are shown in Table 5-114.

Table 5-114. RRD RIPv6 Configuration Page Parameters

| Parameter | Description |
|----------------|--|
| Status | This parameter enables or disables redistribution for RIP6. |
| Default Metric | This parameter specifies the metric for the routes that are being re-distributed. |
| Import | With this parameter you can choose to import <i>Direct routes</i> , <i>Static routes</i> or <i>OSPFv3 routes</i> . |

VRRP

The VRRP link allows you to configure VRRP through the following two pages:

- VRRP Basic Settings
- VRRP Settings

VRRP Basic Settings

| CUDEDAG | CD | | Speed 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | Refresh | Support | Help | About | Log Out |
|--|----------------|---------------|---|---------------------|---------------|------|-------|---------|
| SUPERMI | CR | | Switch 0 Gi 1 2 3 4 5 6 7 8 9 | 10 11 12 13 14 15 1 | 6 EXI EX2 EX3 | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | |
| SMIS | Basic Settings | VRRP Settings | | | | | | |
| Home Psystem Agant Layer2 Agant Prof Photo Pho | | | VRRP Basic Se | id - | | | | |

Figure 5-139. VRRP Basic Settings Page

Clicking the BASIC SETTINGS tab brings up the VRRP BASIC SETTINGS page (Figure 5-139), whose single parameter allows you to specify the status of VRRP in the switch.

VRRP Settings

| | | | Refresh | Support | Help | About | Log Out |
|---------------------------|------------------------------|--|---------------------------------------|------------------------|------------------|-------------------|---------|
| SUPERMI | CR | Speed 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 0 0 0 6 EX1 EX2 EX3 | | | |
| SWITCH SBM-GE | M-X2C | | | | | | |
| SMIS | Pacie Sattinge VODD Sattinge | | | | | | |
| onno | Dasic Setungs | VPPP | ttinge | | | | |
| Home | | VRRF S | etungs | | | | |
| Layer2 Mgmt | | Virtual Router ID | | | | | |
| Layer3 Mgmt IP | | Interface | vlan1 <192.168.100.1 | • | | | |
| IPv6 THCP | | Primary IP Address | | | | | |
| DHCP Server DHCP Relay | | Priority | | ~ | | | |
| RIP RIPng | | Authentication Type | no Authentication | - | | | |
| OSPF OSPFv3 | | Authentication Key | | | | | |
| RRD RRD | | Advertisement Interval (secs) | 1 | | | | |
| VRRP | | Pre-emption | Enable - | | | | |
| Statistics | | ADD | Reser | | | | |
| | Virtual Router ID Interface | Primary IP Priority Authentication Type Auth | entication Key Adver | tisement Interv | al (secs) Pre-em | ption State Statu | IS |
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Figure 5-140. VRRP Settings Page

Clicking the VRRP SETTINGS link brings up the VRRP SETTINGS page (Figure 5-140). The parameters for this page are shown in Table 5-115.

| Parameter | Description |
|-------------------------------------|--|
| Virtual Router ID | This parameter indicates the Virtual ID associated with each Virtual Router. |
| Interface | This parameter represents the interface on which the Virtual Router must be configured. |
| Primary IP Address | This parameter specifies the PRIMARY IP ADDRESS for the Virtual Router. |
| Priority | This parameter indicates the PRIORITY for the Virtual Router. The configurable priority value ranges from <i>1</i> to <i>254</i> . |
| Authentication Type | This parameter indicates the AUTHENTICATION TYPE for the Virtual Router. |
| Authentication Key | This parameter indicates the AUTHENTICATION KEY for the Virtual Router. |
| Advertisement Interval (Seconds) | This parameter specifies the time Interval in seconds for sending the advertisement packets. |
| Preempt Mode | This parameter enablesor disables the PREEMPT MODE. |
| State | This parameter indicates the current state of the Virtual Router. |
| Status | This parameter specifies the Admin Status of the Virtual Router. |

5-7 Multicast

| SUPERMICK | |
|--|--|
| SWITCH SBM-GEM-X2C | |
| | |
| SMIS | |
| Home • System Mignet • Laver Mint • Statistics • Stati | |

Figure 5-141. Multicast Home Page

 $\mathsf{M}\mathsf{ULTICAST}$ HOME page (Figure 5-141) has the following links to multicast features in the switch:

- IGMP Snooping
- Dynamic Multicast
- IGMP
- PIM
- DVMRP

IGMP Snooping

The IGMP Snooping link allows you to configure IGMP snooping through the following pages:

- IGMP Snooping Configuration
- IGMP Snooping Timer
- IGMP Snooping Interface
- IGMP Snooping VLAN Router
- IGMP MAC Forwarding

IGMP Snooping Configuration



Clicking the BASIC SETTINGS tab brings up the IGMP SNOOPING CONFIGURATION page (Figure 5-142), which allows you to configure IGMP snooping parameters. The parameters for this page are shown in Table 5-116.

| Parameter | Description |
|-------------------------|--|
| System Control | This parameter Starts or Shutsdown IGS in the switch. |
| IGMP Snooping Status | This parameter enables or disables IGMP snooping globally in the switch. To enable IGS, GMRP status must be <i>Disabled</i> . |
| Operational Status | This parameter enables or disables IGMP snooping operationally in the switch. To enable IGS, GMRP status must be <i>Disabled</i> . |
| Proxy Reporting | This parameter indicates whether the proxy reporting in the IGMP snooping switch is to be enabled or disabled. |
| Snooping Mode | This parameter specifies the IGMP snooping multicast forwarding mode, which can be configured using the Destination IP Address or the Destination MAC Address. |
| Report Forwarding | This parameter specifies whether the IGMP reports are forwarded on all ports or only on router ports. |
| Retry Count | This parameter specifies the maximum number of group specific queries sent on a port on the reception of an IGMPv2 leave message. |
| Query Transmit On TC | This parameter allows you to enable or disable query transmit when topology changes. |

Table 5-116. IGMP Snooping Configuration Page Parameters

IGMP Snooping Timer

Figure 5-143. IGMP Snooping Timer Configuration Page



Clicking the TIMER tab brings up the IGMP SNOOPING TIMER CONFIGURATION page (Figure 5-143), which configures IGMP snooping timers. The parameters for this page are shown in Table 5-117.

| Parameter | Description |
|--|--|
| Router Port PurgeInterval (Secs) | This parameter specifies the interval for which the learnt router port will be purged. The default value is 125-seconds . |
| Group-Member Port Purge Interval (Secs) | This parameter specifies the interval after which a port gets deleted, if IGMP reports are not received on a port. The default value is 260-seconds . |
| Report Forward Interval (Secs) | This parameter specifies the interval within which the next report messages for the same multicast group will not be forwarded. The default value is 5-seconds . |
| Group Query Interval (Secs) | This parameter specifies the interval within which the switch sends a group specific query on a port when an IGMPv2 leave message is received. The default value is 2-second s. |

Table 5-117. IGMP Snooping Timer Configuration Page Parameters

IGMP Snooping Interface

Figure 5-144. IGMP Snooping Interface Configuration Page

| | | | | 1.00 | Refresh | Support | Help | About | Log Out |
|----------------------------|---------------------|----------------|---------------------------|---------------------------|-------------------------------|-------------------|------------------|--------------------|------------------|
| CURRENT | CID | | | Speed 0 0 0 Link 0 0 0 | <pre></pre> | | | | |
| SUPERMI | CR | | | Switch 0 Gi 1 2 3 | 4 5 6 7 8 9 10 11 12 13 14 15 | 16 EXI EX2 EX3 | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | |
| emie | | | | | | | | | |
| SIMIS | Basic Settings | Timer | InterfaceConfiguration | RouterPorts | GroupInformation | | | | |
| Home | | | IGN | IP Shooping | interface Configu | ration | | | |
| System Mgmt Laver2 Mgmt | | | | VLAN ID | vlan1 👻 | 1 | | | |
| Layer3 Mgmt | | | | IGMP Snooping | Status | | | | |
| IGMP Snooping | | | | Operating Versio | on - 🕶 | | | | |
| IGMP | | | | Fast Leave | • | | | | |
| DVMRP | | | | Querier Status | • • | | | | |
| stausues | | | | Querier Interval(| (secs) | | | | |
| | | | | Router Port List | | | | | |
| | | | | A | dd Reset | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | Select VLAN ID IGMP | Snooping Statu | s Configured Version Curr | rent Version Fast Le | nave Configured Querier S | tatus Current Que | erier Status Que | rier Interval(secs | Router Port List |
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Clicking the INTERFACE CONFIGURATION tab brings up the IGMP SNOOPING INTERFACE CONFIGURATION page (Figure 5-144), which configures IGMP snooping interface specific parameters. The parameters for this page are shown in Table 5-118.

| Parameter | Description |
|-------------------------|--|
| VLAN ID | This parameter specifies the VLAN ID for which the configuration is to be performed. |
| IGMP Snooping Status | This parameter specifies the status of IGMP snooping in the Switch, which can be enabled or disabled for a specific VLAN. |
| Operating Version | This parameter specifies the operating version of the IGMP snooping switch for a specific VLAN. |
| Fast Leave | This parameter indicates whether the fast leave processing for a specific VLAN, is to be enabled or disabled. |
| Querier Status | This parameter specifies whether the IGMP snooping switch is enabled or disabled as a querier for a specific VLAN. |
| Querier Interval(secs) | This parameter specifies the time period for which general queries are sent by the IGMP snooping switch, when configured as querier on a VLAN. |
| Router Port List | This parameter specifies the router port list for a specific VLAN. |

Table 5-118. IGMP Snooping Interface Configuration Page Parameters

| Parameter | Description |
|---------------------------|--|
| Current Version | This parameter specifies the working IGMP Version on the given VLAN. |
| Current Querier Status | This parameter specifies the current status of the Querier. |

Table 5-118. IGMP Snooping Interface Configuration Page Parameters (Continued)

IGMP Snooping VLAN Router

Figure 5-145. IGMP Snooping VLAN Router Ports Page

| SUPERMI | CP | | | Speed 0 0 0 0 Link 0 0 0 0 Switch 0 Gi 1 2 1 4 | Refresh | Support | нер | About | Log Out |
|---|---------------|---------|------------------------|--|------------------|---------|-----|-------|---------|
| SULEKI | | | | | | | | | |
| SWITCH SBM-GEN | A-A2C | The set | | During State | | | | | |
| 01/10 | BasicSettings | Timer | InterfaceConfiguration | RouterPorts | Groupinformation | rte | | | |
| Home | | | 10 | INF Shooping | VLAN KOULEI FU | 115 | | | |
| System Agnit Layer2 Agnit Kulticast Ioth Shoong Date Rubics Park Statistics | | | - | VLAND | Pon List | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Clicking the ROUTE PORTS tab brings up the IGMP SNOOPING VLAN ROUTER PORTS page (Figure 5-145). The parameters for this page are shown in Table 5-119.

| Table 5- | 119. IO | GMP Snooping VLAN Router Ports Page Parameters |
|----------|---------|--|
| | - | |

| Parameter | Description |
|-----------|--|
| VLAN ID | This parameter specifies the VLAN ID. |
| Port List | This parameter specifies the ports on which routers are connected for a specific VLAN. |

IGMP MAC Forwarding

Figure 5-146. MAC Based Multicast Forwarding Table Page

| SUPERMI SWITCH SBM-GE | CR 4-x2c | | | Speed 0 0 0 Link 0 0 0 Switch 0 Gi 1 2 3 | 4 5 6 7 8 9 10 11 12 13 14 1 | Support 6 6 FXI EX2 EX3 | нер | About | Log Out |
|---|----------------|-------|------------------------|--|------------------------------|----------------------------|-----|-------|---------|
| SMIS | Basic Settings | Timer | InterfaceConfiguration | RouterPorts | GroupInformation | | | | |
| Home System Mgmt Layer2 Mgmt | | | MAC | Based Mul | ticast Forwarding | Table | | | |
| Layer3 Mgmt Multicast IGMP Snooping Dynamic Multicast IGMP DYNRP DUMRP Statistics | | | VLAN ID | Grou | up MAC Address | Port List | I | | |
| | | | | | | | | | |
| | | | | | | | | | |
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| | | | | | | | | | |
| 0 | | | | | | | | | |

Clicking the GROUP INFORMATION tab brings up the MAC BASED MULTICAST FORWARDING TABLE page (Figure 5-146), which displays either the IP Based or the MAC Based Multicast Forwarding Table depending upon the configuration of the forwarding mode. The parameters for this page are shown in Table 5-120.

| Parameter | Description |
|-------------------|--|
| VLAN ID | This parameter specifies the VLAN ID pertaining to the MAC based multicast forwarding entry. |
| Group MAC Address | This parameter specifies the Group MAC Multicast address that is learnt. |
| Port List | This parameter specifies the learnt ports. |

Dynamic Multicast

The Dynamic Multicast link allows you to configure Dynamic Multicast through the following pages:

- Global Configuration
- Dynamic Multicast Port Configuration

Global Configuration

Figure 5-147. Dynamic Multicast Global Configuration Page

| | | | | | Refresh | Support | Help | About | Log Out |
|------------------------------------|------------------|---------------|-----|--|---|------------------------|------|-------|---------|
| SUPERMI | CR | | | Speed 0 0 0 0 0 0 0 0 Link 0 0 0 0 0 0 0 0 Switch 0 Gi 1 2 3 4 5 6 7 8 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 9 16 11 12 13 14 15 1 | 0 0 0 6 EX1 EX2 EX3 | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | |
| SMIS | DynamicMulticast | Port Settings | | | | | | | |
| Home | | | Dyn | namic Multicast Glob | al Configur | ration | | | |
| System Mgmt | | | | Select Context Dynamic | Multicast Status | | | | |
| Layer3 Mgmt Multicast | | | | 0 Enabled | • | | | | |
| IGMP Snooping Dynamic Multicast | | | | Apply | | | | | |
| PIM DVMRP | | | | | | | | | |
| Statistics | | | | | | | | | |
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Clicking the DYNAMIC MULTICAST tab brings up the DYNAMIC MULTICAST GLOBAL CONFIGURATION page (Figure 5-147), which allows you to enable or disable the dynamic multicast feature.

Dynamic Multicast Port Configuration

| Figure 5-148. | Dynamic I | Multicast | Port | Configuration Page | |
|---------------|-----------|-----------|------|--------------------|--|
|---------------|-----------|-----------|------|--------------------|--|

| | | | | | | Refresh | Support | Help | About | Log Out |
|--|------------------|---------------|-----|------------------------|--|-----------------------------------|----------------|------|-------|---------|
| SUPERMI | CR | | | Spee Lini Switch | d 0 0 0 0 0 0 0 c 0 0 0 0 0 0 0 Gi 1 2 3 4 5 6 | 7 8 9 10 11 12 13 14 15 | 16 EXI EX2 EX3 | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | | |
| SMIS | DynamicMulticast | Port Settings | | | | | | | | |
| Home | | | D | namic | Multicast | Port Configura | ation | | | |
| Layer2 Mgmt | | | | | <u>Gi0/1-I</u> | Ex0/3 | | | | |
| IGMP Snooping Dynamic Multicast IGMP | | | Sel | ect Port | Dynamic Multio | cast Status Restricted Registr | Group | | | |
| DVMRP | | | • | Gi0/1 | Enabled • | Disabled | • | | | |
| Stausues | | | | Gi0/2 | Enabled • | Disabled | - | | | |
| | | | | Gi0/3 | Enabled - | Disabled | - | | | |
| | | | | Gi0/5 | Enabled · | Disabled | | | | |
| | | | | Gi0/6 | Enabled · | Disabled | | | | |
| | | | 0 | Gi0/7 | Enabled · | Disabled | | | | |
| | | | | Gi0/8 | Enabled · | Disabled | | | | |
| | | | | Gi0/9 | Enabled · | Disabled | * | | | |
| | | | 0 | Gi0/10 | Enabled • | Disabled | * | | | |
| | | | 0 | Gi0/11 | Enabled - | Disabled | - | | | |
| | | | | Gi0/12 | Enabled · | Disabled | • | | | |
| | | | 0 | Gi0/13 | Enabled • | Disabled | • | | | |
| | | | 0 | Gi0/14 | Enabled • | Disabled | • | | | |
| | | | | Gi0/15 | Enabled • | Disabled | - | | | |
| | | | • | Gi0/16 | Enabled • | Disabled | • | | | |
| | | | | Ex0/1 | Enabled · | Disabled | | | | |
| | | | | Ex0/2 | Enabled - | Disabled | | | | |
| | | | 0 | EX0/3 | Linabidu + | Disabled | | | | |
| | | | | | App | bly | | | | |

Clicking the PORT SETTINGS tab brings up the DYNAMIC MULTICAST PORT CONFIGURATION page (Figure 5-148), which configures dynamic multicast at the port level. The parameters for this page are shown in Table 5-121.

| Parameter | Description |
|----------------------------------|--|
| Port | This parameter specifies the Port index. |
| Dynamic Multicast Status | This parameter enables or disables dynamic multicast on this port. |
| Restricted Group Registration | This parameter enables or disables RESTRICTED GROUP REGISTRATION on this port. |

IGMP

The IGMP page allows you to configure the IGMP protocol. The IGMP protocol in the switch can be configured through the following pages:

- Basic Settings
- Interface Configuration
- Group Information
- Source Information

Basic Settings

Figure 5-149. IGMP Configuration Page

| SUPERMI | CR | | Speed Link Switch 0 | Gi 1 2 3 4 5 6 7 8 9 1 | Refresh | Support EXI EXI EXI | Help | About | Log Out |
|--|----------------|-------------------------|---------------------------|--|---------|------------------------|------|-------|---------|
| SWITCH SBM-GEN | 1-X2C | | | | | | | | |
| SMIS | Basic Settings | Interface Configuration | Group Information | Source Information | | | | | |
| Home + System Mgmt - Layer2 Mgmt - Layer2 Mgmt - Tope Socoing - Ornamic Multicast - DVRP + Statistics | | | | GMP Configura Global Status: Disable Apply Reset | tion | | | | |

Clicking the IGMP CONFIGURATION tab brings up the IGMP CONFIGURATION page (Figure 5-149), whose single parameter allows you to enable or disable IGMP in the switch.

