Configuring RMON

This chapter describes how to configure Remote Network Monitoring (RMON) on the Cisco ME 3400E Ethernet Access switch.

RMON is a standard monitoring specification that defines a set of statistics and functions that can be exchanged between RMON-compliant console systems and network probes. RMON provides you with comprehensive network-fault diagnosis, planning, and performance-tuning information.

Note For complete syntax and usage information for the commands used in this chapter, see the "System Management Commands" section in the *Cisco IOS Configuration Fundamentals Command Reference, Release 12.2*

This chapter consists of these sections:

Understanding RMON

RMON is an Internet Engineering Task Force (IETF) standard monitoring specification that allows various network agents and console systems to exchange network monitoring data. You can use the RMON feature with the Simple Network Management Protocol (SNMP) agent in the switch to monitor all the traffic flowing among switches on all connected LAN segments as shown in Figure 28-1.

Figure 28-1   Remote Monitoring Example
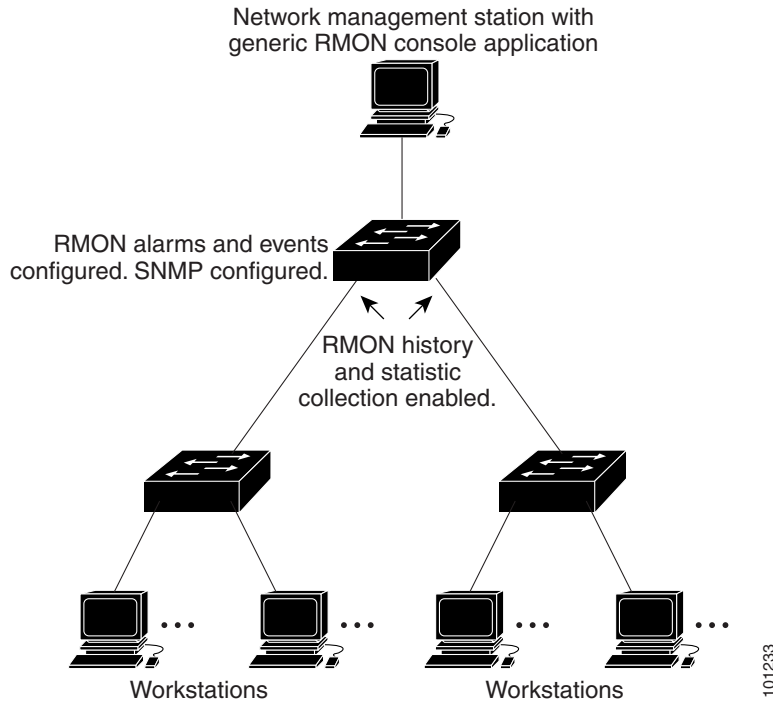
The switch supports these RMON groups (defined in RFC 1757):

Statistics (RMON group 1)—Collects Ethernet statistics (including Fast Ethernet and Gigabit Ethernet statistics, depending on the switch type and supported interfaces) on an interface.

History (RMON group 2)—Collects a history group of statistics on Ethernet ports (including Fast Ethernet and Gigabit Ethernet statistics, depending on the switch type and supported interfaces) for a specified polling interval.

Alarm (RMON group 3)—Monitors a specific management information base (MIB) object for a specified interval, triggers an alarm at a specified value (rising threshold), and resets the alarm at another value (falling threshold). Alarms can be used with events; the alarm triggers an event, which can generate a log entry or an SNMP trap.

Event (RMON group 9)—Specifies the action to take when an event is triggered by an alarm. The action can be to generate a log entry or an SNMP trap.

Because switches supported by this software release use hardware counters for RMON data processing, the monitoring is more efficient, and little processing power is required.

Configuring RMON

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Default RMON Configuration

Configuring RMON Alarms and Events

SNMP-compatible network management station. We recommend that you use a generic RMON console application on the network management station (NMS) to take advantage of the RMON network management capabilities. You must also configure SNMP on the switch to access RMON MIB objects. For more information, see Chapter 30, "Configuring SNMP."

Beginning in privileged EXEC mode, follow these steps to enable RMON alarms and events. This procedure is required.

	Command	Purpose
Step 1	configure terminal	
Step 2	rmon alarm *number variable interval* {**absolute** | **delta**} **rising-threshold** [*event-number*] [ ] [**owner**	absolute delta owner

Step 3	description log owner trap	
		description
		log
		owner
		trap
Step 4		
Step 5		Verify your entries.
Step 6	**copy running-config startup-config**	

no rmon event

rmon alarm *ifEntry.20.1*
seconds until the alarm is disabled and checks the change in the variable's rise or fall. If the *ifEntry.20.1*
value shows a MIB counter increase of 15 or more, such as from 100000 to 100015, the alarm is
triggered. The alarm in turn triggers event number 1, which is configured with the
command. Possible events can include a log entry or an SNMP trap. If the *ifEntry.20.1* value changes
by 0, the alarm is reset and can be triggered again.

```
Switch(config)# rmon alarm 10 ifEntry.20.1 20 delta rising-threshold 15 1
falling-threshold 0 owner jjohnson
```

High ifOutErrors
jjones

```
rmon event 1 log trap eventtrap description "High ifOutErrors" owner
jjones
```

Collecting Group History Statistics on an Interface

	Command	Purpose
Step 1		
Step 2		
Step 3		
Step 4	**buckets** *bucket-number* *seconds* *ownername*	*index* *bucket-number,* *seconds* *ownername*
Step 7		
Step 8		

index

Collecting Group Ethernet Statistics on an Interface

	Command	Purpose
Step 1		
Step 2		

	Command	**Purpose**
Step 3		
Step 4		•
		•
Step 5		
Step 6		
Step 7		
Step 8		

```
         interface fastethernet0/1
         no shutdown
Switch(config-if)#
```

Displaying RMON Status

Table 28-1   Commands for Displaying RMON Status

	Purpose