Network Management Configuration Commands

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1 SNMP Commands

1.1 no snmp-server

Use this command to disable the SNMP agent function.

no snmp-server

Parameter Description

Parameter	Description
N/A	N/A

Defaults SNMP agent is enabled by default.

Command mode Global configuration mode.

Usage Guide This command disables the SNMP agent services of all versions supported on the device.

Configuration Examples The following example disables the SNMP agent.

```
Orion_B54Q(config)# no snmp-server
```

Related Commands

Command	Description
N/A	N/A

Platform Description N/A

1.2 show snmp

Use this command to display the SNMP configuration.

show snmp [**mib** | **user** | **view** | **group| host | process-mib-time**]

Parameter Description

Parameter	Description
mib	Displays the SNMP MIBs supported.
user	Displays the SNMP user information.
view	Displays the SNMP view information.
group	Displays the SNMP user group information.
host	Displays the explicit host configuration.
process-mib-time	Displays the MIB node requiring the longest processing time.

Defaults N/A

Command mode Privileged EXEC mode.

Usage Guide N/A

Configuration Examples The example below displays the SNMP configuration:

```
Orion_B54Q# show snmp
Chassis: 60FF60
0 SNMP packets input
        0 Bad SNMP version errors
        0 Unknown community name
        0 Illegal operation for community name supplied
        0 Encoding errors
        0 Number of requested variables
        0 Number of altered variables
        0 Get-request PDUs
        0 Get-next PDUs
        0 Set-request PDUs
0 SNMP packets output
        0 Too big errors (Maximum packet size 1472)
        0 No such name errors
        0 Bad values errors
        0 General errors
        0 Response PDUs
        0 Trap PDUs
SNMP global trap: disabled
SNMP logging: disabled
SNMP agent: enabled
```

Related Commands

Command	Description
snmp-server chassis-id	Specifies the SNMP system sequence number.

Platform Description N/A

1.3 snmp trap link-status

Use this command to enable the interface to send link traps. Use the **no** form of this command to disable the interface to send link traps.

snmp trap link-status

no snmp trap link-status

Parameter Description

Parameter	Description

N/A	N/A

Defaults Sending link traps on the interface is enabled by default. If the interface link status changes, SNMP link traps will be sent.

Command mode Interface configuration mode

Usage Guide This command can be configured on the Ethernet interface, aggregate ports and SVI interfaces.

Configuration Examples The following example disables the interface to send link traps.

```
Orion_B54Q(config)# interface gigabitEthernet 1/1
Orion_B54Q(config-if-GigabitEthernet 1/1)# no snmp trap link-status
```

The following example enables the interface to send link traps.

```
Orion_B54Q(config)# interface gigabitEthernet 1/1
Orion_B54Q(config-if-GigabitEthernet 1/1)# snmp trap link-status
```

Related Commands

Command	Description
N/A	N/A

Platform Description N/A

1.4 snmp-server chassis-id

Use this command to specify the SNMP chassis ID. Use the **no** form of this command to restore the default chassis ID.

snmp-server chassis-id *text*

no snmp-server chassis-id

Parameter Description

Parameter	Description
text	SNMP chassis ID: numerals or characters.

Defaults The default is 60FF60.

Command mode Global configuration mode.

Usage Guide The SNMP chassis ID is generally the serial number of the device to facilitate identification. The SNMP chassis ID can be displayed through the **show snmp** command.

Configuration Examples The following example specifies the SNMP chassis ID as 123456:

```
Orion_B54Q(config)# snmp-server chassis-id 123456
```

Related Commands

Command	Description
show snmp	Displays the SNMP configuration.

Platform Description N/A

1.5 snmp-server community

Use this command to specify the SNMP community access string. Use the **no** form of this command to remove the SNMP community access string.

snmp-server community [0 | 7] *string* [**view** *view-name*] [[**ro** | **rw**] [**host** *ipaddr*] [**ipv6** *ipv6-aclname*] [*aclnum*] [*aclname*]

no snmp-server community [0 | 7] *string*

Parameter Description

Parameter	Description
0	Indicates that the community string is in plaintext.
7	Indicates that the community string is in ciphertext.
string	Community string, which is the communication password between the NMS and the SNMP agent
view-name	View name
ro	Indicates that the NMS can only read the variables of the MIB.
rw	Indicates that the NMS can read and write the variables of the MIB.
aclnum	Access list number (1 to 199, and 1300 to 2699), which specifies the IPV4 addresses that are permitted to access the MIB.
aclname	Access list name, which specifies the IPV4 addresses that are permitted to access the MIB.
ipv6-aclname	IPv6 access list name, which specifies the IPv6 addresses that are permitted to access the MIB.
ipaddr	Specifies the IP address of the NMS to access the MIB.

Defaults All communities are read only by default.

Command mode Global configuration mode.

Usage Guide This command is an essential command to enable the SNMP agent function, such as specifying the community attribute and IP addresses of NMS to access the MIB.