Interface Configuration

Figure 5-150. IGMP Interface Configuration Page



Clicking the INTERFACE CONFIGURATION tab brings up the IGMP INTERFACE CONFIGURATION page (Figure 5-150). The parameters for this page are shown in Table 5-122.

| Parameter | Description |
|------------------------|--|
| Interface | This parameter specifies the interface index. |
| IGMP Status | This parameter specifies the IGMP Status. |
| Operating Version | With this parameter you can choose to run either in <i>IGMP Version 1, IGMP Version 2</i> or <i>IGMP Version 3</i> . This can be configured for every interface. |
| Fast Leave | This parameter indicates whether the fast leave processing for a specific interface, is to be enabled or disabled. |
| Query Interval | This parameter indicates the interval between two successive IGMP queries. |
| Query Response Time | This parameter specifies the response time for IGMP queries. |
| Robustness Value | This parameter specifies the ROBUSTNESS VALUE on this interface. |

Table 5-122. IGMP Interface Configuration Page Parameters

Group Information



Figure 5-151. IGMP Group Configuration Page

Clicking the GROUP INFORMATION tab brings up the IGMP GROUP CONFIGURATION page (Figure 5-151). The parameters for this page are shown in Table 5-123.

| Parameter | Description |
|----------------|---|
| Interface | This parameter specifies the interface index. |
| Group Address | This parameter specifies the IP multicast group address. |
| Source Address | This parameter represents the IP Source address. NOTE: Source configuration is allowed only when the operating version is v3 on this interface. |
| Filter Mode | This parameter specifies the FILTER MODE. |

Table 5-123. IGMP Group Configuration Page Parameters

Source Information

Figure 5-152. IGMP Source Information Page



Clicking the SOURCE INFORMATION tab brings up the IGMP SOURCE INFORMATION page (Figure 5-152). The parameters for this page are shown in Table 5-124.

| Table 5-124. | IGMP Sou | rce Informa | tion Page I | Parameters | |
|--------------|----------|-------------|-------------|------------|--|
| | | | | | |

| Parameter | Description |
|----------------|--|
| Group Address | This parameter specifies the IP multicast group address. |
| Interface | This parameter specifies the interface index. |
| Source Address | This parameter represents the IP Source address. |

PIM

The PIM link allows you to perform PIM related configuration through the following pages:

- Basic Settings
- Component
- Interfaces
- Candidate RPs
- Threshold
- Static RP

Basic Settings

| | | | | | Refres | h Support | Help | About | Log Out |
|------------------------------------|----------------|-----------|------------|--|--------------------------|------------------------|------|-------|---------|
| SUPERMI | CR | | | Speed 0 0 Link 0 0 Switch 0 Gi 1 2 | 3 4 5 6 7 8 9 10 11 12 1 | 3 14 15 16 EXI EX2 EX3 | | | |
| SWITCH SBM-GEN | M-X2C | | | | | | | | |
| SMIS | Basic Settings | Component | Interfaces | Candidate RP | Threshold | Static RP | | | |
| Home | | | | PIM | Basic Settings | | | | |
| System Mgmt Laver2 Mgmt | | | PIM State | 15 | Disabled 👻 | | | | |
| Layer3 Mgmt | | | PIM V6 S | Status | Disabled - | | | | |
| IGMP Snooping Dynamic Multicast | | | Registrati | on Stop Rate Limitin | g Period 5 | seconds | | | |
| IGMP PIM | | | PMBR S | atus | Disabled - | | | | |
| > Statistics | | | Static RP | | Disabled - | | | | |
| | | | | | - Abbil | | | | |
| | | | N | ote : To enable PI | M , IGMP Proxy should | d be disabled. | | | |
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Figure 5-153. PIM Basic Settings Page

Clicking the BASIC SETTINGS tab brings up the PIM BASIC SETTINGS page (Figure 5-153), which specifies the PIM status in the switch. The parameters for this page are shown in Table 5-125.

| Parameter | Description |
|---------------|---|
| PIM Status | This parameter allows you to enable or disable the PIM status in the switch. |
| PIM V6 Status | This parameter allows you to enable or disable the PIM V6 status in the switch. |

| Table 5-125. | PIM | Basic | Settings | Page | Parameters |
|--------------|-----|-------|----------|------|------------|
| | | | | | |

| Parameter | Description |
|---|---|
| Registration Stop Rate Limiting Period | This parameter specifies the registration stop rate limiting period in seconds. |
| PMBR Status | This parameter allows you to enable or disable the PMBR status in the switch. |
| Static RP | This parameter allows you to enable or disable the Static RP in the switch. |

Table 5-125. PIM Basic Settings Page Parameters (Continued)

Component



Figure 5-154. PIM Component Configuration Page

Clicking the COMPONENT tab brings up the PIM COMPONENT CONFIGURATION page (Figure 5-154). The parameters for this page are shown in Table 5-126.

| Parameter | Description |
|----------------------------|---|
| Component ID | This parameter specifies a number uniquely identifying the component. |
| Candidate CRP Hold Time | This parameter specifies the hold time of the component when it is a candidate RP in the local domain. |
| Mode | This parameter specifies the mode of the component. It can be Sparse or Dense. |
| BSR Address | This parameter specifies the IP address of the bootstrap router for the local PIM region, which is a read-only field. |
| BSR Expiry Time | This parameter indicates the minimum time remaining before the bootstrap router in the local domain is declared down, which is a read-only field. |

Table 5-126. PIM Component Configuration Page Parameters

Interfaces

| SUPERMI | CR | | | Speed 0 0 0 0 0 Link 0 0 0 0 0 Switch 0 Gi 1 2 3 4 5 6 | Refres | h Support | Help | About | Log Out |
|------------------------------------|----------------|-------------------|--------------------|--|------------------|-----------------------|--------------------|------------|---------|
| SWITCH SBM-GEA | 4-X2C | | | | | | | | |
| SMIS | Basic Settings | Component | interfaces | Candidate RP Thr | reshold | Static RP | | | |
| Home | | | | PIM Interface | Configurat | ion | | | |
| System Mgmt Layer2 Mgmt | | | | Interface | vlan1 • * | | | | |
| Layer3 Mgmt | | | | Address Type | IPV4 - | and the second second | | | |
| IGMP Snooping Dynamic Multicast | | | | Component ID | 1 | | | | |
| IGMP PIM | | | | DR Priority | 1 | | | | |
| DVMRP Statistics | | | | Hello Hold Time | 105 | | | | |
| | | | | Lan Delay | 0 | | | | |
| | | | | Override Interval | 0 | | | | |
| | | | | Query Interval (secs) | 30 | | | | |
| | | | | Message Interval (secs) | 60 | | | | |
| | | | | BSR Candidate Preference | e -1 | | | | |
| | | | | LAN Prune Delay | Disable - | | | | |
| | | | | Add | Reset | | | | |
| | | Select Iface Addr | Type Comptd DR Pri | iority Hellohold time Lan De | lav Override Int | Query Int Message | Int BSR PrefiLan P | rune Delay | |
| | | | | Apply | Delete | | | í i | |
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Figure 5-155. PIM Interface Configuration Page

Clicking the INTERFACES tab brings up the PIM INTERFACE CONFIGURATION page (Figure 5-155). The parameters for this page are shown in Table 5-127.

| Parameter | Description |
|----------------------------------|--|
| Interface | This parameter specifies the interface index. |
| Component ID | This parameter specifies a number uniquely identifying the component. |
| Hello Interval (Seconds) | This parameter specifies the time interval between two successive Hello messages being sent by PIM on this interface. |
| Join Prune Interval (Seconds) | This parameter specifies the time interval between two successive Join/Prune messages being sent by PIM on this interface. |
| CBSR Preference | This parameter indicates the preference value for the local interface as a candidate bootstrap router. |
| Row Status | This parameter indicates the operational status of the entry. |

| Table 5-127. | PIM | Interface | Configuration | Page | Parameters |
|--------------|-----|-----------|---------------|-------|-------------|
| | | micriaoc | ooninguruuon | i uge | i urumeters |

Candidate RPs

Figure 5-156. Candidate RP Configuration Page

| SUPERMI | CR | | | Speed 0 0 Link 0 0 Switch 0 Gi 1 2 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 1 12 13 14 15 16 E | | netp | About | Log Out |
|--|----------------|-----------|------------|--|--|---------------------|-----------------|------|-------|---------|
| SWITCH SBM-GEI | M-X2C | | | | | | | | | |
| SMIS Home * System Mgnt * Layer2 Mgnt * Layer3 Mgnt TOMP Snooping DMM Shooping PM DOMP Shooping PM PM DOMP Shooping PM PM PM DMM Shooping PM PM PM PM PM PM PM PM PM PM | Basic Settings | Component | Interfaces | Candidate RP Component I Address Typ Group Addre Group Madk RP Address component Id/Addr T | Threshold e RP Configu d PP4 • ss Add Reset ype[Group Address | Static R uration | P RP Address | | | |

Clicking the CANDIDATE RPs tab brings up the CANDIDATE RP CONFIGURATION page (Figure 5-156). The parameters for this page are shown in Table 5-128.

| Parameter | Description |
|---------------|--|
| Component ID | This parameter specifies a number uniquely identifying the component. |
| Group Address | This parameter represents the multicast group, for which the switch advertises itself as the candidate RP. |
| Group Mask | This parameter specifies the subnet mask, which when combined with the group address gives the group prefix. |
| RP Address | This parameter represents the IP address of the Candidate-RP. |

Table 5-128. Candidate RP Configuration Page Parameters

Threshold

| SUPERMICE SWITCH SBM-GEM-X2C SMIC SBM-GEM-X2C SMIC SBMC Settings Component Related BP Tereshold Configuration Psystem Mynt System Mynt System Mynt Statistics Settings Component Related 0 Packets Switching Period 0 Seconds RP Tereshold 0 Seconds RP Tereshold 0 Seconds RP Tereshold 0 Seconds RP Switching Period 0 Seconds | |
|---|--|
| SWITCH SBM-GEM-X2C SMIS Basic Settings Component Interfaces Candidate BP Treashold State: BP OTTRESHOLd Configuration System Mgmt Layer2 Mgmt Carger Threshold 0 Packets Source Treashold 0 Packets RP Strething Period 0 Seconds RP Strething Period 0 Seconds | |
| SWITCH SDM-GEM-X2C SMIS Basic Settings Component Interfaces Candidate BP Transhold Static BP PIM Threshold Configuration System Mgmt Layer2 Mgmt Layer2 Mgmt Layer2 Mgmt Layer2 Mgmt Source Threshold 0 Packets Source Threshold 0 Packets RP Switching Period 0 Seconds RP StatisBics | |
| SMIS Basic Settings Component Interfaces Candidate RP Intershold Static RP Orme System Mynt: System Mynt: Layers Mynt: Layers Mynt: Databases Shortest Pail: Tree Group Threshold D Packets Databases Static RP Group Threshold D Packets Databases Switching Period D Packets Statistics RP Threshold D Packets | |
| Come PIM Threshold Configuration System Mgnt Shortest Path Tree Layr2 Mgnt Group Threshold 0 PRM Shortest Sourcest Path Tree URM Shortest Group Threshold 0 PRM Shortest Source Threshold 0 PRM Shortest Source Threshold 0 Packets Switching Period 0 Statistics RP Switching Period 0 | |
| Unter Shortes Path Tree ayer2 Mgrit ayer2 Mgrit Shortes Path Tree ayer2 Mgrit Group Threshold O Packets TOPM Shortes Path Tree Dynamic Mitchast Down Switching Period O Seconds Statistics RP Switching Period O Seconds | |
| ayer2 Mgmt Shotters Pain Iree Markiesat Drawm Mikiesat Drawm Mikie | |
| Multicast* Uroup Intensional 0 Packets DOW Browping DOW Browping DOW Browping Statistics RP Switching Period 0 Seconds Statistics RP Switching Period 0 Seconds | |
| Dynamic Bulkest TotAP Switching Period 0 Seconds DYNAP RP The Switching Period 0 Packets Statistics RP Switching Period 0 Packets | |
| PDM DOMAR RP Threshold 0 Packets Statistics RP Switching Period 0 Seconds | |
| Statistics RP Switching Period 0 Seconds | |
| | |
| Apply | |
| | |

Figure 5-157. PIM Threshold Configuration Page

Clicking the THRESHOLD tab brings up the PIM THRESHOLD CONFIGURATION page (Figure 5-157). The parameters for this page are shown in Table 5-129.

Table 5-129. PIM Threshold Configuration Page Parameters

| Parameter | Description |
|---------------------|--|
| Group Threshold | This parameter is a bits-per-second (BPS) value that when it exceeds a certain value, initiates source specific counters for a particular group. |
| Source Threshold | This parameter is a bits-per-second (BPS) value that when exceeds a certain value, initiates switching to shortest path tree. |
| Switching Period | This parameter specifies the time interval that the data rate is monitored for, initiating the counters or for switching to SPT. |
| RP Threshold | When the number of registered packets received exceeds this threshold value, RP initiates switching to SPT. |
| RP Switching Period | This parameter specifies the time interval for which the registered packets are monitored to initiate switching to SPT. |

Static RP





Clicking the STATIC RP tab brings up the STATIC RP CONFIGURATION page (Figure 5-158), which configure static PIM RPs (Rendezvous Points). The parameters for this page are shown in Table 5-130.

| Parameter | Description |
|----------------------|--|
| Component ID | This parameter specifies a number uniquely identifying the component. |
| Address Type | This parameter chooses the IPv4 or IPv6 address type. |
| Static Group Address | This parameter represents the multicast group, for which the switch advertises itself as the candidate RP. |
| Static Group Mask | This parameter specifies the subnet mask, which when combined with the group address gives the group prefix. |
| Static RP Address | This parameter represents the IP address of the candidate RP. |

Table 5-130. Static RP Configuration Page Parameters

DVMRP

The DVMRP page allows you to configure the DVMRP protocol using the following pages:

- DVMRP Basic Settings
- Interfaces

DVMRP Basic Settings

| SUPERMI SWITCH SBM-GE | CRO M-X2C | | Speed Seed Sector 2 3 4 6 6 7 8 9 10 10 10 10 10 10 10 10 10 10 10 10 10 |
|--|----------------|------------|--|
| SMIS | Basic Settings | Interfaces | |
| Home Psystem Mgmt Layez Mgmt Tele Second Come Publicat Provide Publicat Provid | | | DVMRP Status Dualded * * Prune Lifetime (ueco) * * Appry Note : To enable DVMRP, <u>IGMP Prox</u> should be disabled. |

Figure 5-159. DVMRP Basic Settings Page

Clicking the BASIC SETTINGS tab brings up the DVMRP BASIC SETTINGS page (Figure 5-159). The parameters for this page are shown in Table 5-131.

| Table 5-131. DVMRP Basic Settings Page Parameter |
|--|
|--|

| Parameter | Description |
|-----------------------------|--|
| DVMRP Status | DVMRP can be enabled or disabled in the switch using this field. |
| Prune Lifetime (Seconds) | This parameter represents the Prune Life Time Configuration value. |

Interfaces

Figure 5-160. DVMRP Interface Settings Page



Clicking the INTERFACES tab brings up the DVMRP INTERFACE SETTINGS page (Figure 5-160), which displays the various parameters XXXXXX. The parameters for this page are shown in Table 5-132.

| Parameter | Description |
|------------|---|
| Interface | This parameter specifies the Interface Index. |
| IP Address | This parameter specifies the IP Address of the interface, which is a read-only field. |
| Metric | This parameter specifies the distance metric for this interface, which is used to calculate distance vectors. |

Table 5-132. DVMRP Interface Settings Page Parameters

5-8 Statistics



Figure 5-161. Statistics Home Page

The STATISTICS HOME page (Figure 5-161) contains links to all statistical information for all switch features and includes the following statistics pages:

- Interface
- Radius
- TACACS+ Statistics
- RMON Ethernet Statistics
- SNMP Statistics
- VLAN
- RSTP Statistics
- MSTP Statistics
- Link Aggregation (LA)
- 802.1X
- IP
- IPv6
- RIP Statistics
- RIP6
- OSPF
- OSPFv3
- VRRP Statistics
- IGMP Snooping

- IGMP Statistics
- PIM
- DVMRP

Interface

The Interface link allows you to configure the following pages:

- Interface Statistics
- Ethernet Statistics

Interface Statistics

| SUPERMI SWITCH SBM GEN | CR | | | | | Sp Li Swite | ned 00 ink 00 h0Gi12 | 0 0 0 0 0 0 0 0 3 4 5 6 | 000 000 789 | Refresh | Sup 4 15 16 EXT EX | port 2 EX3 | Hel | P | About | Log Ou |
|---|----------------------|-------------|-------|------------------------|--------------|--------------------------|----------------------------|-------------------------------|-------------------|----------------------------|-----------------------|--------------------------|---------------------------|----------------|--------------|--------|
| SMIS | Interface | Ethe | rnet | 1 | | | | | | | | | | | | |
| lome | Interface Statistics | | | | | | | | | | | | | | | |
| Layer2 Mgmt | | Gi0/1-Ex0/3 | | | | | | | | | | | | | | |
| Multicast | | | | | | | | | | | | | | | | |
| Dynamic Multicast | | | | | | | F | Reset Stat | tistics | | | | | | | |
| PIM DVMRP Statistics Interface | | Index | MTU | Speed (Mbps/Second) | Rx Octets | Rx Unicast Packets | Rx Nunicast Packets | Rx Discards | Rx Errors | Rx Unknown Protocols | Tx Octets | Tx Unicast Packets | Tx Nunicast Packets | Tx Discards | Tx Errors | |
| Radius TACACS+ RMON SNMP | | Gi0/1 | 1500 | 1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Gi0/2 | 1500 | 1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| VLAN RSTP | | Gi0/3 | 1500 | 1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| MSTP | | Gi0/4 | 1500 | 1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 802.1x | | Gi0/5 | 1500 | 1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| IPv6 | | Gi0/6 | 1500 | 1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| RIPng | | Gi0/7 | 1500 | 1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| OSPFv3 | | Gi0/8 | 1500 | 1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| IGMP Snooping | | Gi0/9 | 1500 | 1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| IGMP PIM | | Gi0/10 | 1500 | 1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| DVMRP | | Gi0/11 | 1500 | 1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Gi0/12 | 1500 | 1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Gi0/13 | 1500 | 1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Gi0/14 | 1500 | 1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Gi0/15 | 1500 | 1000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Gi0/16 | 1500 | 100 | 1521892 | 10907 | 192 | 0 | 0 | 0 | 11265643 | 14468 | 662 | 0 | 0 | |
| | | Ex0/1 | 16338 | 10000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Ex0/2 | 16338 | 10000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |

Figure 5-162. Interface Statistics Page

Clicking the INTERFACE tab brings up the INTERFACE STATISTICS page (Figure 5-162). The parameters for this page are shown in Table 5-133.

| Parameter | Description |
|----------------------------|---|
| Index | This parameter specifies the Port index. |
| MTU | This parameter specifies the Max Transfer Unit bytes. |
| Speed (Bits Per Second) | This parameter specifies the port speed in bits per second. |
| Received Octets | This parameter specifies the number of bytes received. |

Table 5-133. Interface Statistics Page Parameters
| Parameter | Description |
|---------------------------------|---|
| Received Unicast Packets | This parameter specifies the number of unicast packets received. |
| Received Nunicast Packets | This parameter specifies the number of non-unicast packets received. |
| Received Discards | This parameter specifies the number of packets discared due to errors. |
| Received Errors | This parameter specifies the number of packets received with errors. |
| Received Unknown Protocols | This parameter specifies the number of packets received with an unknown protocol. |
| Transmitted Octets | This parameter specifies the number of bytes transmitted. |
| Transmitted Unicast Packets | This parameter specifies the number of unicast packets transmitted. |
| Transmitted Nunicast Packets | This parameter specifies the number of non-unicast packets transmitted. |
| Transmitted Discards | This parameter specifies the number of packets discarded due to transmit errors. |
| Transmitted Errors | This parameter specifies the number of transmit errors. |

Table 5-133. Interface Statistics Page Parameters (Continued)

Ethernet Statistics



Figure 5-163. Ethernet Statistics Page

Clicking the ETHERNET tab brings up the ETHERNET STATISTICS page (Figure 5-163). The parameters for this page are shown in Table 5-134.

| Parameter | Description |
|------------------------------------|---|
| Index | This parameter specifies the port index. |
| Alignment Errors | This parameter specifies the number of alignment errors. Alighment errors generally indicate improper byte-alignment for Ethernet packets. |
| FCS Errors | This parameter specifies the number of packets received with checksum errors. |
| Single Collision Frames | This parameter specifies the number of frames received with a collision. |
| Multiple Collision Frames | This parameter specifies the number of frames received with multiple collisions. |
| SQE Test Errors | This parameter specifies the number of Signal Quality Errors that have occurred. |
| Deferred Transmissions | This parameter specifies the number of frames deferred for transmissions due to network sense. |
| Late Collisions | This parameter specifies the number of frames faced late collisions. A collision is considered late if the jam occurs after 512 bit-times, or 64 bytes. |
| Excess Collisions | This parameter specifies the number of excess collisions detected. Excessive Collisions describe the situation where a station has tried 16 times to transmit without success and discards the frame. This means that there is excessive traffic on the network and this must be reduced. |
| Transmitted Internal MAC Errors | This parameter specifies the number of MAC transmit errors. |
| Carrier Sense Errors | This parameter specifies the number of carrier sense errors. |
| Frame Too Long | This parameter specifies the number of too long frames received for transmission. |
| Received Internal MAC Errors | This parameter specifies the number of MAC received errors. |
| Symbol Errors | This parameter specifies the number of symbol errors. |
| Duplex Status | This parameter specifies the current status of duplex. |

Table 5-134. Ethernet Statistics Page Parameters

Radius

| | | | | | | Refresh | Support | Help | About | L | og Out |
|--|-----------------------------------|----------------------------------|--|--|---------------------------------------|---|--|--------------------------------|------------------------------|-----------------------|---------------------------|
| SUPERMI | CR | | | Speed 0 0 Link 0 0 Switch 0 Gi 1 2 | 0 0 0 0 0 0 0 0 0 0 3 4 5 6 7 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 8 9 19 11 12 13 1 | 4 15 16 EXI EX2 EX3 | | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | | | |
| SMIS | | | | | | | | | | | |
| Home | | | | Radius | Server | Statistics | • | | | | |
| Layer3 Mgmt Layer3 Mgmt Multicast IGMP Snooping | Index Radius Server Address | UDP Port Round Tr Number Time | ip No of No of Request Retransmitted Packets Packets | No of Access- Accept Packets | No of Access- Reject Packets | No of Access- Challenge Packets | No of Malformed Access Responses | No of Bad Authenticators | No of Pending Requests | No of Time Outs | No of Unknown Types |
| IGMP PIM DVMRP Statistics | | | | | | | | | | | |
| Radius TACACS+ RMON SNMP | | | | | | | | | | | |
| RSTP MSTP LA 802.1x TP | | | | | | | | | | | |
| IPv6 RIP RIPng OSPF OSPFv3 | | | | | | | | | | | |
| VRRP IGMP Snooping IGMP PIM DIVMRP | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |
| | | | | | | | | | | | |

Figure 5-164. Radius Server Statistics Page

Clicking the RADIUS link brings up the RADIUS SERVER STATISTICS page (Figure 5-164). The parameters for this page are shown in Table 5-135.

| Parameter | Description | | | |
|--------------------------------------|---|--|--|--|
| Index | This parameter specifies the port index. | | | |
| Radius Server Address | his parameter specifies the RADIUS SERVER ADDRESS. | | | |
| UDP Port Number | This parameter specifies the UDP PORT NUMBER. | | | |
| Round Trip Time | This parameter displays the ROUND TRIP TIME in seconds. | | | |
| No of Request Packets | This parameter specifies the number of request packets transmitted. | | | |
| No of Retransmitted Packets | This parameter specifies the number of packets retransmitted. | | | |
| No of Access-Accept Packets | This parameter specifies the number of accept packets. | | | |
| No of Access-Reject Packets | This parameter specifies the number of reject packets. | | | |
| No of Access-Challenge Packets | This parameter specifies the number of challenge packets. | | | |

Table 5-135. Radius Server Statistics Page Parameters

| Parameter | Description |
|-------------------------------------|---|
| No of Malformed Access Responses | This parameter specifies the number of invalid access responses received. |
| No of Bad Authenticators | This parameter specifies the number of failed authentications. |
| No of Pending Requests | This parameter specifies the number of currently pending requests. |
| No of Time Outs | This parameter specifies the number of time outs that have happened. |
| No of Unknown Types | This parameter specifies the number of unknown types that have been received. |

Table 5-135. Radius Server Statistics Page Parameters (Continued)

TACACS+ Statistics

| | Refresh Support | Help | About | Log Out |
|--------------------------------|--|------|-------|---------|
| SUPERMI | Spind 000000000000000000000000000000000000 | | | |
| SWITCH SBM-GEM | I-X2C | | | |
| SMIS | | | | |
| | TACACS+ Statistics | | | |
| Home | TACAGO · Statistics | | | |
| Layer2 Mgmt | Authentication Starts Request 0 | | | |
| Layer3 Mgmt | Authentication Continues Request 0 | | | |
| IGMP Snooping | Authentication Enables Request 0 | | | |
| Dynamic Multicast IGMP | Authentication Aborts Request 0 | | | |
| PIM DVMRP | Authentication Pass Received 0 | | | |
| Statistics | Authentication Fails Received 0 | | | |
| Radius | Authentication Get User Received 0 | | | |
| RMON | Authentication Get Pass Received 0 | | | |
| VLAN | Authentication Get Data Received 0 | | | |
| RSTP | Authentication Errors Received 0 | | | E |
| LA | Authentication Follows Received 0 | | | |
| IP | Authentication Restart Received 0 | | | |
| RIP | Authentication Session Timeouts 0 | | | |
| RIPng OSPF | Authorization Requests 0 | | | |
| OSPFv3 VRRP | Authorization Pass Add Received 0 | | | |
| IGMP Snooping | Authorization Pass Repty Received 0 | | | |
| PIM | Authorization Fails Received 0 | | | |
| DVMRP | Authorization Errors Received 0 | | | |
| | Authorization Follows Received 0 | | | |
| | Authorization Session Timeouts 0 | | | |
| | Accounting Start Requests 0 | | | |
| | Accounting WD Requests 0 | | | |
| | Accounting Stop Requests 0 | | | |
| | Accounting Success Received 0 | | | |
| | Accounting Errors Received 0 | | | - |

Figure 5-165. TACACS+ Statistics Page

Clicking the TACACS+ link brings up the TACACS+ STATISTICS page (Figure 5-165). The parameters for this page are shown in Table 5-136.

| Parameter | Description |
|-------------------------------------|--|
| Authentication Starts Request | This parameter specifies the number of authentication starts requested. |
| Authentication Continues Request | This parameter specifies the number of authentication continues requested. |
| Authentication Enables Request | This parameter specifies the number of authentication enables requested. |
| Authentication Aborts Request | This parameter specifies the number of authentication aborts requested. |
| Authentication Pass Received | This parameter specifies the number of authentication passes received. |
| Authentication Fails Received | This parameter specifies the number of authentication fails received. |
| Authentication Get User Received | This parameter specifies the number of authentication get users received. |
| Authentication Get Pass Received | This parameter specifies the number of authentication get passes received. |

Table 5-136. TACACS+ Statistics Page Parameters

| Parameter | Description |
|--------------------------------------|--|
| Authentication Get Data Received | This parameter specifies the number of authentication get datas received. |
| Authentication Errors Received | This parameter specifies the number of authentication errors received. |
| Authentication Follows Received | This parameter specifies the number of authentication follows received. |
| Authentication Restart Received | This parameter specifies the number of authentication restarts received. |
| Authentication Session Timeouts | This parameter specifies the number of authentication session timeouts received. |
| Authorization Requests | This parameter specifies the number of authentication requests received. |
| Authorization Pass Add Received | This parameter specifies the number of authentication pass adds received. |
| Authorization Pass Reply Received | This parameter specifies the number of authentication pass replies received. |
| Authorization Fails Received | This parameter specifies the number of authentication fails received. |
| Authorization Errors Received | This parameter specifies the number of authentication errors received. |
| Authorization Follows Received | This parameter specifies the number of authentication follows received. |
| Authorization Session Timeouts | This parameter specifies the number of authentication session timeouts. |
| Accounting Start Requests | This parameter specifies the number of accounting start requests. |
| Accounting WD Requests | This parameter specifies the number of accounting WD requests. |
| Accounting Stop Requests | This parameter specifies the number of accounting stop requests. |
| Accounting Success Received | This parameter specifies the number of accounting successes received. |
| Accounting Errors Received | This parameter specifies the number of accounting errors received. |
| Accounting Follows Received | This parameter specifies the number of accounting follows received. |
| Accounting Session Timeouts | This parameter specifies the number of accounting sessions received. |
| Malformed Packets Received | This parameter specifies the number of malformed packets received. |
| Socket Failures | This parameter specifies the number of socket failures. |
| Connection Failures | This parameter specifies the number of connection failures. |

RMON Ethernet Statistics

| | | Refresh | Support | Help | About | Log Out |
|--|---|---------------------------------------|--------------------|-------------------|-----------------------------------|--------------------|
| SUPERMI | CRO Creation Contraction Contr | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 6 EX1 EX2 EX3 | | | |
| SWITCH SBM-GE | M-X2C | | | | | |
| SMIS | | | | | | |
| Home | RMON Eti | nernet Statistics | | | | |
| System Mgmt Layer2 Mgmt Layer2 Mgmt Layer3 Mgmt Dynamic Multicast For Multicast Statistica Radus Statistica Statistica Radus Statistica Radus Statistica Radus Statistica Statistica Statistica Radus Statistica Statistica Statistica Statistica Statistica Radus Statistica Statistica | Index Data Drop Pita Broad Mut CRC Under Siza Over Siza Fragm Src Evis Pita Pita Pita Pita Pita | ntoJubbers Collisions 6 Oct | 4 65.127 Octots | 128.255 Octots | 256-511 512-1023 Octets Octets | 10241518 Octobs |
| | | | | | | |
| | • | | | | | |

Figure 5-166. RMON Ethernet Statistics Page

Clicking the RMON link brings up the RMON ETHERNET STATISTICS page (Figure 5-166), which displays RMON Ethernet statistics information. The parameters for this page are shown in Table 5-137.

| Parameter | Description |
|--------------------|--|
| Index | This parameter specifies the index. |
| Port | This parameter specifies the port. |
| Octets | This parameter specifies the number of octets received. |
| Packets | This parameter specifies the number of packets received. |
| Broadcast Packets | This parameter specifies the number of broadcast packets received. |
| Multicast Packets | This parameter specifies the number of multicast packets received. |
| CRC Errors | This parameter specifies the number of packets received with crc errors. |
| Under Size Packets | This parameter specifies the number of under size packets received. |
| Over Size Packtes | This parameter specifies the number of over size packets received. |
| Fragments | This parameter specifies the number of fragments received. |
| Jabbers | This parameter specifies the number of jabbers. |
| Collisions | This parameter specifies the number of collisions. |

Table 5-137. RMON Ethernet Statistics Page Parameters

| Parameter | Description |
|------------------|---|
| 64 Octets | This parameter specifies the number of Ethernet packets received with a size less than 64 bytes. |
| 65-127 Octets | This parameter specifies the number of Ethernet packets received with a size between 65 and 127 bytes. |
| 128-255 Octets | This parameter specifies the number of Ethernet packets received with a size between 128 and 255 bytes. |
| 256-511 Octets | This parameter specifies the number of Ethernet packets received with a size between 256 and 511 bytes. |
| 512-1023 Octets | This parameter specifies the number of Ethernet packets received with a size between 512 and 1023 bytes. |
| 1024-1518 Octets | This parameter specifies the number of Ethernet packets received with a size between 1024 and 1518 bytes. |

Table 5-137. RMON Ethernet Statistics Page Parameters (Continued)

SNMP Statistics

The SNMP Statistics link allows you to configure SNMP Statistics through the following pages:

- Agent
- SNMP AgentX

Agent



Figure 5-167. SNMP Statistics Page

Clicking the SNMP AGENT link brings up the SNMP STATISTICS page (Figure 5-167), which displays SNMP statistics. The parameters for this page are shown in Table 5-138.

| Parameter | Description |
|--------------------------------|--|
| SNMP Packets Input | This parameter specifies the number of SNMP packets input. |
| BAD SNMP Version Errors | This parameter specifies the number of BAD SNMP version errors. |
| SNMP Unknown Community Name | This parameter specifies the number of SNMP unknown community names. |
| SNMP Get Request PDU's | This parameter specifies the number of SNMP Get Request PDU's. |
| SNMP Get Next PDU's | This parameter specifies the number of SNMP Get Next PDU's. |

Table 5-138. SNMP Statistics Page Parameters

| Parameter | Description |
|---|---|
| SNMP Set Request PDU's | This parameter specifies the number of SNMP Set Request PDU's. |
| SNMP Packet Output | This parameter specifies the number of SNMP packets output. |
| SNMP Too Big Errors | This parameter specifies the number of SNMP Too Big errors, |
| SNMP No Such Name Errors | This parameter specifies the number of SNMP No Such Name errors, |
| SNMP Bad Value Errors | This parameter specifies the number of SNMP Bad Value errors. |
| SNMP General Errors | This parameter specifies the number of SNMP General errors. |
| SNMP Trap PDU's | This parameter specifies the number of SNMP Trap PDU's. |
| SNMP Manager-Role Output Packets | This parameter specifies the number of SNMP Manager-Role Output packets. |
| SNMP Inform Responses Received | This parameter specifies the number of SNMP Inform responses received. |
| SNMP Inform Request Generated | This parameter specifies the number of SNMP Inform requests generated. |
| SNMP Inform Messages Dropped | This parameter specifies the number of SNMP Inform messages dropped. |
| SNMP Inform Requests awaiting Acknowledgement | This parameter specifies the number of SNMP Inform requests awaiting acknowledgement. |

Table 5-138. SNMP Statistics Page Parameters (Continued)

SNMP AgentX

Clicking the AGENTX link brings up the AGENTX SUBAGENT STATISTICS page (not shown), which displays Agentx Subagent information. The parameters for this page are shown in Table 5-139.

| Parameter | Description |
|--------------------------|--|
| Transmit Statistics | |
| Transmitted Packets | This parameter specifies the number of packets transmitted. |
| Open PDU | This parameter specifies the number of open PDUs transmitted. |
| IndexAlloc PDU | This parameter specifies the number of IndexAlloc PDUs transmitted. |
| Register PDU | This parameter specifies the number of register PDUs transmitted. |
| Add Agent Caps PDU | This parameter specifies the number of add agent caps PDUs transmitted. |
| Notify PDU | This parameter specifies the number of notify PDUs transmitted. |
| Ping PDU | This parameter specifies the number of ping PDUs transmitted. |
| Remove Agent Caps PDU | This parameter specifies the number of remove agent caps PDUs transmitted. |

