Appendix A
Network Monitoring

This chapter provides a general overview of monitoring tools supported on the HP 9304M, HP 9308M, and HP 6208M-SX routing switches and the HP 6208M-SX switch. Configuration examples are provided using the CLI and Web management interfaces.

RMON Support

The HP 9304M, HP 9308M, and HP 6208M-SX routing switches and the HP 6208M-SX switch come standard with an RMON agent that supports the following groups. The group numbers come from the RMON specification (RFC 1757).

- Statistics (RMON Group 1)
- History (RMON Group 2)
- Alarms (RMON Group 3)
- Events (RMON Group 9)

The CLI allows you to make configurations changes to the control data for these groups but you need a separate RMON application to view and display the data graphically.

Statistics (RMON Group 1)

Count information on multicast and broadcast packets, total packets sent, undersized and oversized packets, CRC alignment errors, jabbers, collision, fragments and dropped events is collected for each port on a device.

No configuration is required to activate collection of statistics for the device. This activity is by default automatically activated at system start-up.

USING THE CLI

You can view a textual summary of the statistics for all ports by entering the following CLI command:

Syntax: show rmon statistics

NOTE: To see RMON statistics for an individual port only, enter the following command noting a specific port entry number: **show rmon statistics** <entry-number>.

USING THE WEB MANAGEMENT INTERFACE

To view the RMON statistics for the system:

1. Log on to the device using a valid user name and password for read-only or read-write access. The System configuration dialog is displayed.
2. Click on the plus sign next to Monitor in the tree view to expand the list of monitoring options.
3. Click on the plus sign next to Port in the tree view to expand the list of Port option links.
4. Click on the Statistics link to display the Port Statistic table.
5. Click on the RMON Ethernet Statistics link to display the RMON Ethernet Statistics table.

To see RMON statistics for an individual port only, enter the following command:

USING THE CLI

Syntax: show rmon statistics <portnum>

NOTE: The number of entries in a RMON statistics table directly corresponds to the number of ports on a system. For example, if the system is a 26 port device, there will be 26 entries in the statistics display.

USING THE WEB MANAGEMENT INTERFACE

This display is not supported on the Web management interface.

History (RMON Group 2)

All active ports by default will generate two history control data entries per active port. An active port is defined as one with a link up. If the link goes down the two entries are automatically be deleted.

Two history entries are generated:

- a sampling of statistics every 30 seconds
- a sampling of statistics every 30 minutes

The history data can be accessed and displayed using any of the popular RMON applications

USING THE CLI

A sample RMON history command and its syntax is shown below:

```
HP9300(config)# rmon history 1 interface 1 buckets 10 interval 10 owner nyc02
```

Syntax: rmon history <entry-number> interface <portnum> buckets <num> interval <sampling-interval> owner <text-string>

You can modify the sampling interval and the bucket (number of entries saved before overwrite) using the CLI. In the above example, owner refers to the RMON station that will request the information.

NOTE: To review the control data entry for each port or interface, enter the **show rmon history** command.

USING THE WEB MANGEMENT INTERFACE

1. Log on to the device using a valid user name and password for read-only or read-write access. The System configuration dialog is displayed.
2. Click on the plus sign next to Monitor in the tree view to expand the list of monitoring options.
3. Click on the plus sign next to Port in the tree view to expand the list of Port option links.
4. Click on the Statistics link to display the Port Statistic table.
5. Click on the History link to display the RMON Ethernet History table.

Alarm (RMON Group 3)

Alarm is designed to monitor configured thresholds for any SNMP integer, time tick, gauge or counter MIB object. Using the CLI, you can define what MIB objects are monitored, the type of thresholds that are monitored (falling, rising or both), the value of those thresholds, and the sample type (absolute or delta).

An alarm event is reported each time that a threshold is exceeded. The alarm entry also indicates the action (event) to be taken if the threshold be exceeded.

USING THE CLI

A sample CLI alarm entry and its syntax is shown below:

```
rmon alarm 1 ifInOctets.6 10 delta rising-threshold 100 1 falling threshold 50 1
owner nyc02
```

Syntax: rmon alarm <entry-number> <MIB-object.interface-number> <sampling-time> <sample-type> <threshold-type> <threshold-value> <event-number> <threshold-type> <threshold-value> <event-number> owner <text-string>

USING THE WEB MANGEMENT INTERFACE

This display is not supported on the Web management interface.