To disable the SNMP agent function, use the **no snmp-server** command.

Configuration Examples The following example defines a SNMP community access string named public, which can be read-only.

```
Orion_B54Q(config)# snmp-server community public ro
```

Related Commands

Command	Description
access-list	Defines an access list.

Platform Description N/A

1.6 snmp-server contact

Use this command to specify the system contact string. Use the **no** form of this command to remove the system contact string.

snmp-server contact *text*

no snmp-server contact

Parameter Description

Parameter	Description
text	Defines a system contact string.

Defaults No system contact string is set by default.

Command mode Global configuration mode.

Usage Guide N/A

Configuration Examples The following example specifies the SNMP system contract i-net800@i-net.com:

```
Orion_B54Q(config)# snmp-server contact i-net800@i-net.com
```

Related Commands

Command	Description
show snmp-server	Displays the SNMP configuration.
no snmp-server	Disables the SNMP agent function.

Platform Description N/A

1.7 snmp-server enable traps

Use this command to enable the SNMP agent to send the SNMP trap massage to NMS. Use the **no** form of this command to disable the SNMP agent to send the SNMP trap massage to NMS.

snmp-server enable traps [*notification-type*]

no snmp-server enable traps

Parameter Description

Parameter	Description

notification-type	Specifies the type of trap messages. snmp: SNMP trap message bgp: BGP trap message. bridge: Bridge trap message. isis: ISIS trap message. mac-notification: MAC trap message. ospf: OSPF trap message. urpf: uRPF trap message. vrrp: VRRP trap message. web-auth: Web authentication trap message.

Defaults Sending trap message to the NMS is disabled by default.

Command mode Global configuration mode.

Usage Guide This command must be used together with the **snmp-server host** command to send the trap message. Specifying no trap type indicates all trap messages are sent.

Configuration Examples The following example enables the SNMP agent to send the SNMP trap message.

```
Orion_B54Q(config)# snmp-server enable traps snmp
Orion_B54Q(config)# snmp-server host 192.168.12.219 public snmp
```

Related Commands

Command	Description
snmp-server host	Specifies the SNMP host to send the SNMP trap message.

Platform Description N/A

1.8 snmp-server flow-control

Use this command to configure the SNMP flow control. Use the **no** form of this command to remove restore the default setting.

snmp-server flow-control pps [*count*]

no snmp-server flow-control pps

Parameter Description

Parameter	Description
count	Indicates the number of SNMP requests processed per second, ranging from 50 to 65,535.

Defaults The default count is 300.

Command Global configuration mode.

mode

Usage Guide N/A

Configuration Examples The following example configures the number of SNMP requests processed per second to 200.

```
Orion_B54Q(config)# snmp-server flow-control pps 200
```

Related Commands

Command	Description
N/A	N/A

Platform Description N/A

1.9 snmp-server group

Use this command to configure a new SNMP group**.** Use the **no** form of this command to remove a specified SNMP group.

snmp-server group *groupname* { **v1** | **v2c** | **v3** { **auth** | **noauth** | **priv** } } [**read** *readview*] [**write** *writeview*] [**access** { [**ipv6** *ipv6_aclname* | *aclnum* | *aclname* }]

no snmp-server group *groupname* {**v1** | **v2c** | **v3** { **auth** | **noauth** | **priv** } }

Parameter Description

Parameter	Description
v1 | **v2c** | **v3**	Specifies the SNMP version
auth	Specifies authentication of a packet without encrypting it. This applies to SNMPv3 only.
noauth	Specifies no authentication a packet. This applies to SNMPv3 only.
priv	Specifies authentication of a packet with encryption. This applies to SNMPv3 only.
readview	Specifies a read-only view for the SNMP group. This view enables you to view only the contents of the agent.
writeview	Specifies a write view for the SNMP group. This view enables you to enter data and configure the contents of the agent.
aclnum	Access list number, which specifies the IPV4 addresses that are permitted to access the MIB.
aclname	Name of the access list, which specifies the IPV4 addresses that are permitted to access the MIB.
ipv6_aclname	Name of the IPv6 access list, which specifies the IPv6 addresses that are permitted to access the MIB.

Defaults No SNMP groups are configured by default.

Command mode Global configuration mode.

Usage Guide N/A

Configuration Examples The following example configures a new SNMP group.

```
Orion_B54Q(config)# snmp-server group mib2user v3 priv read mib2
```

Related Commands

Command	Description
show snmp group	Displays the SNMP group configuration.