Table 5-139. Agentx Subagent Statistics Page Parameters

| Parameter | Description |
|--------------------|---|
| IndexDeAlloc PDU | This parameter specifies the number of IndexDeAlloc PDUs transmitted. |
| UnRegister PDU | This parameter specifies the number of unregister PDUs transmitted. |
| Close PDU | This parameter specifies the number of close PDUs transmitted. |
| Response PDU | This parameter specifies the number of response PDUs transmitted. |
| Receive Statistics | |
| Received Packets | This parameter specifies the number of packets received. |
| Get Request PDU | This parameter specifies the number of get request PDUs received. |
| Get Next PDU | This parameter specifies the number of get next PDUs received. |
| Get Bulk PDU | This parameter specifies the number of get bulk PDUs received. |
| TestSet PDU | This parameter specifies the number of test set PDUs received. |
| Commit PDU | This parameter specifies the number of commit PDUs received. |
| Cleanup PDU | This parameter specifies the number of cleanup PDUs received. |
| Undo PDU | This parameter specifies the number of undo PDUs received. |
| Dropped Packets | This parameter specifies the number of dropped packets. |
| Parse Drop Errors | This parameter specifies the number of received PDUs dropped due to parse errors. |
| Open Fail Errors | This parameter specifies the number of open fail PDUs received. |
| Close PDU | This parameter specifies the number of close PDUs received. |
| Response PDU | This parameter specifies the number of response PDUs received. |

Table 5-139. Agentx Subagent Statistics Page Parameters (Continued)

VLAN

The VLAN link allows you to view VLAN statistics through the following pages:

- Current DB
- VLAN Port Statistics
- VLAN Multicast Table
- VLAN Counter Statistics
- VLAN Capabilities
- VLAN FDB Entries

Current DB

| SMIS | CurrentdB | Port Statistics | MulticastTable | Counter Statistics | Capabilities | EDBEntries | |
|---|-----------|-----------------|----------------|----------------------|--------------|------------|--|
| ne | | r entenance | VLAN C | urrent Database | Coptonico | | |
| er2 Mgmt er2 Mgmt er2 Mgmt brows bro | | ľ | 1 1 Giori | laerkots Untaggel ee | s Status | | |

Figure 5-168. VLAN Current Database Page

Clicking the CURRENT DB tab brings up the VLAN CURRENT DATABASE page (Figure 5-168), which displays VLAN database entries. The parameters for this page are shown in Table 5-140.

| Parameter | Description |
|----------------|--|
| VLAN ID | This parameter specifies the VLAN identifer. |
| VLAN FDB ID | This parameter specifies the VLAN filter database identifer. |
| Member Ports | This parameter specifies the index of member ports. |
| Untagged Ports | This parameter specifies the index of untagged member ports. |
| Status | This parameter specifies the VALN status. |

Table 5-140. VLAN Current Database Page Parameters

VLAN Port Statistics

| | | | | | | | Refres | h Su | pport | Help | About | Log Out |
|------------------------------------|-----------|----------------|------|-------------|--------------------|----------|--------------|------------------|--------------|------|------------|---------|
| SUDEDMI | CD | | | Sp L | med 000 ink 000 | | | | | | | |
| SUPERMI | CR | | | Switz | 10Gi 1 2 3 | 45678 | 9 10 11 12 1 | 3 14 15 16 EXI E | X2 EX3 | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | | | | |
| SMIS | CurrentdB | PortStatistics | | MulticastTa | able | Count | erStatistics | | Capabilities | | FDBEntries | |
| | | | | | VLAN P | Port St | atistics | | | | | |
| Home System Mamt | | | | | | | | | | | | |
| Layer2 Mgmt | | Port | VLAN | Received | Transmitted | Received | Received | Transmitted | Transmitted | | | |
| Multicast | | | 10 | Frames | Frames | Discards | Overnow | Overnow | Discards | | | |
| IGMP Snooping Dynamic Multicast | | Gi0/1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| IGMP PIM | | Gi0/2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Statistics | | Gi0/3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Interface Radius | | G10/4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| TACACS+ RMON | | Gi0/5 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| * SNMP | | Gi0/6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| AGENTX | | Gi0/8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| RSTP | | Gi0/9 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| LA | | Gi0/10 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| IP | | Gi0/11 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| RIP | | Gi0/12 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| OSPF | | Gi0/13 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| VRRP | | Gi0/14 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| IGMP Shooping IGMP | | Gi0/15 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| DVMRP | | Gi0/16 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | | Ex0/1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | | Ex0/2 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | | Ex0/3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |
| | | | | | | | | | | | | |

Figure 5-169. VLAN Port Statistics Page

Clicking the PORT STATISTICS tab brings up the VLAN PORT STATISTICS page (Figure 5-169), which displays the various parameters XXXXXX. The parameters for this page are shown in Table 5-141.

| Parameter | Description |
|----------------------------------|--|
| Port | This parameter specifies the port index. |
| VLAN ID | This parameter specifies the VLAN identifer. |
| Received Frames | This parameter specifies the number of packets received in this VLAN. |
| Transmitted Frames | This parameter specifies the number of packets transmitted in this VLAN. |
| Received Discards | This parameter specifies the number of received packets discarded. |
| Received Overflow | This parameter specifies the number of received overflow packets. |
| Transmitted Overflow | This parameter specifies the number of transmit overflows. |
| Transmitted Overflow Discards | This parameter specifies the number of transmit overflow discards. |

Table 5-141. VLAN Port Statistics Page Parameters

VLAN Multicast Table

| SWITCH SBM-GEM- | X2C | | II. Warren Table | | Course Teles | EDDE-Mark | |
|--|-----------|----------------|------------------|-------------------------------|--------------|------------|--|
| GMIG | CurrentdB | Portstatistics | VLAN | Multicast Table | Capabilities | FUBEntries | |
| NE stem Mgmt yer2 Mgmt yer3 Mgmt | | | VLAN ID Addr | ess Egress Ports Ports Learnt | 1 | | |
| IGMP Snooping Dynamic Multicast IGMP PIM DVMRP | | | | | | | |
| tatistics Interface Radius TACACS+ BMON | | | | | | | |
| SNMP AGENT AGENTX VLAN RSTP | | | | | | | |
| MSTP LA 802.1x IP IPv6 | | | | | | | |
| RIP RIPng OSPF OSPFv3 VRRP | | | | | | | |
| IGMP Snooping IGMP PIM DVMRP | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Figure 5-170. VLAN Multicast Table Page

Clicking the MULTICAST TABLE tab brings up the VLAN MULTICAST TABLE page (Figure 5-170), which displays multicast VLAN information. The parameters for this page are shown in Table 5-142.

| Parameter | Description |
|--------------|--|
| VLAN ID | This parameter specifies the VLAN identifer. |
| Address | This parameter specifies the VLAN address. |
| Egress Ports | This parameter specifies the indexes of egress ports. |
| Ports Learnt | This parameter specifies the indexes of ports on this VLAN that are learned. |

Table 5-142. VLAN Multicast Table Page Parameters

VLAN Counter Statistics

| | | | | | Refres | ih S | Support | Help | About | Log Out |
|----------------------------|-----------|-----------------|-----------------------------|-------------|------------------|---------|--------------|------|------------|---------|
| SUPERM | | | Speed Link Switch 0.0 | 000000 | | | | | | |
| JUI LINI | | | | | | | | | | |
| SWITCH SBM-GE | EM-X2C | | | | | | | | | |
| SMIS | CurrentdB | Port Statistics | MulticastTable | Co | unter Statistics | | Capabilities | | FDBEntries | |
| ome | | | VL | N Counte | r Statistic | s | | | | - |
| System Mgmt | | | | Denot Str | distica | | | | | |
| Layer2 Mgmt Layer3 Mgmt | | | | Reserve | 103003 | | | | | |
| Multicast IGMP Snooping | | Conte | xt VLAN Unicast | Mcast/Bcast | Unknown | Unicast | Broadcast | | | |
| Dynamic Multicast IGMP | | | ID Frames Rx | Frames RX | Flooded | Tx | Trames 1x | | | |
| DVMRP | | 0 | | | | | | | | |
| Interface | | | | | | | | | | |
| TACACS+ | | | | | | | | | | |
| SNMP | | | | | | | | | | |
| AGENTX VLAN | | | | | | | | | | |
| RSTP | | | | | | | | | | |
| 802.1x | | | | | | | | | | |
| IPv6 PID | | | | | | | | | | |
| RIPng OSPF | | | | | | | | | | |
| OSPFv3 VRRP | | | | | | | | | | |
| IGMP Snooping IGMP | | | | | | | | | | |
| DVMRP | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |

Figure 5-171. VLAN Counter Statistics Page

Clicking the COUNTER STATISTICS link brings up the VLAN COUNTER STATISTICS page (Figure 5-171), which displays VLAN counters. The parameters for this page are shown in Table 5-143.

| Parameter | Description |
|----------------------------|--|
| VLAN ID | This parameter specifies the VLAN identifier. |
| Unicast Frames Rx | This parameter specifies the number of unicast packets received. |
| Mcast/Bcast Frames Rx | This parameter specifies the number of non-unicast packets received. |
| Unknown Unicast Flooded | This parameter specifies the number of packets flooded due to unknown unicast. |
| Unicast frames Tx | This parameter specifies the number of unicast packets transmitted. |
| Broadcast frames Tx | This parameter specifies the number of broadcast packets transmitted. |

Table 5-143. VLAN Counter Statistics Page Parameters

VLAN Capabilities

| Figure 5-172. | VLAN | Capabilities | Page |
|---------------|------|--------------|------|
|---------------|------|--------------|------|

| SUPERMI SWITCH SBM-GE | ICR M-X2C | | Speed Link Switch 0 Gi 1 2 2 | Refresh | Support | неф | About | |
|---|--------------|--|--|-------------------------------------|--------------|-----|------------|--|
| SMIS Home Eystem Mann Eystem Social State Phile | Currendi | Port Statistics Extend State: Extend State: Extend State: Extend State: Extend Configure | Material flade VLAI add filtering services classes impy Individual port pable mable Prid Tagging | ContrefStatistics N Capabilities | Capabilities | | FORestries | |

Clicking the CAPABILITIES tab brings up the VLAN CAPABILITIES page (Figure 5-172), which displays the VLAN capabilities of the switch. The parameters for this page are shown in Table 5-144.

| Parameter | Description |
|--------------------------------|---|
| Extended Filtering Services | This parameter specifies the number of extended filtering services. |
| Traffic Classes | This parameter specifies the number of traffic classes |
| Static Entry Individual port | This parameter specifies the number of Static Entry Individual ports. |
| IVL capable | This parameter specifies the number of IVL capables. |
| SVL capable | This parameter specifies the number of SVL capables. |
| Hybrid capable | This parameter specifies the number of Hybrid capables. |
| Configurable PVID Tagging | This parameter specifies the number of Configurable PVID taggings. |

Table 5-144. VLAN Capabilities Page Parameters

VLAN FDB Entries



Figure 5-173. VLAN FDB Entries Page

Clicking the FDB ENTRIES tab brings up the VLAN FDB ENTRIES page (Figure 5-173), which displays VLAN filter database entries. The parameters for this page are shown in Table 5-145.

Table 5-145. VLAN FDB Entries Page Parameters

| Parameter | Description |
|-------------|---|
| VLAN ID | This parameter specifies the VLAN identifier. |
| MAC Address | This parameter specifies the MAC address learned. |
| Port | This parameter specifies the Index of port where this entry is learned. |
| Status | This parameter specifies the Status of this entry. |

RSTP Statistics

The RSTP STATISTICS link allows you to view RSTP statistics through the following pages:

- RSTP Information
- RSTP Port Statistics

RSTP Information

| Processor Processor VICTOR SUMMERTING Variant Variant Variant < | | | | | | | Refresh | Support | Help | About | Log Out |
|---|---|--|-------------|-----------------|--|---|----------------------------------|-------------------------------------|-------|-------|---------|
| SWICH SEMGEMAXE SMS Normadox Payses Mart | SWTCH SBM-GEM-X2C SMS Narmann Contract Specification System Right | SUPERM | ICR | | Speed Link Switch 0 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 2 3 4 5 6 7 8 | 9 10 11 12 13 14 15 | 0 0 0 0 0 0 16 EX1 EX2 EX3 | | | |
| SMIS Derated Point Point Point Point Point Point Point Point Point Point Point | SMIS Normalization Porter Agentinic Layer 20 Mmit Layer 20 Mmit Layer 2 | SWITCH SBM-G | EM-X2C | | | | | | | | |
| Home * System Mont: + System Mont: + System Mont: + System Mont: + System Mont: + Statu Bios Finishing + Statu Bios - S | Home Prover Manne - Multicats - Statistics Restaurant - Statistics Restaurant - Statistics - | SMIS | Information | Port Statistics | | | | | | | |
| * Pysize Might * Lyve2 Might * Lyve2 Might * Lyve3 Might * Lyve3 Might * Lyve3 Might * Shap * Sh | Purpure Mgmit Layer 2 Mgmit Layer 2 Mgmit Autorizat Statistics Radius Radius Statistics Radius Statistics Radius R | Home | | | | RSTP Inform | nation | | | | |
| | | Partern Mgnt Layer2 Mgnt Layer2 Mgnt Layer2 Mgnt Staff Staff Staff Staff Staff | | | Context Specification Time Since Iopportunity Since Iopportunity (Change Change | Designated Roc Bray Pilo | ot Root(Root)M g Cost Port As | ax (Hello) Hold Fo e Time Time D | rward | | |

Figure 5-174. RSTP Information Page

Clicking the INFORMATION tab brings up the RSTP INFORMATION page (Figure 5-174), which displays RSTP statistics. The parameters for this page are shown in Table 5-146.

| Parameter | Description |
|-------------------------------|--|
| Protocol Specification | This parameter specifies the Protocol Specification. |
| Time Since Topology Change | This parameter specifies the number of seconds since topology changed. |
| Designated Root | This parameter specifies the designated root bridge address. |
| Root Brg Priority | This parameter specifies the priority of root bridge. |
| Root Cost | This parameter specifies the cost to root. |
| Root Port | This parameter specifies the index of the root port. |
| Max Age | This parameter specifies the max age in seconds. |
| Hello Time | This parameter specifies the Hello time in seconds. |
| Hold Time | This parameter specifies the hold time in seconds. |
| Forward Delay | This parameter specifies the forward delay in seconds. |

Table 5-146. RSTP Information Page Parameters

RSTP Port Statistics

| | | | | | | | | Refre | sh Sup | oport | Help | | About | L | og Out |
|-------------------------------------|-------------|-----------------------------|-----------------------------------|-----------------|--------------------------|--|---|--|---------------------------------------|----------------------------|--------------------------------|----------------------------|----------------------------|--------------|--------|
| SUPERMI | CR | | | | | Speed 0 0 Link 0 0 Switch 0 Gi 1 2 | 0 0 0 0 0 0 0 0 0 0 0 0 3 4 5 6 7 | 0 0 0 0 0 0 0 0 0 0 0 8 9 10 11 12 | 0 0 0 0 0 0 0 0 13 14 15 16 EXI EX | C2 EX3 | | | | | |
| SWITCH SBM-GEN | I-X2C | | | | | | | | | | | | | | |
| SMIS | Information | Port Stat | istics | | | | | | | | | | | | |
| Home System Mgmt Laver2 Mgmt | | | | | | RST | P Port St | tatistics | | | | | | | |
| Layer3 Mgmt Multicast | | <u>Gi0/1-Ex0/3</u> | | | | | | | | | | | | | |
| Statistics Interface Radius | | | | | | (| Reset Statis | tics | | | | | | | |
| RMON SNMP AGENT | Port | Received RST Co BPDUs | Received Infiguration BPDUs | Received TCN | Transmitted RST BPDUs | Transmitted Configuration BPDUs | Transmitted TCN | Received Invalid RST | Received Invalid Configuration | Received Invalid TCN | Protocol Migration Count | Effective Port State | EdgePort Oper Status | Link Type | |
| AGENTX VLAN RSTP | | | | | | | | BPDUs | BPDUs | BPDUs | | | | | |
| MSTP LA 802.1x | | | | | | | | | | | | | | | |
| IP IPv6 RIP | | | | | | | | | | | | | | | |
| RIPng OSPF OSPFv3 | | | | | | | | | | | | | | | |
| VRRP IGMP Snooping IGMP | | | | | | | | | | | | | | | |
| PIM DVMRP | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | |

Figure 5-175. RSTP Port Statistics Page

Clicking the PORT STATISTICS tab brings up the RSTP PORT STATISTICS page (Figure 5-175), which displays RSTP port level statistics. The parameters for this page are shown in Table 5-147.

| Parameter | Description |
|------------------------------------|---|
| Port | This parameter specifies the port index. |
| Received RST BPDUs | This parameter specifies the number of RSTP BPDUs received. |
| Received Configuration BPDUs | This parameter specifies the number of config BPDUs received. |
| Received TCN | This parameter specifies the number of topology changed notifications received. |
| Transmitted RST BPDUs | This parameter specifies the number of RSTP BPDUs transmitted. |
| Transmitted Configuration BPDUs | This parameter specifies the number of config BPDUs transmitted. |
| Transmitted TCN | This parameter specifies the number of topology change notifications transmitted. |
| Received Invalid RST BPDUs | This parameter specifies the number of invalid RSTP BPDUs received. |

Table 5-147. RSTP Port Statistics Page Parameters

| Parameter | Description |
|---|--|
| Received Invalid Configuration BPDUs | This parameter specifies the number of invalid configuration BPDUs received. |
| Received Invalid TCN BPDUs | This parameter specifies the number of invalid topology change BPDUs received. |
| Protocol Migration Count | This parameter specifies the number of times protocol migration happened. |
| Effective Port State | This parameter specifies the effective port state. |
| EdgePort Oper Status | This parameter specifies the operational status of edge port. |
| Link Type | This parameter specifies the broadcast or point-to-point. |

Table 5-147. RSTP Port Statistics Page Parameters (Continued)

MSTP Statistics

The MSTP Statistics link allows you to view MSTP statistics through the following pages:

- MSTP Information
- MSTP CIST Statistics
- MSTP MSTI Port Statistics

MSTP Information

Figure 5-176. MSTP Information Page



Clicking the INFORMATION tab brings up the MSTP INFORMATION page (Figure 5-132), which displays MSTP statistics. The parameters for this page are shown in Table 5-12.

| Parameter | Description |
|------------------------------------|---|
| Bridge Address | This parameter specifies the Bridge Address. |
| CIST Root | This parameter specifies the CIST root. |
| Regional Root | This parameter specifies the Regional root. |
| CIST Root Cost | This parameter specifies the CIST root cost. |
| Regional Root Cost | This parameter specifies the Regional root cost. |
| Root Port | This parameter specifies the index of the root port. |
| Hold Time | This parameter specifies the hold time in seconds. |
| Max Age | This parameter specifies the maximum age in seconds. |
| Forward Delay | This parameter specifies the forward delay in seconds. |
| CIST Time Since Topology Change | This parameter specifies the number of seconds since topology last changed. |
| Topology Changes | This parameter specifies the number of topology changes. |

Table 5-148. MSTP Information Page Parameters

MSTP CIST Statistics

| | | | | | | | | | | Refresh | Suppor | t | Help | Abo | out | Log Out |
|-----------------|-----------|--------|----------|---------------|----------|--------------|------------------------|---|------------|---|------------|----------|----------|----------|----------|---------|
| SUPERMI | ICR | | | | | | Spee Lini Switch | d 0 0 0 0 0 0 0 0 0 0 0 6 1 2 3 4 5 | 6789 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 10 11 12 13 14 15 1 | EXI EX2 EX | , | | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | | | | | | | | |
| SMIS | Informati | on | CIST Po | rt Statistics | MST | 1 Port Stati | stics | | | | | | | | | |
| Home | | | | | | | MST | P CIST F | Port Sta | tistics | | | | | | 1 |
| System Mgmt | | | | | | | | | | | | | | | | |
| Layer3 Mgmt | | | | | | | | Gi0/1 | Ex0/3 | | | | | | | |
| * Statistics | | | | | | | | Reset | Statistics | | | | | | | |
| Radius | | | | | | | | | | | | | | | | |
| RMON | | Port | Received | Received | Received | Received | Transmitted | Transmitted | Config | d Transmitted | Received | Received | Received | Received | Protocol | |
| AGENT AGENTX | | | BPDUs | BPDUs | BPDUs | BPDUs | | 1131 01 003 | BPDUs | | MST | RST | Config | TCN | Count | |
| VLAN RSTP | I 1 | Gi0/1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| MSTP LA | | Gi0/2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| 802.1x IP | | Gi0/3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| IPv6 RIP | | Gi0/4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | E |
| RIPng | | Gi0/5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| OSPFv3 VREP | | Gi0/6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| IGMP Snooping | | Gi0/7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| PIM | | Gi0/8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| DVMRP | | Gi0/9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Gi0/10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Gi0/11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Gi0/12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Gi0/13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Gi0/14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Gi0/15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Gi0/16 | 0 | 0 | 0 | 0 | 485 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Ex0/1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | Ex0/2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | - |

Figure 5-177. MSTP CIST Port Statistics Page

Clicking the CIST PORT STATISTICS tab brings up the MSTP CIST PORT STATISTICS page (Figure 5-177), which displays STP CIST port level statistics. The parameters for this page are shown in Table 5-149.

| Parameter | Description |
|----------------------------------|--|
| Received MST BPDUs | This parameter specifies the number of MSTP BPDUs received. |
| Received RST BPDUs | This parameter specifies the number of RSTP BPDUs received. |
| Received Config BPDUs | This parameter specifies the number of config BPDUs received. |
| Received TCN BPDUs | This parameter specifies the number of topology change notification BPDUs received. |
| Transmitted MST BPDUs | This parameter specifies the number of MSTP BPDUs transmitted. |
| Transmitted RST BPDUs | This parameter specifies the number of RSTP BPDUs transmitted. |
| Transmitted Config BPDUs | This parameter specifies the number of config BPDUs transmitted. |
| Transmitted TCN BPDUs | This parameter specifies the number of topology change notification BPDUs transmitted. |
| Received Invalid MST BPDUs | This parameter specifies the number of invalid MSTP BPDUs received. |
| Received Invalid RST BPDUs | This parameter specifies the number of invalid RSTP BPDUs received. |
| Received Invalid Config BPDUs | This parameter specifies the number of invalid config BPDUs received. |
| Received Invalid TCN BPDUs | This parameter specifies the number of invalid TCN BPDUs received. |
| Protocol Migration Count | This parameter specifies the number of times protocol migration happened. |

Table 5-149. MSTP CIST Port Statistics Page Parameters

MSTP MSTI Port Statistics

| | | | | | Refresh | Support | Help | About | Log Out |
|---|-------------|----------------------|-------------------------------------|--|---------------------------------------|--|---------------------------|-------|---------|
| SUPERMI | CR | | | Speed 0 0 0 0 Link 0 0 0 0 Switch 0 Gi 1 2 3 4 5 | 6 7 8 9 10 11 12 13 14 1 | 6 16 EX1 EX2 EX3 | | | |
| SWITCH SBM-GEN | 4-X2C | | | | | | | | |
| SMIS | Information | CIST Port Statistics | MSTI Port Statistics | | | | | | |
| Home System Mgmt | | | | MSTP MSTI | Port Statistics | | | | |
| System Mgmt Layer2 Agmt Hayer2 Agmt Hayer2 Agmt Hayer2 Hayer2 Statistics TACAS Statistics TACAS Hayer2 AGENT AGENT Hayer Ha | | Instance Port | Designated Designate Root Bridge | Port T | Forward Re-alweal ransitions BPDUs | ransnitted invali BPDUs Beeak BPDUs BPDU | d Designated R ed Cost | 910 | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

Figure 5-178. MSTP MSTI Port Statistics Page

Clicking the MSTI PORT STATISTICS tab brings up the MSTP MSTI PORT STATISTICS page (Figure 5-178), which displays MSTP MSTI port level statistics. The parameters for this page are shown in Table 5-150.

| Parameter | Description |
|---------------------------|---|
| Instance | This parameter specifies the MSTP instance Identifer. |
| Port | This parameter specifies the port index. |
| Designated Root | This parameter specifies the designated root bridge address. |
| Designated Bridge | This parameter specifies the designated Bridge address. |
| Designated Port | This parameter specifies the index of designated port for this MSTP instance. |
| State | This parameter specifies the current state. |
| Forward Transitions | This parameter specifies the number of Forward Transitions. |
| Received BPDUs | This parameter specifies the number of BPDUs received. |
| Transmitted BPDUs | This parameter specifies the number of BPDUs transmitted. |
| Invalid Received BPDUs | This parameter specifies the number of invalid BPDUs received. |
| Designated Cost | This parameter specifies the designated cost. |
| Role | This parameter specifies the current role. |

Table 5-150. MSTP MSTI Port Statistics Page Parameters

Link Aggregation (LA)

The Link Aggregation link allows you to view Link Aggregation (LA) statistics through the following pages:

- LA Port Statistics
- LA Neighbor Statistics

LA Port Statistics

| | | | | | | Refresh | Support | Help | About Log Out | | | |
|--|-------------|------------------|-------------------------|-----------------------------|--|--|---------------------|----------------------------|--------------------------------|--|--|--|
| SUPERM | ICR | | | | Speed 0 0 0 0 0 0 Link 0 0 0 0 0 0 Switch 0 Gi 1 2 3 4 5 6 | 0 | 16 EX1 EX2 EX3 | | | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | | | | |
| SMIS | Port | LACP Stats | Neighbour Stats | | | | | | | | | |
| Home | | | | | LA Port S | tatistics | | | | | | |
| Layer2 Mgmt | C10/1 Ev0/2 | | | | | | | | | | | |
| Layer3 Mgmt Multicast | | | | | <u>GI0/1-</u> | <u>Ex0/3</u> | | | | | | |
| Statistics Interface Radius | Port | Received PDUs | Received Marker PDUs | Received Marker Response | Received Unknown PDUs | Received Illegal PDUs | Transmitted PDUs | Transmitted Marker PDUs | Transmitted Marker Response | | | |
| TACACS+ RMON | Gi0/1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| * SNMP | Gi0/2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| AGENTX | Gi0/3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| RSTP | Gi0/4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| MSTP | Gi0/5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| 802.1x IP | Gi0/6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| IPv6 RIP | Gi0/7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| RIPng | Gi0/8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| OSPFv3 | Gi0/9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| IGMP Snooping | Gi0/10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| PIM | Gi0/11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| DVMRP | Gi0/12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | Gi0/13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | Gi0/14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | Gi0/15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | Gi0/16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | Ex0/1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | Ex0/2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| | Ex0/3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |

Figure 5-179. LA Port Statistics Page

Clicking the PORT LACP STATS tab brings up the LA PORT STATISTICS page (Figure 5-179), which displays LACP port level statistics. The parameters for this page are shown in Table 5-151.

| Parameter | Description |
|-----------------------------|---|
| Port | This parameter specifies the port index. |
| Received PDUs | This parameter specifies the number of LACP PDUs received. |
| Received Marker PDUs | This parameter specifies the number of Marker PDUs received. |
| Received Marker Response | This parameter specifies the number of Marker response PDUs received. |
| Received Unknown PDUs | This parameter specifies the number of unknown PDUs received. |

Table 5-151. LA Port Statistics Page Parameters

| Parameter | Description |
|--------------------------------|--|
| Received Illegal PDUs | This parameter specifies the number of invalid PDUs received. |
| Transmitted PDUs | This parameter specifies the number of LACP PDUs transmitted. |
| Transmitted Marker PDUs | This parameter specifies the number of Marker PDUs transmitted. |
| Transmitted Marker Response | This parameter specifies the number of Marker response PDUs transmitted. |

Table 5-151. LA Port Statistics Page Parameters (Continued)

LA Neighbor Statistics



Figure 5-180. LA Neighbor Statistics Information Page

Clicking the NEIGHBOR STATS tab brings up the LA NEIGHBOR STATISTICS INFORMATION page (Figure 5-180), which displays LACP neighbor statistics. The parameters for this page are shown in Table 5-152.

| Parameter | Description |
|-----------------------|---|
| Port Index | This parameter specifies the port index. |
| Partner SystemID | This parameter specifies the Partner SystemID. |
| Oper Key | This parameter specifies the Oper Key. |
| Partner Port Priority | This parameter specifies the Partner Port Priority. |

Table 5-152. LA Neighbor Statistics Information Page Parameters

802.1X

The 802.1x link allows you to view 802.1x statistics through the following pages:

- 802.1X Session Statistics
- 802.1X Supplicant Statistics
- Mac Session Statistics

802.1X Session Statistics

| SUPERMI SWITCH SBM-GEN | CRO M-X2C | | | Speed 0 0 0 0 Link 0 0 0 0 Switch 0 Gi 1 2 3 4 | Refresh | Support | Help | About | Log Out |
|------------------------------------|---------------|--------------------|------------------------|--|-----------------------|---------------------|-----------------------------|-------|---------|
| SMIS | Session Stats | Supp-Session Stats | Mac-Session Stats | | | | | | |
| Home System Mgmt Layer2 Mgmt | | | | 802.1x Ses | sion Statistics | | | | |
| Multicast | | | | 010/ | 1-12.0/5 | | | _ | |
| Interface | | Port Ses | sion ID Received Frame | s Transmitted Fram | es Session Time (secs | Session Terminate C | ause User Name | | |
| TACACS+ RMON | | Gi0/1 | 1-0 0 | 0 | 105400 | Admin Disabled | No User | | |
| SNMP AGENT | | Gi0/2 | 3-0 0 | 0 | 105400 | Admin Disabled | No User | | |
| AGENTX VLAN | | Gi0/4 | 4-0 0 | õ | 105400 | Admin Disabled | - No User | | |
| RSTP MSTP | | Gi0/5 | 5-0 0 | 0 | 105400 | Admin Disabled | No User | | |
| 802.1× | | Gi0/6 | 6-0 0 | 0 | 105400 | Admin Disabled | - No User | | |
| IP IPv6 | | Gi0/7 | 7-0 0 | 0 | 105400 | Admin Disabled | - No User | | |
| RIPng | | Gi0/8 | 8-0 0 | 0 | 105400 | Admin Disabled | No User | ž. | |
| OSPFv3 | | Gi0/9 | 9-0 0 | 0 | 105400 | Admin Disabled | No User | | |
| IGMP Snooping | | Gi0/10 1 | 0-0 0 | 0 | 105400 | Admin Disabled | No User | | |
| PIM | | Gi0/11 1 | 1-0 0 | 0 | 105400 | Admin Disabled | No User | | |
| | | Gi0/12 1 | 2-0 0 | 0 | 105400 | Admin Disabled | No User | | |
| | | Gi0/13 1 | 3-0 0 | 0 | 105400 | Admin Disabled | No User | | |
| | | Gi0/14 1 | 4-0 0 | 0 | 105400 | Admin Disabled | No User | | |
| | | Gi0/15 1 | 5-0 0 | 0 | 105400 | Admin Disabled | No User | | |
| | | Gi0/16 1 | 6-0 0 | 0 | 101100 | Not Terminated Yet | - No User | | |
| | | Ex0/1 2 | 5-0 0 | 0 | 105400 | Admin Disabled | No User | | |
| | | Ex0/2 2 | 0 | 0 | 105400 | Admin Disabled | No User | | |
| | | Ex0/3 2 | .7-0 0 | 0 | 101300 | Not Terminated Yet | No User | | |

Figure 5-181. 802.1x Session Statistics Page

Clicking the SESSION STATS tab brings up the 802.1x SESSION STATISTICS page (Figure 5-181), which displays 802.1x statistics information. The parameters for this page are shown in Table 5-153.

| Table 5-153. | 802.1x Session | Statistics | Page Parameters |
|--------------|----------------|------------|------------------------|
| | | | J |

| Parameter | Description |
|---------------------|---|
| Port | This parameter specifies the port index. |
| Session ID | This parameter specifies the session identifier. |
| Received Frames | This parameter specifies the number of packets received. |
| Transmitted Frames | This parameter specifies the number of packets transmitted. |
| Session Time (secs) | This parameter specifies the session time in seconds. |

| Parameter | Description |
|----------------------------|--|
| Session Terminate Cause | This parameter specifies the reason for session termination. |
| User Name | This parameter specifies the name of the user authenticated. |

Table 5-153. 802.1x Session Statistics Page Parameters (Continued)

802.1X Supplicant Statistics

Figure 5-182. 802.1x Supplicant Session Statistics Page

| | | | | | | | | | Refresh | Support | Help | About | Log Out |
|---|--------|-----------|-------|-----------------|------------|--------------|---|---|---|----------------|------------|------------|-------------------|
| SUPERM | ICR | | | | | 2 | Speed 0 0 0 Link 0 0 0 witch 0 Gi 1 2 3 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 4 5 6 7 8 9 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 10 11 12 13 14 15 | 16 EX1 EX2 EX3 | | | |
| SWITCH SBM-G | EM-X2C | | | | | | | | | | | | |
| SMIS | Sess | ion Stats | Sup | o-Session Stats | Mac-Se | ssion Stats | | | | | | | |
| | | | | | | 802.1 | x Supplic | ant Sess | ion Statis | tics | | | |
| Home System Mamt | | | | | | | n euppne | | | | | | |
| Layer2 Mgmt | | | | | | | G | i0/1-Ex0/3 | I | | | | |
| Multicast Statistics | Port | Eapol | Eapol | Eapol Start E | apol Logof | Eapol Resplo | Eapol Resp | Eapol Regid | Eapol Req | Invalid Eapol | Eap LenErr | Last Eapol | Last Eapol |
| Interface Radius | Gi0/1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| TACACS+ RMON | Gi0/2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| SNMP AGENT AGENTX | Gi0/3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| | Gi0/4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| RSTP | Gi0/5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| LA | Gi0/6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| IP | Gi0/7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| RIP | Gi0/8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| RIPng OSPF | Gi0/9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| OSPFv3 VRRP | Gi0/10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| IGMP Snooping | Gi0/11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| PIM | Gi0/12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| DVNRP | Gi0/13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| | Gi0/14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| | Gi0/15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| | Gi0/16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| | Ex0/1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| | Ex0/2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 00:00:00:00:00:00 |
| | Ex0/3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 00:30:48:90:00fa |
| | | | | | | | | | | | | | |

Clicking the SUPP SESSION STATS tab brings up the 802.1x SUPPLICANT SESSION STATISTICS page (Figure 5-182), which displays information about the 802.1x supplicant session. The parameters for this page are shown in Table 5-154.

| Table 5-154. 802.1x | Supplicant Ses | sion Statistics | Page Parameters |
|---------------------|----------------|-----------------|-----------------|
|---------------------|----------------|-----------------|-----------------|

| Parameter | Description |
|-------------------|--|
| Port | This parameter specifies the port index. |
| Eapol FrRx | This parameter specifies the number of the EAPOL packets received. |
| Eapol FrTx | This parameter specifies the number of the EAPOL packets transmitted. |
| Eapol Start FrTx | This parameter specifies the number of the EAPOL start packet transmitted. |
| Eapol Logoff FrTx | This parameter specifies the number of the EAPOL logoff packet transmitted. |
| Eapol Respld FrTx | This parameter specifies the number of the EAPOL response identifier packet transmitted. |

| Parameter | Description |
|----------------------|---|
| Eapol Resp FrTx | This parameter specifies the number of the EAPOL response packet frame transmitted. |
| Eapol Reqld FrRx | This parameter specifies the number of the EAPOL request identifier packet received. |
| Eapol Req FrRx | This parameter specifies the number of the EAPOL request frame receieved. |
| Invalid Eapol FrRx | This parameter specifies the number of the invalid EAPOL frame received. |
| Eap LenErr FrRx | This parameter specifies the number of EAPOL packets received with an invalid length. |
| Last Eapol FrVersion | This parameter specifies the version on the last EAPOL packet. |
| Last Eapol FrSource | This parameter specifies the source of the last EAPOL packet. |

