Configuring RMON

This chapter describes how to configure RMON on the Catalyst enterprise LAN switches.

For complete syntax and usage information for the commands that are used in this chapter, refer to the Catalyst 4500 Series, Catalyst 2948G, Catalyst 2948G-GE-TX, and Catalyst 2980G Switches Command Reference.

This chapter consists of these sections:

- Understanding How RMON Works, page 25-1
- Enabling RMON, page 25-2
- Viewing RMON Data, page 25-2
- Supported RMON and RMON2 MIB Objects, page 25-3

Understanding How RMON Works

RMON is an Internet Engineering Task Force (IETF) standard monitoring specification that allows various network agents and console systems to exchange network monitoring data. The supervisor engine software provides embedded support for these components of the RMON specification (see the “Supported RMON and RMON2 MIB Objects” section on page 25-3 for details):

- The following RMON groups are defined in RFC 1757:
  - Statistics (RMON group 1) for Ethernet, Fast Ethernet, Fast EtherChannel, and Gigabit Ethernet switch ports (uses 140 bytes of supervisor engine module RAM per port)
  - History (RMON group 2) for Ethernet, Fast Ethernet, Fast EtherChannel, and Gigabit Ethernet switch ports (uses 3 KB of supervisor engine module RAM for the first 50 buckets; each additional bucket uses another 56 bytes)
  - Alarm (RMON group 3; each alarm configured uses 1.3 KB of supervisor engine RAM)
  - Event (RMON group 9; each event configured uses 1.3 KB of supervisor engine RAM)

- The following RMON2 groups are defined in RFC 2021:
  - UsrHistory (RMON2 group 18)
  - ProbeConfig (RMON2 group 19)
Enabling RMON

Note

RMON is disabled by default.

To enable RMON, perform this procedure in privileged mode:

<table>
<thead>
<tr>
<th>Task</th>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enable RMON.</td>
<td>set snmp rmon enable</td>
</tr>
<tr>
<td>Verify that RMON is enabled.</td>
<td>show snmp</td>
</tr>
</tbody>
</table>

This example shows how to enable RMON and how to verify that RMON is enabled:

```
Console> (enable) set snmp rmon enable
SNMP RMON support enabled.
Console> (enable) show snmp
RMON:                       Enabled
Extended RMON:              Extended RMON module is not present
Traps Enabled:
Port,Module,Chassis,Bridge,Repeater,Vtp,Auth,ipppermit,Vmps,config,entity,stpx
Port Traps Enabled: 1/1-2,4/1-48,5/1
Community-Access Community-String
----------------     -------------------
read-only            Everyone
read-write           Administrators
read-write-all       Root
Trap-Rec-Address Trap-Rec-Community
------------------ ------------------------------------
172.16.10.10                               read-write
172.16.10.20                               read-write-all
```

Viewing RMON Data

Access to RMON data is available only on a network management system (NMS) that supports RFC 1757 and RFC 1513 (see the “Using CiscoWorks2000” section on page 24-17). You cannot access RMON data through the switch CLI; however, CLI `show` commands provide similar information (refer to the Catalyst 4500 Series, Catalyst 2948G, Catalyst 2948G-GE-TX, and Catalyst 2980G Switches Command Reference).
# Supported RMON and RMON2 MIB Objects

Table 25-1 lists the RMON and RMON2 MIB objects that are supported by the supervisor engine software.

<table>
<thead>
<tr>
<th>Module</th>
<th>Object Identifier (OID)</th>
<th>Definition</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor engine</td>
<td>...mib-2(1).rmon(16).statistics(1).etherStatsTable(1)</td>
<td>Counters for packets, octets, broadcasts, errors, etc.</td>
<td>RFC 1757</td>
</tr>
<tr>
<td>Supervisor engine</td>
<td>...mib-2(1).rmon(16).history(2).historyControlTable(1)</td>
<td>Periodically samples and saves statistics group counters for later retrieval.</td>
<td>RFC 1757</td>
</tr>
<tr>
<td>Supervisor engine</td>
<td>...mib-2(1).rmon(16).alarm(3)</td>
<td>A threshold set on critical RMON variables for network management.</td>
<td>RFC 1757</td>
</tr>
<tr>
<td>Supervisor engine</td>
<td>...mib-2(1).rmon(16).event(9)</td>
<td>Generates SNMP traps when an Alarms group threshold is exceeded and logs the events.</td>
<td>RFC 1757</td>
</tr>
<tr>
<td>Supervisor engine</td>
<td>...mib-2(1).rmon(16).usrHistory(18)</td>
<td>Extends history beyond RMON1 link-layer statistics to include any RMON, RMON2, MIB-I, or MIB-II statistic.</td>
<td>RFC 2021</td>
</tr>
<tr>
<td>Supervisor engine</td>
<td>...mib-2(1).rmon(16).probeConfig(19)</td>
<td>Displays a list of agent capabilities and configurations.</td>
<td>RFC 2021</td>
</tr>
</tbody>
</table>
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Supported RMON and RMON2 MIB Objects