Platform Description N/A

1.10 snmp-server host

Use this command to specify the SNMP host (NMS) to send the trap message. Use the **no** form of this command to remove the specified SNMP host.

snmp-server host { *host-addr* | **ipv6** *ipv6-addr* } [**vrf** *vrfname*] [**traps | informs**] [**version** { **1** | **2c** | **3** [**auth** | **noauth** | **priv**]] *community-string* [**udp-port** *port-num*] [*notification-type*]

no snmp-server host { *host-addr* | **ipv6** *ipv6-addr* } [**vrf** *vrfname*] [**traps | informs**] [**version** { **1** | **2c** | **3** { **auth** | **noauth** | **priv** }] *community-string* [**udp-port** *port-num*]

Parameter Description

Parameter	Description
host-addr	SNMP host address
ipv6-addr	SNMP host address(ipv6)
vrfname	Set the name of vrf forwarding table
**trap	informs**	Enables the host to send the SNMP notification as traps or informs.
version	SNMP version: V1, V2C or V3
auth	**noauth**	**priv**	Security level of SNMPv3 users
community-string	Community string or username (SNMPv3 version)
port-num	Port of the SNMP host
notification-type	The type of the SNMP trap message, such as **snmp**. If no type of the SNMP trap message is specified, all types of the SNMP trap message will be included.

Defaults No SNMP host is specified by default.

Command mode Global configuration mode.

Usage Guide This command must be used together with the **snmp-server enable traps** command to send the SNMP trap messages to NMS.

Multiple SNMP hosts can be configured to receive the SNMP trap messages. One host can use different combinations of the types of the SNMP trap message, but the last configuration for the

same host will overwrite the previous configurations. In other words, to send different SNMP trap messages to the same host, different combination of SNMP trap messages can be configured.

Configuration Examples The following example specifies an SNMP host to receive the SNMP event trap:

```
Orion_B54Q(config)# snmp-server host 192.168.12.219 public snmp
```

Related Commands

Command	Description
snmp-server enable traps	Enables the SNMP agent to send the SNMP trap message.

Platform Description N/A

1.11 snmp-server location

Use this command to set the system location string. Use the **no** form of this command to remove the system location string.

snmp-server location *text*

no snmp-server location

Parameter Description

Parameter	Description
text	String that describes the system location information.

Defaults No system location string is set by default.

Command mode Global configuration mode.

Usage Guide N/A

Configuration Examples The following example sets the system location information:

```
Orion_B54Q(config)# snmp-server location start-technology-city 4F of A Buliding
```

Related Commands

Command	Description
snmp-server contact	Sets the system contact information.

Platform Description N/A

1.12 snmp-server net-id

Use this command to configure the network element coding information of the device. Use the **no**

form of this command to remove the network element coding information.

snmp-server net-id *text*

no snmp-server net-id

Parameter Description

Parameter	Description
text	Configures the network element coding information of the device. The text length ranges from 1 to 255. The text is case-sensitive, and may contain spaces.

Defaults No network element coding information is configured by default.

Command mode Global configuration mode.

Usage Guide N/A

Configuration Examples The following example configures the network element coding text to FZ_CDMA_MSC1.

```
Orion_B54Q(config)# snmp-server net-id FZ_CDMA_MSC1
```

Related Commands

Command	Description
N/A	N/A

Platform Description N/A

1.13 snmp-server packetsize

Use this command to specify the largest size of the SNMP packet. Use the **no** form of this command to restore the default value.

snmp-server packetsize *byte-count*

no snmp-server packetsize

Parameter Description

Parameter	Description
byte-count	Packet size. The range is from 484 to 17,876 bytes

Defaults The default is 1,472 bytes.

Command mode Global configuration mode.

Usage Guide The following example specifies the largest size of SNMP packet as 1,492 bytes:

```
Orion_B54Q(config)# snmp-server packetsize 1492
```

Configuration Examples N/A

Related Commands

Command	Description
snmp-server queue-length	Specifies the length of the message queue for each SNMP trap host.

Platform Description N/A

1.14 snmp-server queue-length

Use this command to specify the length of the message queue for each SNMP trap host. Use the **no** form of this command to restore the default value.

snmp-server queue-length *length*

no snmp-server queue-length

Parameter Description

Parameter	Description
length	Queue length. The range is from 1 to 1000.

Defaults The default is 10.

Command mode Global configuration mode.

Usage Guide Use this command to adjust the length of message queue for each SNMP trap host for the purposes of controlling the speed of sending the SNMP trap messages.

Configuration Examples The following example specifies the length of message queue as 100.

```
Orion_B54Q(config)# snmp-server queue-length 100
```

Related Commands

Command	Description
snmp-server packetsize	Specifies the largest size of the SNMP packet.

Platform Description N/A

1.15 snmp-server system-shutdown

Use this command to enable the SNMP message reload function. Use the **no** form of this command to disable the SNMP message reload function.

snmp-server system-shutdown

no snmp-server system-shutdown

Parameter Description

Parameter	Description
N/A	N/A

Defaults The SNMP message reload function is disabled by default.

Command mode Global configuration mode.

Usage Guide Use this command to enable the SNMP message reload function which may enable the system to send the device reload traps to the NMS before the device is reloaded or rebooted.

Configuration Examples The following example enables the SNMP message reload function:

```
Orion_B54Q(config)# snmp-server system-shutdown
```

Related Commands

Command	Description
N/A	N/A

Platform Description N/A

1.16 snmp-server trap-format private

Use this command to configure the SNMP traps with private fields. Use the **no** form of this command to restore the default trap format.

snmp-server trap-format private

no snmp-server trap-format private

Parameter Description

Parameter	Description
N/A	N/A

Defaults The private field is not carried in the SNMP trap by default.