Table 5-154. 802.1x Supplicant Session Statistics Page Parameters (Continued)

Mac Session Statistics

| | | | | | Refresh | Support | Help | About | Log Out |
|--|---------------|--------------------|-----------------------|---|-----------------------|---------------|-------------|-------|---------|
| SUPERMI | CR | | | Speed 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 9 10 11 12 13 14 15 1 | 6 EXI EX2 EX3 | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | |
| SMIS | Session Stats | Supp-Session Stats | Mac-Session Stats | | | | | | |
| Home + system Mgmt + sayet2 Mgmt + sayet2 Mgmt + sayet2 Mgmt + sayet2 Mgmt - statistics - sta | | [50] | set/Supplicant MacAdd | MAC Session St Supplicant MacAddr Submit Grames Riframes To Sess | atistics | orminto Cause | iser Narne) | | |
| Clicking | the Mae | CEORIAN C | TATO tob b | ringa un tha I | | -001011 | CT + TIOTI | | |

Figure 5-183. MAC Session Statistics Page

Clicking the MAC SESSION STATS tab brings up the MAC SESSION STATISTICS page (Figure 5-183), which displays statistics information about 802.1x MAC sessions. The parameters for this page are shown in Table 5-155.

| Parameter | Description |
|---------------------------|--|
| Supplicant MacAddr | This parameter specifies the supplicant MAC address. |
| Frames Rx | This parameter specifies the number of packets received. |
| Frames Tx | This parameter specifies the number of packets transmitted. |
| Session ID | This parameter specifies the session identifier. |
| Session Terminte Cause | This parameter specifies the reason for session termination. |
| User Name | This parameter specifies the name of user authenticated. |

Table 5-155. MAC Session Statistics Page Parameters

IP

The IP link allows you to view IP statistics through the following pages:

- ARP Cache
- ICMP Statistics

ARP Cache



| SUPERMI SWITCH SBM-GEN | CRO 4-X2C | ICMP Statistics | Speed Link © Switch © Gi 1 | Refre: | Sh Support | Help | About | Log Out |
|--|--------------|-----------------|----------------------------------|-----------|-------------------------|------|-------|---------|
| Home + System Mgmt + Layer2 Mgmt | | | inturface) MAC Au | ARP Cache | Medin 1923 5 Dynamic | | | |

Clicking the ARP CACHE tab brings up the ARP CACHE page (Figure 5-184), which displays ARP entries. The parameters for this page are shown in Table 5-156.

| Parameter | Description |
|-------------|--|
| Interface | This parameter specifies the interface from which this ARP entry is learned. |
| MAC Address | This parameter specifies the MAC address. |
| IP Address | This parameter specifies the IP address. |
| Media Type | This parameter specifies the static ARP or dynamic ARP. |

ICMP Statistics

| | | | Refresh | Support | Help | About | Log Out |
|--|-----------|-----------------|------------------------------------|---------|------|-------|---------|
| CUDEDIA | CD | | Speed 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | | |
| SUPERMI | CR | | | | | | |
| SWITCH SBM-GEM | 4-X2C | | | | | | |
| SMIS | ARP Cache | ICMP Statistics | | | | | |
| | | | ICMP Statistics | | | | |
| Forme System Mgmt | | | | | | | |
| Layer2 Mgmt | | | Received Message | 0 | | | |
| Multicast | | | Received Error | 0 | | | |
| Statistics Interface | | | Receive Destination Unreachable | 0 | | | |
| Radius TACACS+ | | | Received Rediffect | 0 | | | |
| RMON SNMP | | | Received Echo Replies | 0 | | | |
| AGENT | | | Receive Source Quenches | 0 | | | |
| VLAN RSTP | | | Transmitted Message | 0 | | | |
| MSTP | | | Transmitted Error | 0 | | | |
| 802.1x IP | | | Transmited Destination Unreachable | 0 | | | |
| IPv6 RIP | | | Transmitted Redirect | 0 | | | |
| RIPng OSPF | | | Transmitted Echo Requests | 0 | | | |
| OSPFv3 VRRP | | | Transmitted Echo Replies | 0 | | | |
| IGMP Snooping IGMP | | | Transmited Source Quenches | 0 | | | |
| PIM DVMRP | | | | | | | |
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Figure 5-185. ICMP Statistics Page

Clicking the ICMP STATISTICS tab brings up the ICMP STATISTICS page (Figure 5-185), which displays ICMP statistics information. The parameters for this page are shown in Table 5-157.

| Parameter | Description |
|------------------------------------|---|
| Received Message | This parameter specifies the number of received messages. |
| Received Error | This parameter specifies the number of received errors. |
| Receive Destination Unreachable | This parameter specifies the number of received destination unreachables. |
| Received Redirect | This parameter specifies the number of received redirects. |
| Received Echo Requests | This parameter specifies the number of echo requests |
| Received Echo Replies | This parameter specifies the number of echo replies. |
| Receive Source Quenches | This parameter specifies the number of source quenches. |
| Transmitted Message | This parameter specifies the number of transmited messages. |
| Transmitted Error | This parameter specifies the number of transmitted errors. |

Table 5-157. ICMP Statistics Page Parameters

| Parameter | Description |
|---|--|
| Transmitted Destination Unreachable | This parameter specifies the number of transmitted destination unreachables. |
| Transmitted Redirect | This parameter specifies the number of transmitted redirects. |
| Transmitted Echo Requests | This parameter specifies the number of transmitted echo requests. |
| Transmitted Echo Replies | This parameter specifies the number of transmitted echo replies. |
| Transmited Source Quenches | This parameter specifies the number of transmitted source quenches. |

Table 5-157. ICMP Statistics Page Parameters (Continued)

IPv6

The IPv6 link allows you to view IPv6 statistics through the following pages:

- IP V6 Interface Statistics
- ICMP V6 Statistics

IP V6 Interface Statistics

Figure 5-186. IPV6 Interface Statistics Page



Clicking the IPV6 INTERFACE tab brings up the IPV6 INTERFACE STATISTICS page (Figure 5-186), which displays IPv6 port statistics. The parameters for this page are shown in Table 5-158.

| Parameter | Description |
|-----------------|---|
| Interface | This parameter specifies the Port index. |
| Rcvd | This parameter specifies the number of IPv6 packets received. |
| Hdr Err | This parameter specifies the number of IPv6 packets received with header error. |
| Too Big Errs | This parameter specifies the number of too big IPv6 packets received. |
| Addr Errs | This parameter specifies the number of IPv6 packets received with address errors. |
| Fwd Dgrams | This parameter specifies the number of IPv6 datagrams forwarded in this port. |
| Unknown protos | This parameter specifies the number of packets received with unknown protocol. |
| Discdrs | This parameter specifies the number of received packets discarded due to errors. |
| Delivers | This parameter specifies the number of packets delivered. |
| Out Rqst | This parameter specifies the number of transmit requests. |
| Out Discards | This parameter specifies the number of transmit discards due to errors. |
| Out No Routes | This parameter specifies the number of packets to be transmitted but no routes. |
| Reasm Reqds | This parameter specifies the number of reassembly requests. |
| Reasm OKs | This parameter specifies the number or successful reassemblies. |
| Reasm Fails | This parameter specifies the number of reassemblies failed. |
| Frag OKs | This parameter specifies the number of good fragments received. |
| Frag Fails | This parameter specifies the number of fragments incompletely received. |
| Frag Creates | This parameter specifies the number of fragments created. |
| Rcvd Mcast Pkts | This parameter specifies the number of received IPv6 multicast packets. |
| Send Mcast Pkts | This parameter specifies the number of IPv6 multicast packets transmitted. |
| Trunctd Pkts | This parameter specifies the number of packets truncated. |

| Table 5-158. IPV | 6 Interface | Statistics | Page | Parameters |
|------------------|-------------|------------|------|------------|
|------------------|-------------|------------|------|------------|

ICMP V6 Statistics

| SUPERM | ICR | | Speed Contraction | Refresh | Support | Help | About | Log Out |
|---|----------------|--------|---|---------|---|------|-------|---------|
| SWITCH SBM-G | EMI-A2C | | | | | | | |
| Homo | IPv6 Interface | ICMPv6 | ICMPv6 Stat | istics | | | | |
| Home System System System System Layer Might Multicat Multicat Multicat Statutos Multicat Multicat Source Statutos Source | | | In Message In Errors In Dest Unraches In Time Excls In Part CodBigs Exclose In Echos In EchoReps In Router Solicits In Neighbour Advertisements In Neighbour Solicits In neighbour Advertisements In Redirects In Admin Probab Out Messages Out Errors Out Dest Unreaches Out Farons Out Parsus Out Farons Out Parsus Out Farons Out Parsus Out Farons Out Facols Out Router Advertisements Out Router Advertisements | | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | | |

Figure 5-187. ICMPv6 Statistics Page

Clicking the ICMPv6 tab brings up the ICMPv6 STATISTICS page (Figure 5-187), which displays ICMPv6 statistics. The parameters for this page are shown in Table 5-159.

Table 5-159. ICMPv6 Statistics Page Parameters

| Parameter | Description |
|-------------------------------|---|
| In Message | This parameter specifies the number of messages received. |
| In Errors | This parameter specifies the number of messages received with errors. |
| In Dest Unreaches | This parameter specifies the number of destination unreachable messages received. |
| In Time Excds | This parameter specifies the number of receive timeouts. |
| In Param Probs | This parameter specifies the number of parameters probed. |
| In PktTooBigs | This parameter specifies the number of too big packets received. |
| In Echos | This parameter specifies the number of echo requests received. |
| In EchoReps | This parameter specifies the number of echo responses received. |
| In Router Solicits | This parameter specifies the number of received router solicits. |
| In Router Advertisements | This parameter specifies the number of routers advertisement received. |
| In Neighbor Solicits | This parameter specifies the number of received neighbor solicits. |
| In Neighbor Advertisements | This parameter specifies the number of received neighbor solicits. |

| Parameter | Description |
|---------------------------------|--|
| In Redirects | This parameter specifies the number of redirect packets received. |
| In Admin Prohib | This parameter specifies the number of receive admin prohibted. |
| Out Messages | This parameter specifies the number of messages transmitted. |
| Out Errors | This parameter specifies the number of messages transmitted with errors. |
| Out Dest Unreaches | This parameter specifies the number of destination unreachable messages transmitted. |
| Out Time Excds | This parameter specifies the number of transmit timeouts. |
| Out Param Probs | This parameter specifies the number of parameters probed. |
| Out Pkts Too Big | This parameter specifies the number of too big packets transmitted. |
| Out Echos | This parameter specifies the number of echo requests transmitted. |
| Out Echo Reps | This parameter specifies the number of echo responses transmitted. |
| Out Route Solicits | This parameter specifies the number of transmitted router solicits. |
| Out Router Advertisements | This parameter specifies the number of transmitted neighbor solicits. |
| Out Neighbour Solicts | This parameter specifies the number of transmitted neighbor solicits. |
| Out Neighbour Advertisements | This parameter specifies the number of transmitted neighbor solicits. |
| Out Redirects | This parameter specifies the number of redirect packets transmitted. |
| Out Admin Prohib | This parameter specifies the number of transmit admin prohibted. |
| In Bad Code | This parameter specifies the number of bad code packets. |

Table 5-159. ICMPv6 Statistics Page Parameters (Continued)

RIP Statistics

| SUPERMI | |
|---|--|
| SWITCH SBM-GEM | -X1C |
| SMIS | |
| Home System Agent System Agent Layer Agent Multicast Statistics Radus | RIP Interface Statistics Route Changes/Durintes Responded/Dropped Packets (IP Address/Periodic Updates Ts/Bad Routes Re]Triggered Updates Ts/Bad Packets Re Admin Status |
| Clicking | the DID link brings up the DID by $F_{0,0} = C_{1,0} = C_{2,0} = $ |

Figure 5-188. RIP Interface Statistics Page

Clicking the RIP link brings up the RIP INTERFACE STATISTICS page (Figure 5-188), which displays RIP statistics. The parameters for this page are shown in Table 5-160.

Table 5-160. RIP Interface Statistics Page Parameters

| Parameter | Description |
|-------------------------|---|
| IP Address | This parameter specifies the IP address. |
| Received Bad Packets | This parameter specifies the number of received bad packets. |
| Received Bad Routes | This parameter specifies the number of received bad routes. |
| Transmitted Updates | This parameter specifies the the number of transmitted updates. |

RIP6

The RIP6 link allows you to view RIP6 statistics through the following pages:

- RIP6 Interface Statistics
- RIP6 Route Information
RIP6 Interface Statistics

| SUPERMI | CR | | Į | Speed 0 0 0 0 0 0 Link 0 0 0 0 0 0 Switch 0 Gi 1 2 3 4 5 6 | 0 0 | 6 EXI EX2 EX3 | incip | hour | Log out |
|--|------------------------|--------------------|---------------------|--|---|------------------|-----------------|------|---------|
| SWITCH SBM-GE | d-X2C | | | | | | | | |
| SMIS | Interface Statistics R | oute Information | | | | | | | |
| Home • System Mgmt • Layer2 Mgmt • Layer2 Mgmt • Stabistics Interface Rober • Stabistics • S | | (interface ID/in T | saylın Reajin Respi | RIP6 Interfac | e Statistics (er(in Discards)Out Mr | sg Out Req Out R | esp Out TrigUpd | | |
| | | | | | | | | | |

Figure 5-189. RIP6 Interface Statistics Page

Clicking the INTERFACE STATISTICS tab brings up the RIP6 INTERFACE STATISTICS page (Figure 5-189), which displays RIPng statistics. The parameters for this page are shown in Table 5-161.

| Parameter | Description |
|--------------|--|
| Interface ID | This parameter specifies the interface identifier. |
| In Msg | This parameter specifies the number of RIPng packets received. |
| In Req | This parameter specifies the number of RIPng request packets received. |
| In Resp | This parameter specifies the number of RIPng resonse packets received. |
| In Unk-Cmd | This parameter specifies the number of RIPng unknown command packets received. |
| In Other-Ver | This parameter specifies the number of RIPng other version packets received. |
| In Discards | This parameter specifies the number of received packets discarded. |
| Out Msg | This parameter specifies the number of RIPng packets transmitted. |
| Out Req | This parameter specifies the number of RIPng request packets transmitted. |
| Out Resp | This parameter specifies the number of RIPng response packets transmitted. |
| Out TrigUpd | This parameter specifies the number of RIPng triggered updates transmitted. |

Table 5-161. RIP6 Interface Statistics Page Parameters

RIP6 Route Information

Figure 5-190. RIP6 Route Information Page

| SUPERMI | CR | | Speed Control | | About Log out |
|--|-------|---------------------|---|-------------------------|---------------|
| SWITCH SBM-GE | M-A2C | | | | |
| Home P System Mgnt Layer2 Mgnt P Layer3 Mgnt Muticast Interface Refue Accentry Accentry Accentry VLAM BCTP La BCTP La BCTP La BCTP La BCTP La BCTP La BCTP La BCTP La BCTP La BCTP La BCTP La BCTP La BCTP COPPO C | | (Destination)Prefix | RIP6 Route Information | ne Metric Routo Tag Age | |

Clicking the ROUTE INFORMATION tab brings up the RIP6 ROUTE INFORMATION page (Figure 5-190), which displays information about RIPng routes. The parameters for this page are shown in Table 5-162.

| Parameter | Description |
|---------------|--|
| Destination | This parameter specifies the route destination. |
| Prefix-len | This parameter specifies the length of the route prefix. |
| Protocol | This parameter specifies the routing protocol |
| Route-IfIndex | This parameter specifies the interface index. |
| Next-Hop | This parameter specifies the next hop for this route. |
| Route-Metric | This parameter specifies the metric of this route. |
| Route-Tag | This parameter specifies the route tag identifier. |
| Age | This parameter specifies the route age in seconds. |

Table 5-162. RIP6 Route Information Page Parameters

OSPF

The OSPF link allows you to view OSPF statistics through the following pages:

- OSPF Route Information
- OSPF Link State DB

OSPF Route Information

| | | | Refresh | Support | neip | About | Log Out |
|-----------------------|---------------------------------------|---|---------------------|--------------------|------|-------|---------|
| SUPERMI | CR | Speed 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 9 10 11 12 13 14 15 | 6 EX1 EX2 EX3 | | | |
| SWITCH SBM-GE | M-X2C | | | | | | |
| SMIS | Route Information Link State Database | | | | | | |
| Home | | OSPF Route Inf | ormation | | | | |
| System Mgmt | | IP Address Subpet Mask TOS Gateway Type | Area ID Cost Typ | e 2 Cost Interface | í l | | |
| Layer3 Mgmt | | | | | | | |
| Statistics | | | | | | | |
| Radius | | | | | | | |
| RMON | | | | | | | |
| AGENT | | | | | | | |
| VLAN RSTP | | | | | | | |
| LA B02 1x | | | | | | | |
| IP IPv6 | | | | | | | |
| RIP | | | | | | | |
| OSPFV3 | | | | | | | |
| IGMP Snooping IGMP | | | | | | | |
| PIM DVMRP | | | | | | | |
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Figure 5-191. OSPF Route Information Page

Clicking the ROUTE INFORMATION tab brings up the OSPF ROUTE INFORMATION page (Figure 5-191), which displays information about OSPF routes. The parameters for this page are shown in Table 5-163.

| Parameter | Description |
|-------------|---|
| IP Address | This parameter specifies the IP address. |
| Subnet Mask | This parameter specifies the Subnet Mask. |
| TOS | This parameter specifies the TOS. |
| Gateway | This parameter specifies the gateway. |
| Туре | This parameter specifies the type. |
| Area ID | This parameter specifies the Area ID. |
| Cost | This parameter specifies the cost. |
| Type 2 Cost | This parameter specifies the Type 2 cost. |
| Interface | This parameter specifies the interface. |