Event (RMON Group 9)

There are two elements to the Event Group—the ***event control table*** and the ***event log table***.

The event control table defines the action to be taken when an alarm is reported. Defined events can be found by entering the CLI command, show event. The Event Log Table collects and stores reported events for retrieval by an RMON application.

USING THE CLI

A sample entry and syntax of the event control table is shown below:

```
rmon event 1 description 'testing a longer string' log-and-trap public owner nyc02
```

Syntax: rmon event <event-entry> description <text-string> log | trap | log-and-trap owner <rmon-station>

USING THE WEB MANGEMENT INTERFACE

This display is not supported on the Web management interface.

Changing the Web Management Polling Interval

By default, the Web management interface polls for port, RMON, and spanning tree statistics every 30 seconds. You can change the interval using the following procedure:

1. Log on to the device using a valid user name and password for read-write access. The System configuration dialog is displayed.
2. Click on the Management link.
3. Click on the Web Preference link.
4. Edit the values in the fields in the Polling Time in Seconds section of the panel as desired.
5. Click Apply.

Viewing System Information

You can access software and hardware specifics for a switch or routing switch.

USING THE CLI

To view the software and hardware details for the system, enter the **show version** command:

Syntax: show version

USING THE WEB MANAGEMENT INTERFACE

1. Log on to the device using a valid user name and password for read-only or read-write access. The System configuration dialog is displayed.
2. Click on the plus sign next to Monitor in the tree view to expand the list of monitoring options.
3. Click on the Device link to display the Device Information panel.

Viewing the Configuration Information

You can view a variety of configuration details and statistics with the show option. The show option provides a convenient way to check configuration changes before saving them to flash.

The show options available will vary for switches and routing switches and by configuration level.

USING THE CLI

To determine the available show commands for the system or a specific level of the CLI, enter the following command:

```
HP9300# show ?
```

Syntax: show <option>

You also can enter “show” at the command prompt, then press the TAB key.

NOTE: For a complete summary of all available **show...** CLI commands and their displays, see the *Command Line Interface Reference*.

USING THE WEB MANAGEMENT INTERFACE

1. Log on to the device using a valid user name and password for read-only or read-write access. The System configuration dialog is displayed.
2. Click on the plus sign next to Monitor in the tree view to expand the list of monitoring options.
3. If needed, click on the plus sign next to a subcategory to display the monitoring links for that category.
4. Click on the link for the information you want to view.

Viewing Port Statistics

Port statistics are polled by default every 10 seconds.

USING THE CLI

You can view statistics for ports by entering the following **show** commands:

- show interfaces
- show configuration

USING THE WEB MANAGEMENT INTERFACE

To view the port statistics for all ports on a switch or routing switch:

1. Log on to the device using a valid user name and password for read-only or read-write access. The System configuration dialog is displayed.
2. Click on the plus sign next to Monitor in the tree view to expand the list of monitoring options.
3. Click on the plus sign next to Port to expand the list of port monitoring options.
4. Select the Statistic link.

Viewing STP Statistics

You can view a summary of STP statistics for switches and routing switches. STP statistics are by default polled every 10 seconds.

To modify this polling rate (when using the Web management interface), select the Preferences link from the main menu, and modify the STP field. You can disable polling by setting the field to zero.

USING THE CLI

To view spanning tree statistics, enter the **show span** command. To view STP statistics for a VLAN, enter the **span vlan** command.

USING THE WEB MANAGEMENT INTERFACE

1. Log on to the device using a valid user name and password for read-only or read-write access. The System configuration dialog is displayed.
2. Click on the plus sign next to Monitor in the tree view to expand the list of monitoring options.
3. Select the STP link.

Clearing Statistics

You can clear statistics for many parameters with the clear option.

USING THE CLI

To determine the available **clear** commands for the system, enter the following commands:

```
HP9300# clear ?
```

Syntax: clear <option>

You also can enter “clear” at the command prompt, then press the TAB key.

For a complete summary of all available **clear...** CLI commands and their displays, see the *Command Line Interface Reference*.

NOTE: Clear commands are found at the Privileged EXEC level.

USING THE WEB MANAGEMENT INTERFACE

You can clear statistics by doing the following:

1. Log on to the device using a valid user name and password for read-write access. The System configuration dialog is displayed.
2. Click on the plus sign next to Command in the tree view to expand the list of command options.
3. Click on the Clear link to display the Clear panel.
4. Select all items to be cleared.
5. Click Apply.