Command mode Global configuration mode.

Usage Guide Use this command to configure the SNMP trap format with the private field. Currently, the supported data in the private field is alarm occurrence time. For the specific data type and range of each field, refer to Orion_B54Q-TRAP-FORMAT-MIB.mib file.

This command does not work if the traps are sent with SNMPv1.

Configuration Examples The following example configures the SNMP trap format with the private field.

```
Orion_B54Q(config)# snmp-server trap-format private
```

Related Commands

Command	Description
N/A	N/A

Platform Description N/A

1.17 snmp-server trap-source

Use this command to specify the source interface of the SNMP trap message. Use the **no** form of this command to restore the default value.

snmp-server trap-source *interface*

no snmp-server trap-source

Parameter Description

Parameter	Description
interface	Specifies the source interface of the SNMP trap messages.

Defaults By default, the IP address of the interface from which the SNMP packet is sent is just the source address.

Command mode Global configuration mode.

Usage Guide For easy management and identification, you can use this command to fix a local IP address as the SNMP source address.

Configuration Examples The following example specifies the IP address of Ethernet interface 0/1 as the source address of the SNMP trap message:

```
Orion_B54Q(config)# snmp-server trap-source fastethernet 0/1
```

Related Commands

Command	Description
snmp-server enable traps	Enables t the SNMP agent to send the SNMP trap massage to NMS.
snmp-server host	Specifies the NMS host to send the SNMP trap message.

Platform Description N/A

1.18 snmp-server trap-timeout

Use this command to define the retransmission timeout time of the SNMP trap message. Use the **no**

form of this command to restore the default value.

snmp-server trap-timeout *seconds*

no snmp-server trap-timeout

Parameter Description

Parameter	Description
seconds	Timeout (in seconds) of retransmit the SNMP trap message. The range is from 1 to 1,000.

Defaults The default is 30 seconds.

Command mode Global configuration mode.

Usage Guide N/A

Configuration Examples The following example specifies the timeout period as 60 seconds.

```
Orion_B54Q(config)# snmp-server trap-timeout 60
```

Related Commands

Command	Description
snmp-server queue-length	Specifies the length of message queue for the SNMP trap host.
snmp-server host	Specifies the NMS host to send the SNMP trap message.
snmp-server trap-source	Specifies the source address of the SNMP trap message.

Platform Description N/A

1.19 snmp-server udp-port

Use this command to specify a port to receive SNMP packets**.** Use the **no** form of this command to restore the default setting.

snmp-server udp port *port-number*

no snmp-server udp port

Parameter Description

Parameter	Description
port-number	Specifies a port to receive the SNMP packets.

Defaults The default is 161.

Command mode Global configuration mode.

Usage Guide N/A

Configuration Examples The following example specifies port 15000 to receive the SNMP packets.

```
Orion_B54Q(config)# snmp-server udp-port 15000
```

Related Commands

Command	Description
N/A	N/A

Platform Description N/A

1.20 snmp-server user

Use this command to configure a new user to an SNMP group**.** Use the **no** form of this command to remove a user from an SNMP group.

snmp-server user *username groupname* { **v1** | **v2c** | **v3** [**encrypted**] [**auth** { **md5** | **sha** } *auth-password*] [**priv des56** *priv-password*] } [**access** { [**ipv6** *ipv6_aclname*] [*aclnum* | *aclname* }]]

no snmp-server user *username groupname* { **v1** | **v2c** | **v3** }

Parameter Description

Parameter	Description
username	Name of the user on the host that connects to the agent.
groupname	Name of the group to which the user belongs.
v1 | v2c | v3	Specifies the SNMP version. But only SNMPv3 supports the following security parameters.
encrypted	Specifies whether the password appears in cipher text. In cipher text format, you need to enter continuous hexadecimal numeric characters. Note that the authentication password of MD5 has a length of 16 bytes, while that of SHA has a length of 20 bytes. Two characters make a byte. The encrypted key can be used only by the local SNMP engine on the switch.
auth	Specifies which authentication level should be used.

auth-password	Password string (no more than 32 characters) used by the authentication protocol. The system will change the password to the corresponding authentication key.
priv	Encryption mode. des56 refers to 56-bit DES encryption protocol. *priv-password*: password string (no more than 32 characters) used for encryption. The system will change the password to the corresponding encryption key.
md5	Enables the MD5 authentication protocol. While the **sha** enables the SHA authentication protocol.
aclnumber	Access list number, which specifies the IPV4 addresses that are permitted to access the MIB.
aclname	Name of the access list, which specifies the IPV4 addresses that are permitted to access the MIB.
ipv6_aclname	Name of the IPv6 access list, which specifies the IPv6 addresses that are permitted to access the MIB.

Defaults N/A

Command mode Global configuration mode.