Table 5-163. OSPF Route Information Page Parameters

OSPF Link State DB

Figure 5-192. OSPF Link State Database Page

| SUPERMICR• switch sbm-gem-x2c | | Specific and a second s |
|---|---------------------------------------|--|
| SMIS | Route Information Link State Database | |
| Home Pyteronymet Pyteronymet Pyteronymet Puteronymet | | OSPF Link State Database Area 10 [ype Link State ID]Router ID[Saquence]Checksum]Age |

Clicking the LINK STATE DATABASE tab brings up the OSPF LINK STATE DATABASE page (Figure 5-192), which displays information about OSPF link state database. The parameters for this page are shown in Table 5-164.

| Parameter | Description |
|---------------|--|
| Area ID | This parameter specifies the area identifier. |
| Туре | This parameter specifies the link state type. |
| Link State ID | This parameter specifies the link state identifier. |
| Router ID | This parameter specifies the router identifer. |
| Sequence | This parameter specifies the sequence number of this link state information. |
| Checksum | This parameter specifies the checksum. |
| Age | This parameter specifies the link state information age in seconds. |

Table 5-164. OSPF Link State Database Page Parameters

OSPFv3

The OSPFv3 link allows you to view OSPFv3 statistics through the following pages:

- OSPFV3 Route Information
- OSPFV3 Link State DB

OSPFV3 Route Information

Refresh Support Help About Log Out SWICH SIM-GEX.X20 SMIS OSP920 bits Statu Database OSPFV3 Route Information Support Might Log XMB Support Might Support Might Log XMB Support Might S

Figure 5-193. OSPFV3 Route Information Page

Clicking the OSPFV3 ROUTE INFORMATION tab brings up the OSPFV3 ROUTE INFORMATION page (Figure 5-193), which displays information about OSPFV3 routes. The parameters for this page are shown in Table 5-165.

| Parameter | Description |
|---------------------|---|
| Destination Address | This parameter specifies the destination address. |
| Prefix | This parameter specifies the prefix. |
| Gateway | This parameter specifies the gateway. |
| Туре | This parameter specifies the type. |
| Area ID | This parameter specifies the Area ID. |
| Cost | This parameter specifies the cost. |
| Interface | This parameter specifies the interface. |

Table 5-165. OSPFV3 Route Information Page Parameters

OSPFV3 Link State DB

Figure 5-194. OSPFV3 Link State Database Page

| SUPERMI | CR | Speed 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | | нер | About | Log Out |
|--|---|---|--------------------|-----|-------|---------|
| SWITCH SPM.GE | MX2C | | | | | |
| SMIS | OSPEv3 Route Information OSPEv3 Link State Database | | | | | |
| Home + System Mignt + System Mignt + System Mignt + System + Statistics - Inderse - Statistics - Statistic | | OSPFv3 Link State Datab: Area ID[5yeo Link State ID]Router ID[Stephenes] | ase Ametrum Ago | | | |

Clicking the OSPFV3 LINK STATE DATABASE tab brings up the OSPFV3 LINK STATE DATABASE page (Figure 5-194), which displays information about OSPF link state database. The parameters for this page are shown in Table 5-166.

| Parameter | Description |
|---------------|--|
| Area ID | This parameter specifies the area identifier. |
| Туре | This parameter specifies the link state type. |
| Link State ID | This parameter specifies the link state identifier. |
| Router ID | This parameter specifies the router identifier. |
| Sequence | This parameter specifies the sequence number of this link state information. |
| Checksum | This parameter specifies the checksum. |
| Age | This parameter specifies the link state information age in seconds. |

Table 5-166. OSPFV3 Link State Database Page Parameters

VRRP Statistics



Figure 5-195. VRRP Statistics Page

Clicking the VRRP link brings up the VRRP STATISTICS page (Figure 5-195), which displays VRRP global statistics and VRRP router specific statistics. The parameters for this page are shown in Table 5-167.

| Parameter | Description | | | |
|--------------------------------|--|--|--|--|
| VRRP Global Statistic | CS | | | |
| Checksum Errors | This parameter specifies the number of checksum errors. | | | |
| Version Errors | This parameter specifies the number of version errors. | | | |
| Virtual Router ID Errors | This parameter specifies the number of Virtual Router ID errors. | | | |
| VRRP Router Specifi | VRRP Router Specific Statistics | | | |
| Virtual Router ID | This parameter specifies the Virtual Router identifier. | | | |
| Transitions to Master | This parameter specifies the number of transitions as Master. | | | |
| Advertisment Receive | This parameter specifies the number of advertisement packets received. | | | |
| Advertisment Internal Error | This parameter specifies the number of advertisement errors happened. | | | |
| Authentication Failures | This parameter specifies the number of authentication failures. | | | |
| IP TTL Errors | This parameter specifies the number of IP TTL errors happened. | | | |

Table 5-167. VRRP Statistics Page Parameters

| Parameter | Description |
|------------------------------------|--|
| Priority Zero Packet Received | This parameter specifies the number of priority zero packets received. |
| Priority Zero Packet Transmited | This parameter specifies the number of priority zero packets transmitted. |
| Invalid Packet Type Received | This parameter specifies the number of invalid packets received. |
| Address List Errors | This parameter specifies the number of address list errors. |
| Invalid Authentication Type | This parameter specifies the number of invalid authentication types received. |
| Authentication Type Mismatch | This parameter specifies the number of authentication type mismatch received. |
| Packet Length Errors | This parameter specifies the number of VRRP packets received with invalid length. |

Table 5-167. VRRP Statistics Page Parameters (Continued)

IGMP Snooping

The IGMP link allows you to view IGMP statistics through the following pages:

- IGMP Snooping Clear Statistics
- IGMP Snooping V1/V2 Statistics
- IGMP Snooping V3 Statistics

IGMP Snooping Clear Statistics

| | | | | | Kerresn | Support | neip | About | Log Out |
|---|-----------------|-----------------------|-------------------|--|--|---------------|------|-------|---------|
| SUPERMI | CR | | | Speed 0 0 0 0 0 0 Link 0 0 0 0 0 0 Switch 0 Gi 1 2 3 4 5 6 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 6 EX1 EX2 EX3 | | | |
| | | | | | | | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | |
| SMIS | IGS Clear Stats | IGS Statistics | IGS V3 Statistics | | | | | | |
| Home | | | | IGMP Snooping | Clear Statistics | | | | |
| Layer2 Mgmt Layer3 Mgmt | | | | Clear Vlan Counters | All Vlan ID | | | | |
| Multicast Statistics | | | | Vlan ID | vlan1 👻 | | | | |
| Interface | | | | | | | | | |
| TACACS+ | | | | | | | | | |
| * SNMP | | | | | | | | | |
| AGENTX | | | | | | | | | |
| RSTP | | | | | | | | | |
| LA 802.1v | | | | | | | | | |
| IP IPv6 | | | | | | | | | |
| RIP | | | | | | | | | |
| OSPF OSPFv3 | | | | | | | | | |
| VRRP IGMP Snooping | | | | | | | | | |
| IGMP PIM | | | | | | | | | |
| DVMRP | | | | | | | | | |
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Figure 5-196. IGMP Snooping Clear Statistics Page

Clicking the IGS CLEAR STATS tab brings up the IGMP SNOOPING CLEAR STATISTICS page (Figure 5-196), which displays clearing IGMP snooping statistics. The parameters for this page are shown in Table 5-168.

| Table 5-168. IGM | P Snooping (| Clear Statistics | Page Parameters |
|------------------|--------------|-------------------------|------------------------|
|------------------|--------------|-------------------------|------------------------|

| Parameter | Description |
|-----------|--|
| All | This parameter gives you the option to clear all the IGMP statistics. |
| Vlan ID | This parameter give you the option to clear IGMP statistics for a particular VLAN. |

IGMP Snooping V1/V2 Statistics

| Figure 5-197. IGMF | Snooping | V1/V2 | Statistics | Page |
|--------------------|----------|-------|------------|------|
|--------------------|----------|-------|------------|------|

| Set and a set of set o |
|---|
| SWITCH SEM-GEM-X2C SMIS So Clear Stats CS Statutes System Mont Layer A Mont Layer A Mont Layer A Mont Statutes |
| SMIS Kis Clear States Kis S V3 Statestice Home Psyctem Mont: Psyctem Mont: Example Statestice Layer2 Mignt: Layer2 Mignt: Example Statestice Layer3 Mignt: Example Statestice Example Statestice Multicat Received R |
| Virtue Virtue Virtue Virtue Home • Layera Mont • Layera Mont • Layera Mont • Layera Mont • Statutes • S |
| Home Isolary Provide State Sta |
| System Mont Layer2 Mont Layer2 Mont Statistics VLANI Group Group Group Group Group Group Group Group Mont Received Received Received Cropped Transmitted Tra |
| GBPY-1 VREP 1 GLIN PRIME DVMRP |
| |

Clicking the IGS STATISTICS tab brings up the IGMP SNOOPING V1/V2 STATISTICS page (Figure 5-197), which displays IGMP snooping statistics. The parameters for this page are shown in Table 5-169.

| Parameter | Description |
|--------------------------------------|---|
| VLAN ID | This parameter specifies the VLAN identifier. |
| General Queries Received | This parameter specifies the number of general guery packets received. |
| Group Queries Received | This parameter specifies the number of group query packets received. |
| Group and Source Queries Received | This parameter specifies the number of group and source query packets received. |
| IGMP Reports Received | This parameter specifies the number of IGMP report packets received. |
| IGMP Leaves Received | This parameter specifies the number of IGMP leave packets received. |
| IGMP Packets Dropped | This parameter specifies the number of IGMP dackets dropped. |
| General Queries Transmitted | This parameter specifies the number of general query packets transmitted. |

Table 5-169. IGMP Snooping V1/V2 Statistics Page Parameters

| Parameter | Description |
|------------------------------|---|
| Group Queries Transmitted | This parameter specifies the number of group query packets transmitted. |
| IGMP Reports Transmitted | This parameter specifies the number of IGMP report packets transmitted. |
| IGMP Leaves Transmitted | This parameter specifies the number of IGMP leave packets transmitted. |

Table 5-169. IGMP Snooping V1/V2 Statistics Page Parameters (Continued)

IGMP Snooping V3 Statistics



| SUPERMI SWITCH SBM-GE | ICR M-X2C IGS Clear Stats | IGS Statistics | IGS V3 Statistics | Speed O O O Link O O O Switch 0 Gi 1 2 3 4 | Keiresii | IS 16 EXT EX2 EX3 | пер | About | |
|---|---------------------------------|----------------|-----------------------------------|--|-------------------|---|--------------------|-------|--|
| Home Pytersignet | | | VLAN V3 ID Reports Received | IGMP Snool | ping V3 Statistic | S OW BLOCK desarrows and the service of the service | v3 ports ent | | |

Clicking the IGS V3 STATISTICS tab brings up the IGMP SNOOPING V3 STATISTICS page (Figure 5-198), which displays IGMP snooping V3 statistics information. The parameters for this page are shown in Table 5-170.

| Parameter | Description |
|------------------------------|---|
| VLAN ID | This parameter specifies the VLAN identifier. |
| V3 Reports Received | This parameter specifies the number of Reports messages received. |
| IS_INCL Messages Received | This parameter specifies the number of messages received with is include field. |
| IS_EXCL Messages Received | This parameter specifies the number of messages received with is exclude field. |

Table 5-170. IGMP Snooping V3 Statistics Page Parameters

| Parameter | Description |
|------------------------------|---|
| TO_INCL Messages Received | This parameter specifies the number of messages received with to include field. |
| TO_EXCL Messages Received | This parameter specifies the number of messages received with to exclude field. |
| ALLOW Messages Received | This parameter specifies the number of allow messages received. |
| BLOCK Messages Received | This parameter specifies the number of block messages received. |
| V3 Reports Sent | This parameter specifies the number of V3 reports transmitted. |

Table 5-170. IGMP Snooping V3 Statistics Page Parameters (Continued)

IGMP Statistics





Clicking the IGMP link brings up the IGMP ROUTE STATISTICS page (Figure 5-199), which displays IGMP route information. The parameters for this page are shown in Table 5-171.

| Parameter | Description |
|-----------------------------|--|
| Interface | This parameter specifies the interface identifier. |
| General Queries Received | This parameter specifies the number of general guery packets received. |

Table 5-171. IGMP Route Statistics Page Parameters

| Parameter | Description |
|---|--|
| Group Queries Received | This parameter specifies the number of group query packets received. |
| Group and Source Queries Received | This parameter specifies the number of group and source query packets received. |
| IGMP V1/V2 Reports Received | This parameter specifies the number of IGMP V1/V2 report packets received. |
| IGMP V3 Reports Received | This parameter specifies the number of IGMP V3 report packets received. |
| General Queries Transmitted | This parameter specifies the number of general query packets transmitted. |
| Group Queries Transmitted | This parameter specifies the number of group query packets transmitted. |
| Group and Source Queries Transmitted | This parameter specifies the number of group and source query packets transmitted. |

Table 5-171. IGMP Route Statistics Page Parameters (Continued)

PIM

The PIM link allows you to view PIM statistics through the following pages:

- PIM Interface Statistics
- PIM Neighbor Statistics
- PIM BSR Info
- PIM RP Set Information
- PIM Route Information

PIM Interface Statistics

Figure 5-200. PIM Interface Statistics Page

| SUPERMI SWITCH SBM-GE | CRO M-X2C | | | Speed Link Switch 0 Gi 1 | 2 3 4 5 6 7 8 9 10 | 0 0 0 0 0 0 0 11 12 13 14 15 16 E | | Trap | About | Log out |
|--|-----------------|----------------|--------------|--------------------------------|--------------------|--------------------------------------|-----------------|------|-------|---------|
| SMIS | Interface Stats | Neighbor Stats | BSR Info | RP Set Info | Mroute Info | | | | | |
| Home + System Mgmt + Layer2 Mgmt + Layer2 Mgmt + Layer3 Mgmt - Staff - Kases - Staff - Staff | | | Adreso[marks | | erface Sta | Atistics ry Interval(DR / | Address]DR Prid | | | |
| | | | | | | | | | | |

Clicking the INTERFACE STATS tab brings up the PIM INTERFACE STATISTICS page (Figure 5-200), which displays PIM interface statistics. The parameters for this page are shown in Table 5-172.

| Parameter | Description |
|----------------|--|
| Address | This parameter specifies the address. |
| Interface | This parameter specifies the interface. |
| Version | This parameter specifies the version. |
| Mode | This parameter specifies the mode. |
| Neighbor Count | This parameter specifies the neighbor count. |
| Query Interval | This parameter specifies the query interval. |
| DR address | This parameter specifies the DR address. |
| DR Priority | This parameter specifies the DR priority. |

Table 5-172. PIM Interface Statistics Page Parameters

PIM Neighbor Statistics

| SUPERMI SWITCH SBM-GE | CR O M-X2C | | | Speed Link Switch 0 Gi 1 2 | R | efresh 11 12 13 14 15 16 P | Support EXTEXTERS | нер | About | Log Out |
|--|----------------------|----------------|--------------------|----------------------------------|----------------------|-------------------------------|----------------------|-----------|-------|---------|
| SMIS | Interface Stats | Neighbor Stats | BSR Info | RP Set Info | Mroute Info | | | | | |
| Home | | | | PIM Nei | ghbor Sta | atistics | | | | |
| System Hight System Hight System Hight System Hight System Hight Statistics Interface TracAcS+ Right Acent Acent Acent Acent Acent Right Bozzki Right Bozzki Right Bozzki Right Bozzki Right Bozzki Right Bozzki Right Bozzki Right Bozzki Right Bozzki System Hight System Hight | | 2 | aighba-fhreefaca(U | ptime Expiry Versit | an[Priority]Woote[Co | omponent <mark>(</mark> Ove | vritde Interval[| .an Delay | | |
| | | • | | | | | ~ | | | |

Figure 5-201. PIM Neighbor Statistics Page

Clicking the NEIGHBOR STATS tab brings up the PIM NEIGHBOR STATISTICS page (Figure 5-201), which displays PIM neighbor statistics. The parameters for this page are shown in Table 5-173.

| Parameter | Description |
|-------------------|---|
| Neighbor | This parameter specifies the neighbor. |
| Interface | This parameter specifies the interface. |
| Uptime | This parameter specifies the uptime. |
| Expiry | This parameter specifies the expiry. |
| Version | This parameter specifies the version. |
| Priority | This parameter specifies the priority. |
| Mode | This parameter specifies the mode. |
| Component | This parameter specifies the component. |
| Override Interval | This parameter specifies the override interval. |
| LAN Delay | This parameter specifies the LAN delay. |

Table 5-173. PIM Neighbor Statistics Page Parameters

PIM BSR Info

| CUDEDA | CD | | | Speed 0 0 Link 0 0 | R | erresh | Support | нер | About | Log Out |
|------------------------------|-----------------|----------------|----------|-----------------------|--------------------|------------------|---------------|-----|-------|---------|
| SUPERMI | ICRO | | | Switch 0 Gi 1 2 | 3 4 5 6 7 8 9 10 | 11 12 13 14 15 1 | 6 EXI EX2 EX3 | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | | |
| SMIS | Interface Stats | Neighbor Stats | BSR Info | RP Set Info | Mroute Info | | | | | |
| Home | | | | PI | M BSR In | fo | | | | |
| System Mgmt Layer2 Mgmt | | | | Component BSR BS | R Address Priority | Hash Mask I | ength | | | |
| Layer3 Mgmt Multicast | | | | | | | | | | |
| * Statistics Interface | | | | | | | | | | |
| TACACS+ RMON | | | | | | | | | | |
| SNMP AGENT | | | | | | | | | | |
| AGENTX VLAN RSTP | | | | | | | | | | |
| MSTP LA | | | | | | | | | | |
| 1P 1Pv6 | | | | | | | | | | |
| RIP RIPng OSPE | | | | | | | | | | |
| OSPFv3 VRRP | | | | | | | | | | |
| IGMP Shooping IGMP PIM | | | | | | | | | | |
| DVMRP | | | | | | | | | | |
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| Clicking | | INFO tob b | | a tha DIM | | -0 -0 | | | | |

Figure 5-202. PIM BSR Info Page

Clicking the BSR INFO tab brings up the PIM BSR INFO page (Figure 5-202). The parameters for this page are shown in Table 5-174.

