1 RMON Commands

Command	Function
rmon alarm	Configure the Remote Network Monitoring (RMON) alarm function.
rmon collection history	Configure the history statistics function on an Ethernet interface.
rmon collection stats	Configure the statistics function on an Ethernet interface.
rmon event	Configure an RMON event.
show rmon	Display all RMON information.
show rmon alarm	Display the alarm table information.
show rmon event	Display the event table information.
show rmon history	Display the history table information.
show rmon statistics	Display the Ethernet statistics information.

1.1 rmon alarm

Function

Run the **rmon alarm** command to configure the Remote Network Monitoring (RMON) alarm function.

Run the **no** form of this command to remove this configuration.

The RMON alarm function is not configured by default.

Syntax

rmon alarm *alarm-table-index alarm-variable sampling-interval* { **absolute** | **delta** } **rising-threshold** *ampling-rising-threshold-value* [*event-number*] **falling-threshold** *falling-threshold-value* [*event-number*] [**owner** *owner-name*]

no rmon alarm *alarm-table-index*

Parameter Description

alarm-table-index: Index number of an alarm table. The value range is from 1 to 65535.

alarm-variable: Alarm variable. The value is a string of 1 to 255 characters and is represented in the format of entry.integer.instance, for example, 1.3.6.1.2.1.2.1.10.1.

sampling-interval: Collection interval, in seconds. The value range is from 1 to 2147483647.

absolute | **delta**: Configures a collection type. **absolute** indicates absolute value sampling. That is, variable values are extracted directly when sampling starts. **delta** indicates changing value sampling. That is, changing values are extracted in the sampling interval when sampling starts.

rising-threshold *sampling-rising-threshold-value*: Configures an upper limit of sampled objects. The value range is from -2147483648 to 2147483647.

event-number: Index number of an event whose event number is *event-number* when the upper or lower limit is reached. The value range is from 1 to 65535.

falling-threshold *falling-threshold-value*: Configures a lower limit to sampled objects. The value range is from -2147483648 to 2147483647.

owner *owner-name*: Configures an entry creator. The value is a case-sensitive string of 1 to 63 characters.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

This command can be used to modify parameters of configured alarm entries, including alarm variable, sampling type, entry creator, sampling interval, upper/lower limit, and event.

Examples

The following example monitors the management information base (MIB) variable instance **ifInNUcastPkts.6**, sets the sampling interval to 60 seconds, and triggers event 1 when the variable value reaches the upper limit 20 or lower limit 10.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# rmon alarm 10 1.3.6.1.2.1.2.2.1.12.6 60 delta rising-threshold
20 1 falling-threshold 10 1 owner UserA
```

Notifications

- If the configuration you delete is not configured, the following notification will be displayed.
- If the upper limit is smaller than or equal to the lower limit, the following notification will be displayed.
- If the entered object OID is not improper, the following notification will be displayed.
- If the number of configured entries reaches the upper limit, the following notification will be displayed.
- If a memory application failed, the following notification will be displayed.

Common Errors

- The entered object OID is improper. For example, the variable corresponding to this OID is not configured or the OID type is not an integer or unsigned integer.
- The upper limit is smaller than or equal to the lower limit.

Platform Description

N/A

Related Commands

N/A

1.2 rmon collection history

Function

Run the **rmon collection history** command to configure the history statistics function on an Ethernet interface.

Run the **no** form of this command to remove this configuration.

The history statistics function is not configured on an Ethernet interface by default.

Syntax

rmon collection history *collection-history-table-index* [**buckets** *bucket-number*] [**interval** *period-time*] [**owner** *owner-name*]

no rmon collection history *collection-history-table-index*

Parameter Description

collection-history-table-index: Index number of a history control table. The value range is from 1 to 65535.

owner *owner-name*: Configures an entry creator. The value is a case-sensitive string of 1 to 63 characters.

buckets *bucket-number*: Configures the capacity of a history statistics table. The value range is from 1 to 65535. Actually, only 10 history entries are configured.

interval *period-time*: Configures a collection period, in seconds. The value range is from 1 to 3600, and the default value is **1800**.

Command Modes

Interface configuration mode

Default Level

14

Usage Guidelines

- It is not allowed to modify parameters of the configured history control entries.
- It is not allowed to delete history statistics entries configured on another interface on the local interface.

Examples

The following example configures the history statistics function on GigabitEthernet 0/1 and sets the capacity of the history statistics table to 5 and collection period to 60 seconds.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface gigabitEthernet 0/1
Hostname(config-GigabitEthernet0/1)# rmon collection history 1 owner UserA
buckets 5 interval 60
```