Usage Guide N/A

Configuration Examples The following example configures an SNMPv3 user with MD5 authentication and DES encryption:

```
Orion_B54Q(config)# snmp-server user user-2 mib2user v3 auth md5
authpassstr priv des56 despassstr
```

Related Commands

Command	Description
show snmp user	Displays the SNMP user configuration.

Platform Description N/A

1.21 snmp-server view

Use this command to configure an SNMP view**.** Use the **no** form of this command to remove an SNMP view.

snmp-server view *view-name oid-tree* { **include** | **exclude** }

no snmp-server view *view-name* [*oid-tree*]

Parameter Description

Parameter	Description
view-name	View name
oid-tree	Specifies the MIB object to associate with the view.

include	Includes the sub trees of the MIB object in the view.
exclude	Excludes the sub trees of the MIB object from the view.

Defaults By default, a view is set to access all MIB objects.

Command mode Global configuration mode.

Usage Guide N/A

Configuration Examples The following example sets a view that includes all MIB-2 sub-trees (oid is 1.3.6.1).

```
Orion_B54Q(config)# snmp-server view mib2 1.3.6.1 include
```

Related Commands

Command	Description
show snmp view	Displays the SNMP view configuration.

Platform Description N/A

1.22 snmp-server inform

Use this command to configure the resend times for inform requests and the inform request timeout**.**
Use the **no** form of this command to restore the default settings.
snmp-server inform [**retries** *retry-time* | **timeout** *time*]
no snmp-server inform

Parameter Description

Parameter	Description
retry-num	Specifies the resend times for inform requests, ranging from 0 to 255.
time	Specifies the inform request timeout, ranging from 0 to 21,474,836.

Defaults The default *retry-num* is 3, and the default **timeout** *time* is 15 seconds.

Command mode Global configuration mode.

Usage Guide N/A

Configuration Examples The following example configures the resend times of inform requests to 5.

```
Orion_B54Q(config)# snmp-server inform retries 5
```

The following example configures the inform request timeout to 20 seconds.

```
Orion_B54Q(config)# snmp-server inform timeout 20
```

Related

Command	Description

Commands

N/A	N/A

Platform Description N/A

2 RMON Configuration Commands

2.1 rmon alarm

Use this command to monitor a MIB variable. Use the **no** form of this command to remove the alarm entry.
rmon alarm *number variable interval* {**absolute** | **delta** } **rising-threshold** *value* [*event-number*] **falling-threshold** *value* [*event-number*] [**owner** *ownername*]
no rmon alarm *number*

Parameter description

Parameter	Description
number	Alarm number. The value ranges from 1-65,535.
variable	Alarm variable. The value is a character string consisting of 1 to 255 characters in OID dotted format (the format is entry.integer.instance or a leaf node named .instance, for example. 1.3.6.1.2.1.2.1.10.1).
interval	Sampling interval. The valye ranges from 1 to 2,147,483,647 in the unit of second.
absolute	Absolute sampling. In this mode, when the sampling time arrives, the system directly invokes the variable value.
delta	Delta sampling. In this mode, when the sampling time arrives, the system invokes the delta value of the variable within the sampling interval.
rising-threshold *value*	Rising threshold and the corresponding event number when the threshold is reached. The threshold ranges from -2,147,483,648 to +2,147,483,647.
event-number	The event number ranges from 1 to 65,535.
falling-threshold *value*	Falling threshold and the corresponding event number when the threshold is reached. The threshold ranges from -2,147,483,648 to +2,147,483,647
owner *ownername*	Owner of an entry. The value is a character string consisting of 1 to 63 characters that are case sensitive.

Default N/A.

Command mode Global configuration mode.

Usage guidelines The NOS allows you to modify the configured history information of the Ethernet network, including variable, absolute/delta, owner, rising-threshold/falling-threshold, and the corresponding events. However, the modification does not take effect immediately until the system triggers the monitoring event at the next time.

Examples The example below monitors the MIB variable instance ifInNUcastPkts.6.

```
Orion_B54Q(config)# rmon alarm 10 1.3.6.1.2.1.2.2.1.12.6 30 delta
```

```
rising-threshold 20 1 falling-threshold 10 1 owner zhangsan
```

Related commands

Command	Description
rmon event *number* [**log**] [**trap** *community*] **description** *string* [**owner** *owner-string*]	Adds an event definition.

2.2 rmon collection history

Use this command to enable history statistics on the Ethernet interface. Use the **no** form of this command to remove the history entry.

rmon collection history *index* [**owner** *ownername*] [**buckets** *bucket-number*] [**interval** *seconds*]

no rmon collection history *index*

Parameter description

Parameter	Description
index	Index of a history entry. The value ranges from 1 to 65,535.
owner *ownername*	Owner of an entry. The value is a character string consisting of 1 to 63 characters that are case sensitive.
buckets *bucket-number*	Capacity of a history entry (that is, the maximum number of history entries). The value ranges from 1 to 65,535. The default value is 10.
interval *seconds*	Statistics period. The unit is second. The value ranges from 1 to 3,600. The default value is 1,800 seconds.