Table 5-174. PIM BSR Info Page Parameters

| Parameter | Description |
|------------------|--|
| Component | This parameter specifies the component. |
| BSR | This parameter specifies the BSR. |
| BSR Address | This parameter specifies the BSR address. |
| Priority | This parameter specifies the priority. |
| Hash Mask Length | This parameter specifies the Hash Mask Length. |

PIM RP Set Information

| | | | | | | Refresh | Support | нер | About | Log Out |
|--|-----------------|----------------|----------|------------------------------------|---|---|-------------------------|-----|-------|---------|
| SUPERMI | CR | | | Speed 0 Link 0 Switch 0 Gi 1 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 2 3 4 5 6 7 8 9 | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 10 11 12 13 14 15 | 0 0 0 16 EX1 EX2 EX3 | | | |
| SWITCH SBM-GE | M-X2C | | | | | | | | | |
| SMIS | Interface Stats | Neighbor Stats | BSR Info | RP Set Info | Mroute Info | | | | | |
| Home + System Mgmt + Layer2 Mgmt + Gatabitics Frances - Stabitics - Stabitics - Acceve - | | | . | PIM F | RP Set Infor | mation | omponent | | | |
| Clicking | | ET INFO to | h hringe | un tha I | | INCOD | | | | 202) |

Figure 5-203. PIM RP Information Page

Clicking the RP SET INFO tab brings up the PIM RP INFORMATION page (Figure 5-203), which displays PIM RP information. The parameters for this page are shown in Table 5-175.

| Parameter | Description |
|--------------|--|
| Group | This parameter specifies the group address. |
| Mask | This parameter specifies the mask. |
| Candidate RP | This parameter specifies the candidate RP. |
| Hold Time | This parameter specifies the Hold time in seconds. |
| Expiry Time | This parameter specifies the expiry time in seconds. |
| Component | This parameter specifies the component identifier. |

Table 5-175. PIM RP Information Page Parameters

PIM Route Information

Figure 5-204. PIM Route Information Page

| SUPERMI SWITCH SBM-GE | | | | Speed Link Switch 0 Gi 1 2 | | 1 12 13 14 15 14 | EXTEXTER | neip | About | Log Out |
|--|-----------------|----------------|------------|----------------------------------|---------------|---------------------|----------------------|------|-------|---------|
| SMIS | Interface Stats | Neighbor Stats | BSR Info | RP Set Info | Mroute Info | | | | | |
| Home | | | | PIM R | oute Informa | tion | | | | |
| Psychon Mgmt Layer2 Mgmt Layer2 Mgmt March 2000 March 2000 Statistics Interface Statistics Ref Accent A | | | Group Sour | ce/Mask Upstens | m Interface U | Jp Expir me Time | y Receive Packots | | | |

Clicking the MROUTE INFO tab brings up the PIM ROUTE INFORMATION page (Figure 5-204), which displays PIM route information. The parameters for this page are shown in Table 5-176.

| Parameter | Description |
|-------------------|--|
| Group | This parameter specifies the group address. |
| Source | This parameter specifies the source address. |
| Mask | This parameter specifies the PIM route mask. |
| Upstream Neighbor | This parameter specifies the upstream neighbor address. |
| Interface | This parameter specifies the |
| Up Time | This parameter specifies the up time in seconds. |
| Expiry Time | This parameter specifies the expiry time in seconds. |
| Receive Packets | This parameter specifies the number of packets received. |

Table 5-176. PIM Route Information Page Parameters

DVMRP

The DVMRP link allows you to view DVMRP statistics through the following pages:

- DVMRP Routers
- DVMRP Multicast Routers
- DVMRP Prune Statistics

DVMRP Routers

Figure 5-205. DVMRP Routes Page

| SUPERMI SWITCH SBM-GEN | CRO M-X2C | | | Speed 000000000 Link 00000000 Switch 0 Gi 1 2 3 4 5 4 7 8 | Refresh 9 0 0 0 0 0 0 0 9 10 11 12 13 14 15 1 | Support | Help | About | Log Out |
|---|--------------|------------------|---------------|---|---|--------------|------|-------|---------|
| SMIS | Routes | Multicast Routes | Prune Forward | | | | | | |
| Home | | | | DVMRP Ro | utes | | | | |
| System Mgmt Layer2 Mgmt Layer2 Mgmt Layer2 Mgmt Status Status | | | Network 5 | ubnet Mask Metric S | tatus Neighbe | r Interface | I | | |
| | | | | | | (F) | | | |

Clicking the ROUTES tab brings up the DVMRP ROUTES page (Figure 5-205), which displays DVMRP routes information. The parameters for this page are shown in Table 5-177.

| Parameter | Description |
|-------------|---|
| Network | This parameter specifies the network address for this route. |
| Subnet Mask | This parameter specifies the network mask for this route. |
| Metric | This parameter specifies the metric value for this route. |
| Status | This parameter specifies the status of this route. |
| Neighbor | This parameter specifies the neighbor address for this route. |
| Interface | This parameter specifies the interface identifier. |

Table 5-177. DVMRP Routes Page Parameters

DVMRP Multicast Routers

Figure 5-206. DVMRP Multicast Routes Page

| SUPERMI | CR | | | Speed 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 10 11 12 13 14 15 1 | 6 EXI EXPENS | nep | About | |
|---|--------|------------------|----------------|---|---------------------|----------------|-----|-------|--|
| SWITCH SBM-GE | M-X2C | | | | | | | | |
| SMIS | Routes | Multicast Routes | Prune Forward | | | | | | |
| Home | | | | DVMRP Multicast | Routes | | | | |
| System Mgmt Layer2 Mgmt Layer3 Mgmt | | | Source Network | Group Address RPF Neighb | or RPF Interfa | ce Expiry Time | l | | |
| Multicast Statistics | | | | | | | | | |
| Radius TACACS+ | | | | | | | | | |
| RMON SNMP | | | | | | | | | |
| AGENT AGENTX VLAN | | | | | | | | | |
| RSTP | | | | | | | | | |
| 802.1x IP | | | | | | | | | |
| RIP RIP RIPng | | | | | | | | | |
| OSPF OSPFv3 | | | | | | | | | |
| IGMP Snooping IGMP | | | | | | | | | |
| DVMRP | | | | | | | | | |
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Clicking the MULTICAST ROUTES tab brings up the DVMRP MULTICAST ROUTES page (Figure 5-206), which displays DVMRP multicast routes information. The parameters for this page are shown in Table 5-178.

| Parameter | Description |
|----------------|--|
| Source Network | This parameter specifies the source network. |
| Group Address | This parameter specifies the group address. |
| RPF Neighbor | This parameter specifies the RPF neighbor. |
| RPF Interface | This parameter specifies the RPF interface. |
| Expiry Time | This parameter specifies the expiry time in seconds. |

Table 5-178. DVMRP Multicast Routes Page Parameters

DVMRP Prune Statistics

| SWITCH SBM-GEM-X2C SWITCH SBM-GEM-X2C SMIS Rovies Mellicat Rovies Preserved Source Network Group Address Interface Neighbour Time Source Network Group Address Interface Neighbour Time Source Network Group Address Interface Neighbour Time |
|--|
| SWITCH SBM-GEM-X2C SMIS Roots Noblicast Rootes Prome System Mynt Layery Mynit Layery Mynit Multicast Satistics Radios TACACS+ SARP ACENT KTP Rate Rate Rate Rate Rate Rate Rate Rate |
| SMIS Rootes Undecast Rootes Home System Mgmt System Mgmt Layer Mgmt Mithcast Mithcast Statistics Radius TACACS+ KSTP RSP RSP RSP RSP RSP RSP RSP RSP RSP RS |
| Home System Mynt: System Mynt: Source Network Group Address Interface Netjabour Mathicast Satastics Exerting Address Netifaces Address Source Network Group Address Netifaces Satastics Exerting Address Source Network Satastics Exerting Address Satastics Satastics Exerting Address Satastics Satastics Exerting Address Satastics Satastics Exerting Address Satastics |
| System Mgmt Source Network Group Address Interface Heighbour Time Varditional * Mathical * Source Network Group Address Interface Heighbour Time * Mathical * Source Network Group Address Interface Heighbour Time * Mathical * Source Network Group Address Interface Heighbour Time * Substitute * Source Network Group Address * Heighbour Time * Substitute * Source Network * Source Network * Source Network * Source Network * Source * Source Network * Source Network * Source Network * Source Network * Source * Source * Source Network * Source Network * Source Network * Source * Source * Source * Source Network * Source Network * Source * Source * Source * Source * Source Network * Source * Source * Source * Source * Source * Source * Source * Source |
| Layed Mgmt Layed Mgmt MatCast MatCas |
| ▼ Statistics Interface TACACS++ RACON ▼ SINDON ◆ SINDON ACENTX VLAN VIAN VIAN VIAN NGTP LAS SI 1x SI P P P P P P P P P P P P P |
| TACACS+ TAC |
| * SMAD SMAD SMAD SMAD VIAN |
| VLAN VLAN KAT KAT KAT KAT KAT KAT KAT KAT |
| No P |
| IP P P P P P P P P P P P P P P P P P P |
| Siling OSHF OSHFJ VRAP TGM Second |
| C GSFV VRAP TRAME Shooping TRAME Shooping |
| IGMP |
| PIM Design of the second s |
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Figure 5-207. DVMRP Prune Statistics Page

Clicking the PRUNE FORWARD tab brings up the DVMRP PRUNE STATISTICS page (Figure 5-207), which DVMRP prune statistics information. The parameters for this page are shown in Table 5-179.

| Parameter | Description |
|---------------------------|--|
| Source Network Address | This parameter specifies the source network address. |
| Group Address | This parameter specifies the group address. |
| Interface Identifier. | This parameter specifies the interface identifier. |
| Neighbor Address | This parameter specifies the neighbor address. |
| Time | This parameter specifies the time in seconds. |

Table 5-179. DVMRP Prune Statistics Page Parameters

Notes

Appendix A Rack Installation

A-1 Overview

Some Supermicro switches can be equipped with an optional rail kit (CSE-PT52L) to make it easy to install them in a rack. This manual provides instructions for installing the CSE-PT52L mounting rails onto a rack and for installing the switch into the mounting rails. Following these steps in the order given should enable you to have the system operational within a minimum amount of time.

A-2 Unpacking the System

You should inspect the box the switch was shipped in and note if it was damaged in any way. If the switch itself shows damage you should file a damage claim with the carrier who delivered it.

Decide on a suitable location for the rack unit that will hold your switch. It should be situated in a clean, dust-free area that is well ventilated. Avoid areas where heat, electrical noise and electromagnetic fields are generated. You will also need it placed near a grounded power outlet. Be sure to read the Rack, General and Lithium Battery Precautions in the next section.

A-3 Preparing for Setup

The optional rail kit (CSE-PT52L) ships in a separate box and that box should include two sets of rail assemblies, two rail mounting brackets and the mounting screws needed to install the system into the rack. Read this section in its entirety before you begin the installation procedure outlined in the sections that follow.

Choosing a Setup Location

- Leave enough clearance in front of the rack to enable you to open the front door completely (~25 inches).
- Leave approximately 30 inches of clearance in the back of the rack to allow for sufficient airflow and ease in servicing.
- This product is for installation only in a Restricted Access Location (dedicated equipment rooms, service closets and similar environments).

A-4 Warnings and Precautions!

Rack Precautions

- Ensure that the leveling jacks on the bottom of the rack are fully extended to the floor with the full weight of the rack resting on them.
- In a single rack installation, stabilizers should be attached to the rack.
- In multiple rack installations, the racks should be coupled together.
- Always make sure the rack is stable before extending a component from the rack.
- You should extend only one component at a time extending two or more simultaneously may cause the rack to become unstable.

General Precautions

- Review the electrical and general safety precautions that came with the components you are adding to your switch (if any).
- Determine the placement of each component in the rack before you install the rails.
- Install the heaviest server components on the bottom of the rack first, and then work up.
- Use a regulating uninterruptible power supply (UPS) to protect the servers and switches from power surges, voltage spikes and to keep your system operating in case of a power failure.
- Always keep the rack's front door and all panels and components closed when not servicing to maintain proper cooling.
- Do not remove the cover of the switch, there are no user-serviceable components inside. Take unit to service center for repairs and servicing.
- Disconnect all power cords before servicing.



WARNING: Slide/rail mounted equipment is not to be used as a shelf or work space.

Lithium Battery Precaution

This switch may contain a lithium battery. There is a danger of explosion if the battery is incorrectly replaced.

- Installing the battery upside-down may reverse the polarities and cause the battery to explode.
- Replace the battery only with the same or equivalent type recommended by the manufacturer.
- Dispose of used batteries according to the manufacturer's instructions.
- Do not damage the battery in any way, a damaged battery may release hazardous materials into the environment.
- Do not discard a used battery in the garbage or a public landfill.

• Please comply with the regulations set up by your local hazardous waste management agency to dispose of your used battery properly.

Rack Mounting Considerations

Ambient Operating Temperature

If installed in a closed or multi-unit rack assembly, the ambient operating temperature of the rack environment may be greater than the ambient temperature of the room. Therefore, consideration should be given to installing the equipment in an environment compatible with the manufacturer's maximum rated ambient temperature (Tmra).

Reduced Airflow

Equipment should be mounted into a rack so that a hazardous condition does not arise due to uneven mechanical loading.

Mechanical Loading

Equipment should be mounted into a rack so that a hazardous condition does not arise due to uneven mechanical loading.

Circuit Overloading

Consideration should be given to the connection of the equipment to the power supply circuitry and the effect that any possible overloading of circuits might have on overcurrent protection and power supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

Reliable Ground

A reliable ground (earth) must be maintained at all times. To ensure this, the rack itself should be grounded. Particular attention should be given to power supply connections other than the direct connections to the branch circuit (i.e. the use of power strips, etc.).

A-5 Rack Mounting Instructions

This chapter provides information on installing the switch into a rack unit with the CSE-PT52L rail kit. There are a variety of rack units on the market, which may mean the assembly procedure will differ slightly. You should also refer to the installation instructions that came with the rack unit you are using.



NOTE: This rail will fit a rack between 26" and 33.5" deep.

NOTE: Your switch may differ from the illustrations in this manual.

Identifying the Sections of the Rack Rails

The CSE-PT52L rail kit package includes two rack rail assemblies in the rack mounting kit. Each assembly consists of two sections: a fixed inner rail that secures directly to the side of the switch, and a fixed outer rail that secures directly to the rack itself. See Figure A-1 below for details.

Figure A-1. Identifying the Sections of the Rack Rails



Separating the Sections of the Rails

The CSE-PT52L rail kit ships with the front inner rail attached to the front outer rail. These must be separated prior to installation in the rack. Use the procedure below to separate the rails.

Separating the Rails

- 1. Separate the inner rail from the outer rail by depressing the black plastic flange inside the inner rail. This will release the outer rail.
- 2. Silde the inner rail forward and out of the outer rail.
- 3. The CSE-PT52L rail kit also includes a set of inner rail extensions. Only the inner rails are required and you may discard the inner rail extensions.

Installing the Inner Rails

Use the procedure below and Figure A-2 to install the inner rails.

Installing the Inner Rails on the Switch

- 1. Place one of the inner rails on one side of the switch aligning the hook on the side of the switch with the mounting hole in the rail. Make sure the inner rail faces outward, as illustrated below.
- 2. Slide the inner rail forward so that the rail fits securely into the hook on the side of the switch.
- 3. Secure the inner rail to the switch with one screw as illustrated below.
- 4. Repeat steps 1-2 for the remaining inner rail.





Installing the Outer Rails

Use the procedure, Figure A-3 and Figure A-4 below to assemble and install the outer rails on the rack.

Installing the Outer Rails on the Rack

- 1. Attach the shorter outer rail to the outside of the longer outer rail. You must align the pins with the slides. Also, both bracket ends must face the same direction.
- 2. Adjust both the shorter and longer brackets to the proper length so that the rail fits snugly into the rack.
- 3. Secure the long bracket to the front side of the rack with two M5 screws and the short bracket to the rear side of the rack with three M5 screws.
- 4. Repeat steps 1-4 for the remaining outer rail.







Figure A-4. Installing the Outer Rails onto the Rack

Installing the Switch into a Rack

Use the procedure and Figure A-5 below to install the switch into a rack.

Installing the Switch

- 1. Confirm that inner rails have been secured to the switch.
- 2. Confirm that the outer rails are installed on the rack.
- 3. Align the ends of the inner rails on the switch with the front of the outer rails on the rack.
- 4. Slide the inner rails into the outer rails, keeping the pressure even on both sides (you may have to depress the locking tabs when inserting). When the switch has been pushed completely into the rack, you should hear the locking tabs click into the locked position.
- 5. (Optional) Insert and tighten the thumb screws which secure the front of the switch to the rack.



Figure A-5. Installing the Switch into a Rack

Installing the Switch into a Telco Rack

To install the switch into a Telco (post style) rack, use two L-shaped brackets on either side of the switch (four total). First, determine how far the switch will extend out the front of the rack. Larger switches should be positioned to balance the weight between front and back. Attach the two front brackets to each side of the switch, then position the two rear brackets with just enough space to accommodate the width of the telco rack. Finish by sliding the switch into the rack and tightening the brackets to the rack. See Figure A-6 for details.



Figure A-6. Installing the Switch into a Telco Rack

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