Notifications

- If the configuration you delete is not configured, the following notification will be displayed.
- If you modify parameters of the configured history control entries, the following notification will be displayed.
- If the number of configured entries reaches the upper limit, the following notification will be displayed.
- If a memory application failed, the following notification will be displayed.

Common Errors

The parameters of configured history control entries are reconfigured or modified.

Platform Description

N/A

Related Commands

N/A

1.3 rmon collection stats

Function

Run the **rmon collection stats** command to configure the statistics function on an Ethernet interface.

Run the **no** form of this command to remove this configuration.

The Ethernet statistics function is not configured on an Ethernet interface by default.

Syntax

rmon collection stats *collection-stats-table-index* [**owner** *owner-name*]

no rmon collection stats *collection-stats-table-index*

Parameter Description

collection-stats-table-index: Index number of a statistics entry. The value range is from 1 to 65535.

owner *owner-name*: Configures an entry creator. The value is a case-sensitive string of 1 to 63 characters. Space is not supported.

Command Modes

Interface configuration mode

Default Level

14

Usage Guidelines

- It is not allowed to modify parameters of configured statistics entries.
- It is not allowed to delete history statistics entries configured on another interface on the local interface.

Examples

The following example configures the statistics function on GigabitEthernet 0/1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# interface gigabitEthernet 0/1
Hostname(config-GigabitEthernet0/1)# rmon collection stats 1 owner UserA
```

Notifications

- If the configuration you delete is not configured, the following notification will be displayed.
- If you modify parameters of the configured statistics entries, the following notification will be displayed.
- If the number of configured entries reaches the upper limit, the following notification will be displayed.
- If a memory application failed, the following notification will be displayed.

Common Errors

The parameters of configured statistics entries are reconfigured or modified.

Platform Description

N/A

Related Commands

N/A

1.4 rmon event

Function

Run the **rmon event** command to configure an RMON event.

Run the **no** form of this command to remove this configuration.

No RMON event is configured by default.

Syntax

rmon event *event-table-index* [**description** *description-string*] [**log**] [**owner** *owner-name*] [**trap** *community*]

no rmon event *event-table-index*

Parameter Description

event-table-index: Index number of an event table. The value range is from 1 to 65535.

description d*escription-string*: Configures description of an event. The value is a string of 1 to 127 characters.

log: Specifies a log event. When a log event is triggered, the system generates a record in the log. The default number of log records is 10. If a new record is generated, the earliest record is deleted.

owner *owner-name*: Configures an entry creator. The value is a case-sensitive string of 1 to 63 characters.

trap *community*: Specifies a Trap event. When a Trap event is triggered, the system sends a Trap message with the community name *community*.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

This command can be used to modify parameters of configured event entries, including event table type, community name, creator, and description.

Examples

The following example defines actions of an event: generating an event record "ifInNUcastPkts is abnormal" and sending a Trap message with the community name being public.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# rmon event 1 log trap public description "ifInNUcastPkts is
abnormal" owner UserA
```

Notifications

- If the configuration you delete is not configured, the following notification will be displayed.
- If the number of configured entries reaches the upper limit, the following notification will be displayed.
- If a memory application failed, the following notification will be displayed.

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.5 show rmon

Function

Run the **show rmon** command to display all RMON information.

Syntax

show rmon

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display all RMON information, including all alarm entries, event entries, event record entries, history control entries, history record entries, and statistics entries.