Default N/A.

Command mode Interface configuration mode.

Usage guidelines The configured history control entry parameters cannot be modified. And the history entry can be removed from the interface where the entry configured.

Examples The example below enables log statistics on interface GigabitEthernet 0/1.

```
Orion_B54Q# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Orion_B54Q(config)#interface gigabitEthernet 0/1
Orion_B54Q(config-GigabitEthernet0/1)#rmon history 1 owner UserA
buckets 5 interval 60
```

Related commands

Command	Description
rmon collection stats *index* [owner *owner-name*]	Adds a statistical entry on the Ethernet interface.

2.3 rmon collection stats

Use this command to monitor an Ethernet interface. Use the **no** form of this command to remove the configuration.

rmon collection stats *index* [**owner** *owner-string*]

no rmon collection stats *index*

Parameter description

Parameter	Description
index	Index of the statistic table. The value ranges from 1 to 65,535.
owner *ownername*	Owner of an entry. The value is a character string consisting of 1 to 63 characters that are case sensitive and do not contain spaces.

Default N/A.

Command mode Interface configuration mode.

Usage guidelines N/A.

Examples The example below enables monitoring the statistics of interface GigabitEthernet 0/1.

```
Orion_B54Q# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Orion_B54Q(config)#interface gigabitEthernet 0/1
Orion_B54Q(config-GigabitEthernet0/1)# rmon stats 1 owner UserA
```

Related commands

Command	Description
rmon collection history *index* [**owner** *owner-name*] [**buckets** *bucket-number*] [**interval** *seconds*]	Adds a history control entry.

2.4 rmon event

Use this command to define an event. Use the **no** form of this command to remove the event entry.

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

no rmon event *number*

Parameter description

Parameter	Description
number	Event number. The value ranges from 1 to 65,535.
log	(Optional) Log event. When a log event is triggered, the system records a log.
trap *community*	(Optional) Trap event. When a trap event is triggered, the system sends trap with the group named “community”.

description *description-string*	(Optional) Description of the event. The value is a character string consisting of 1 to 127 characters.
owner *owner-name*	(Optional) Owner of an entry. The value is a character string consisting of 1 to 63 characters that are case sensitive.

Default N/A.

Command mode Global configuration mode.

Usage guidelines N/A.

Examples The example below defines the event actions: log event and send trap message.

```
Orion_B54Q#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Orion_B54Q(config)#rmon event 1 log trap public description
"ifInNUcastPkts is abnormal" owner UserA
```

Related commands

Command	Description
rmon alarm *number variable interval* {**absolute** | **delta** } **rising-threshold** *value* [*event-number*] **falling-threshold** *value* [*event-number*] [**owner** *ownername*]	Adds an alarm entry.

2.5 show rmon

Use this command to display the RMON configuration.

show rmon

Default N/A.

Command mode Privileged EXEC mode.

Usage guidelines N/A.

Examples The example below displays the RMON configuration.

```
Orion_B54Q#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
```

Related commands	Command	Description
	N/A	N/A

2.6 show rmon alarm

Use this command to display the RMON alarm table.

show rmon alarm

Default N/A.

Command mode Privileged EXEC mode.

Usage guidelines N/A.

Examples

The example below displays the RMON alarm table.

```
Orion_B54Q#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
```

Related commands

Command	Description
rmon alarm *number variable* *interval* {**absolute** | **delta** } **rising-threshold** *value* [*event-number*] **falling-threshold** *value* [*event-number*] [**owner** *ownername*]	Adds an alarm entry.

2.7 show rmon event

Use this command to display the event configuration.

show rmon event

Default N/A.

Command mode Privileged EXEC mode.

Usage guidelines N/A.

Examples The example below displays the event configuration.

```
Orion_B54Q#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
```

Related commands

Command	Description
rmon event *number* [**log**] [**trap** *community*] [**description** *description-string*] [**owner** *ownername*]	Adds an event entry.

2.8 show rmon history

Use this command to display the history information.

show rmon history

Default N/A.

Command mode Privileged EXEC mode.

Usage guidelines N/A.

Examples The example below displays the history information.

```
Orion_B54Q#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
```

Related commands

Command	Description
rmon collection history *index* [owner *ownername*] **[buckets** *bucket-number*] **[interval** *seconds*]	Adds a history control entry.

2.9 show rmon statistics

Use this command to display the RMON statistics.

show rmon statistics

Default N/A.

Command mode Privileged EXEC mode.

Usage guidelines N/A.

Examples The example below displays the RMON statistics.

```
Orion_B54Q#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
```

Related commands

Command	Description
rmon collection stats *index* [**owner** *owner-string*]	Adds a statistical entry.

3 NTP Commands

3.1 no ntp

Use this command to disable Network Time Protocol (NTP), and clear all NTP configuration.

no ntp

Parameter Description

Parameter	Description
N/A	N/A

Defaults NTP is disabled by default.

Command mode Global configuration mode.

Usage Guide By default, NTP is disabled. However, once the NTP server or the NTP authentication is configured, the NTP service will be enabled.

Configuration Examples The following example disables NTP.

```
Orion_B54Q(config)#no ntp
```

Related Commands

Command	Description
ntp server	Specifies an NTP server.

Platform Description N/A

3.2 ntp access-group

Use this command to configure an access group to control NTP access. Use the **no** form of this command to remove the peer access group.

ntp access-group { **peer** | **serve** | **serve-only** | **query-only** } *access-list-number* | *access-list-name*

no ntp access-group { **peer** | **serve** | **serve-only** | **query-only** } *access-list-number* | *access-list-name*

Parameter Description

Parameter	Description
peer	Allows the device to receive time requests and NTP control queries to synchronize itself to the servers specified in the access list.
serve	Allows the device to receive time requests and NTP control queries from the servers specified in the access list but not to synchronize itself to the specified servers.
serve-only	Allows the device to receive only time requests from the servers specified in the access list.
query-only	Allows the device to receive only NTP control queries from servers specified in the access list.
access-list-number	Access control list number, ranging from 1 to 99 and 1300 to 1999.
access-list-name	Access control list name.

Defaults No access rule to control NTP access is configured by default, namely, NTP access is granted to all devices.

Command mode Global configuration mode.

Usage Guide Use this command to configure an access group to control NTP access, providing a minimal security measures (more secure way is to use the NTP authentication mechanism).

The NTP service enables the access group options to be scanned in the following order, from least restrictive to most restrictive: **peer**, **serve**, **serve-only**, **query-only**.

If you do not configure any access groups, NTP access is granted to all devices. However, once you configure the access rule, NTP access is granted only to the devices specified in the access list.

⚠ NTP control query is not supported in the current system. Although it matches with the order in accordance with the above rules, the related requests about the control and query are not supported.

Configuratio The following example shows how to allow the device to only receive time requests from the device

n Examples of 192.168.1.1.

```
Orion_B54Q(config)# access-list 1 permit 192.168.1.1
Orion_B54Q(config)# ntp access-group serve-only 1
```

Related Commands

Command	Description
ip access-list	Creates an IP access control list.

Platform Description N/A

3.3 ntp authenticate

Use this command to enable NTP authentication. Use the **no** form of this command to disable NTP authentication.

ntp authenticate

no ntp authenticate

Parameter Description

Parameter	Description
N/A	N/A

Defaults Disabled.

Command mode Global configuration mode.

Usage Guide If NTP authentication is disabled, the synchronization communication is not encrypted. To enable encrypted communication on the server, enable the NTP authentication and configure other keys globally.

NTP authentication is implemented through the trusted key specified by the **ntp authentication-key** and **ntp trusted-key** commands.

Configuration Examples After an authentication key is configured and specified as the global trusted key, enable NTP authentication.

```
Orion_B54Q(config)#ntp authentication-key 6 md5 wooooop
Orion_B54Q(config)#ntp trusted-key 6
Orion_B54Q(config)#ntp authenticate
```

Related Commands

Command	Description
ntp authentication-key	Sets the global authentication key.
ntp trusted-key	Configures the global trusted key.

Platform Description N/A

3.4 ntp authentication-key

Use this command to configure an NTP authentication key. Use the **no** form of this command to remove the NTP authentication key.

ntp authentication-key *key-id* **md5** *key-string* [*enc-type*]

no ntp authentication-key *key-id*

Parameter Description

Parameter	Description
key-id	Key ID, ranging from 1 to 4294967295.
key-string	Key string
enc-type	(Optional) Whether this key is encrypted, where, 0 indicates the key is not encrypted, 7 indicates the key is encrypted simply. The key is not encrypted by default.

Defaults NTP authentication key is not configured by default.

Command mode Global configuration mode.

Usage Guide Use this command to configure an NTP authentication key and enables the **md5** algorithm for authentication. Each key presents a unique key ID, which can be configured as a trusted key using the **ntp trusted-key** command..

You can configure up to 1024 NTP authentication keys. However, each server can support only one key.

Configuration Examples The following example configures an NTP authentication key.

```
Orion_B54Q(config)ntp authentication-key 6 md5 wooooop
```

Related Commands

Command	Description
ntp authenticate	Enables NTP authentication.
ntp trusted-key	Configures an NTP trusted key.
ntp server	Specifies an NTP server.

Platform Description N/A

3.5 ntp disable

Use this command to disable the device to receive NTP packets on the specified interface.

ntp disable

Parameter Description

Parameter	Description

N/A	N/A

Defaults All NTP packets can be received by default.

Command mode Interface configuration mode.

Usage Guide The NTP message received on any interface can be provided to the client to carry out the clock adjustment. The function can be set to shield the NTP message received from the corresponding interface.
By default, the device receives NTP packets on all interfaces, and adjust clock for the client. You can use this command to disable the device to receive NTP packets on the specified interface.