Examples

The following example displays all RMON information.

```
Hostname> enable
Hostname# show rmon
ether statistic table:
                  index = 1
                  interface = GigabitEthernet 0/1
                  owner = admin
                  status = 0
                  dropEvents = 61
                  octets = 170647461
                  pkts = 580375
                  broadcastPkts = 2135
                  multiPkts = 3615
                  crcAlignErrors = 0
                  underSizePkts = 0
                  overSizePkts = 0
                  fragments = 0
                  jabbers = 0
                  collisions = 0
                  packets64Octets = 3254668
                  packets65To127Octets = 1833370
```

```
                    packets128To255Octets = 2098146
                    packets256To511Octets = 126716
                    packets512To1023Octets = 363621
                    packets1024To1518Octets = 1077865
rmon history control table:
                    index = 1
                    interface = GigabitEthernet 0/1
                    bucketsRequested = 5
                    bucketsGranted = 5
                    interval = 60
                    owner = UserA
                    stats = 1
rmon history table:
                    index = 1
                    sampleIndex = 2485
                    intervalStart = 7d:22h:56m:38s
                    dropEvents = 0
                    octets = 5840
                    pkts = 27
                    broadcastPkts = 0
                    multiPkts = 0
                    crcAlignErrors = 0
                    underSizePkts = 0
                    overSizePkts = 0
                    fragments = 0
                    jabbers = 0
                    collisions = 0
                    utilization = 0
……
rmon alarm table:
                    index: 1
                    interval: 60
                    oid = 1.3.6.1.2.1.2.2.1.12.6
                    sampleType: 2
                    alarmValue: 0
                    startupAlarm: 3
                    risingThreshold: 20
                    fallingThreshold: 10
                    risingEventIndex: 1
                    fallingEventIndex: 1
                    owner: UserA
                    status: 1
rmon event table:
                    index = 1
                    description = ifInNUcastPkts is abnormal
                    type = 4
```

```
                    community = public
                    lastTimeSent = 0d:0h:0m:0s
                    owner =UserA
                    status = 1
rmon log table:
                    eventIndex = 1
                    index = 1
                    logTime = 6 d:19 h:21 m:48 s
                    logDescription = ifInNUcastPkts is abnormal
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.6 show rmon alarm

Function

Run the **show rmon alarm** command to display the alarm table information.

Syntax

show rmon alarm

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays the alarm table information.

```
Hostname> enable
Hostname# show rmon alarm
```

```
rmon alarm table:
                  index: 1
                  interval: 60
                  oid = 1.3.6.1.2.1.2.2.1.12.6
                  sampleType: 2
                  alarmValue: 0
                  startupAlarm: 3
                  risingThreshold: 20
                  fallingThreshold: 10
                  risingEventIndex: 1
                  fallingEventIndex: 1
                  owner: UserA
                  status: 1
```

Table 1-1Output Fields of the show rmon alarm Command

Field	Description
rmon alarm table	Alarm table
index	Index of an alarm table
interval	Sampling comparison interval
oid	Object OID
sampleType	Comparison type: delta or absolute
alarmValue	Object value
startupAlarm	Alarm type, for example, upper limit alarm
risingThreshold	Upper limit
fallingThreshold	Lower limit
risingEventIndex	Index of an event corresponding to the upper limit
fallingEventIndex	Index of an event corresponding to the lower limit
owner	Entry creator
status	Entry state

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.7 show rmon event

Function

Run the **show rmon event** command to display the event table information.

Syntax

show rmon event

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays the event table information.

```
Hostname> enable
Hostname# show rmon event
rmon event table:
                   index = 1
                   description = ifInNUcastPkts is abnormal
                   type = 4
                   community = public
                   lastTimeSent = 0d:0h:0m:0s
                   owner =UserA
                   status = 1
rmon log table:
                   eventIndex = 1
                   index = 1
                   logTime = 6d:19h:21m:48s
                   logDescription = ifInNUcastPkts is abnormal
```

Table 1-1Output Fields of the show rmon event Command

Field	Description
rmon event table	Event table
index	Index of an event table

Field	Description
description	Description of an event table
type	Comparison type: delta or absolute
community	SNMP community name
lastTimeSent	Generation time of the last log message
owner	Entry creator
status	Entry state
rmon log table	Log table
eventIndex	Index of an event table
logTime	Logging time corresponding to an event table
logDescription	Log description

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.8 show rmon history

Function

Run the **show rmon history** command to display the history table information.

Syntax

show rmon history

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays the history group information.

```
Hostname> enable
Hostname# show rmon history
rmon history control table:
                  index = 1
                  interface = GigabitEthernet 0/1
                  bucketsRequested = 5
                  bucketsGranted = 5
                  interval = 60
                  owner = UserA
                  stats = 1
rmon history table:
                  index = 1
                  sampleIndex = 2485
                  intervalStart = 7d:22h:56m:38s
                  dropEvents = 0
                  octets = 5840
                  pkts = 27
                  broadcastPkts = 0
                  multiPkts = 0
                  crcAlignErrors = 0
                  underSizePkts = 0
                  overSizePkts = 0
                  fragments = 0
                  jabbers = 0
                  collisions = 0
                  utilization = 0
```

Table 1-1Output Fields of the show rmon history Command

Field	Description
rmon history control table	History statistics control table
index	Index of a history statistics control table
interface	Interface name
bucketsRequested	Number of requests
bucketsGranted	Capacity of history entries allowed

Field	Description
interval	Sampling interval
owner	Entry creator
stats	Entry state
rmon history table	History statistics table
sampleIndex	Index of a history table
intervalStart	Generation time
dropEvents	Number of received packets that are lost due to insufficient resources
octets	Number of received bytes
pkts	Number of received packets
broadcastPkts	Number of received broadcast packets
multiPkts	Number of received multicast packets
crcAlignErrors	Number of packets with CRC errors
underSizePkts	Number of packets in the correct format and with a length being less than 64 bytes
overSizePkts	Number of packets in the correct format and with a length being more than 1,518 bytes
fragments	Number of packets with a length being less than 64 bytes and with CRC or alignment errors
jabbers	Number of packets with a length being more than 1,518 bytes and with CRC or alignment errors
collisions	Total number of conflicts
utilization	Network utilization

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.9 show rmon statistics

Function

Run the **show rmon statistics** command to display the Ethernet statistics information.

Syntax

show rmon statistics

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays the Ethernet statistics information.

```
Hostname> enable
Hostname# show rmon statistics
ether statistic table:
                  index = 1
                  interface = GigabitEthernet 0/1
                  owner = admin
                  status = 0
                  dropEvents = 61
                  octets = 170647461
                  pkts = 580375
                  broadcastPkts = 2135
                  multiPkts = 3615
                  crcAlignErrors = 0
                  underSizePkts = 0
                  overSizePkts = 0
                  fragments = 0
                  jabbers = 0
                  collisions = 0
                  packets64Octets = 3254668
                  packets65To127Octets = 1833370
                  packets128To255Octets = 2098146
                  packets256To511Octets = 126716
                  packets512To1023Octets = 363621
                  packets1024To1518Octets = 1077865
```

Table 1-1Output Fields of the show rmon statistics Command

Field	Description
ether statistic table	Ethernet statistics table
Index	Index of an Ethernet statistics table
Interface	Interface name
Owner	Entry creator
Status	Entry state
dropEvents	Number of received packets that are dropped due to insufficient resources
octets	Number of received bytes
pkts	Number of received packets, including error packets, broadcast packets, and multicast packets
broadcastPkts	Number of received broadcast packets
multiPkts	Number of received multicast packets
crcAlignErrors	Number of packets with CRC and frame alignment errors
underSizePkts	Number of received packets in the correct format and with a length being less than 64 bytes
overSizePkts	Number of received packets in the correct format and with a length being more than 1,518 bytes
fragments	Number of received packets with a length being less than 64 bytes and with CRC or frame alignment errors
jabbers	Number of received packets with a length being more than 1,518 bytes and with CRC or frame alignment errors
collisions	Total number of conflicts
packets64Octets	Number of 64-byte packets, including packets with errors
packets65To127Octets	Number of packets with a length from 64 bytes to 127 bytes, including packets with errors
packets128To255Octets	Number of packets with a length from 128 bytes to 255 bytes, including packets with errors
packets256To511Octets	Number of packets with a length from 256 bytes to 511 bytes, including packets with errors
packets512To1023Octets	Number of packets with a length from 512 bytes to 1023 bytes, including packets with errors
packets1024To1518Octet	Number of packets with a length from 1,024 bytes to 1,518 bytes, including

Field	Description
s	packets with errors

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A