⚠ This command is configured only the interface that can receive and send IP packets.

Configuration Examples The following example disables the device to receive the NTP packets.

```
Orion_B54Q(config-if)# no ntp disable
```

Related Commands

Command	Description
N/A	N/A

Platform Description N/A

3.6 ntp master

Use this command to configure the device to act as an authoritative NTP server, synchronizing time to other devices. Use the **no** form of this command to remove the device as an authoritative NTP server.
ntp master [*stratum*]
no ntp master

Parameter Description

Parameter	Description
stratum	Stratum level. The range is from 1 to 15. The default is 8.

Defaults N/A

Command mode Global configuration mode.

Usage Guide In general, the local device synchronizes time from the external time source directly or indirectly. However, if the time synchronization fails due to network connection trouble, you can use this command to configure the local device to act as an authoritative NTP server to synchronize time to t other devices. Once configured, the device will not perform time synchronization with the time source which is of a higher stratum.

⚠ Configuring the device to act as an authoritative NTP server (in particular, specify a lower stratum level), may be likely to overwrite the effective time. If multiple devices in the same network are configured with this command, the time synchronization may be instable due to the time difference between the devices.

⚠ Before configuring this command, you need to manually correct the system clock to avoid too much bias if the device has never performed time synchronization with the external clock source.

Configuration Examples The following example configures the device to act as an authoritative NTP server, and sets the stratum level to 12:

```
Orion_B54Q(config)# ntp master 12
```

Related Commands

Command	Description
N/A	N/A

Platform Description N/A

3.7 ntp server

Use this command to specify a NTP server for the NTP client. Use the **no** form of this command to delete the specified NTP server.

ntp server[oob | vrf *vrf-name*] { *ip-addr* | *domain* | **ip** *domain* | **ipv6** *domain* } [**version** *version*] [**key** *keyid*] [**prefer**] [**via** *mgmt-name*]

no ntp server *ip-addr*

Parameter Description

Parameter	Description
vrf *vrf-name*	Specifies the virtual routing and forwarding (VRF) name. By default, this parameter is disabled.
oob	(Optional) Accesses the NTP server from the MGMT interface. By default, this option is disabled.
ip-addr	Sets the IP address of the NTP server. The address can be in IPv4 or IPv6 format.
domain	Sets the domain name of the NTP server, supporting IPv4 and IPv6.
version	(Optional) Specifies the NTP version (1-3). The default is NTPv3.
keyid	(Optional) Specifies the encryption key adopted when communication with the corresponding server. The key ID range is from 1 to 4,294,967,295.
prefer	(Optional) Specifies the given NTP server as the preferred one.
mgmt-name	(Optional) Specifies the egress MGMT interface for the packets in oob mode.

Defaults No NTP server is configured by default.

Command mode Global configuration mode.

Usage Guide At present, NOS system only supports clients other than servers. Up to 20 servers can be synchronized.
To carry out the encrypted communication with the server, set the global encryption key and global trusted key firstly, and then specify the corresponding key as the trusted key of the server to launch the encrypted communication of the server. It requires the server presents identical global encryption key and global trust key to complete the encrypted communication with the server.
In the same condition (for instance, precision), the prefer clock is used for synchronization.

Configuration Examples The following example configures an NTP server.
For IPv4: `Orion_B54Q(config)# ntp server 192.168.210.222`
For IPv6: `Orion_B54Q(config)# ntp server 10::2`

Related Commands

Command	Description
no ntp	Disables NTP.

Platform Description N/A

3.8 ntp trusted-key

Use this command to set a global trusted key. Use the **no** form of this command to remove the global trusted key.
ntp trusted-key *key-id*
no ntp trusted-key *key-id*

Parameter Description

Parameter	Description
key-id	Global trusted key ID, ranging from 1 to 4294967295.

Defaults N/A

Command mode Global configuration mode.

Usage Guide The NTP communication parties must use the same trusted key. The key is identified by ID and is not transmitted to improve security.

Configuration Examples The following example configures an authentication key and sets it as a trusted key.

```
Orion_B54Q(config)#ntp authentication-key 6 md5 wooooop
Orion_B54Q(config)#ntp trusted-key 6
```

```
Orion_B54Q(config)#ntp server 192.168.210.222 key 6
```

Related Commands

Command	Description
ntp authenticate	Enables NTP authentication.
ntp authentication-key	Configures an NTP authentication key.
ntp server	Configures an NTP server.

Platform Description N/A

3.9 ntp update-calendar

Use this command to enable the NTP client to periodically update the device clock with the time synchronized from the external source clock. Use the **no** form of this command to remove this function.

ntp update-calendar

no ntp update-calendar

Parameter Description

Parameter	Description
N/A	N/A

Defaults By default, update the calendar periodically is not configured.

Command mode Global configuration mode.

Usage Guide By default, the NTP update-calendar is not configured. After configuration, the NTP client updates the calendar at the same time when the time synchronization of external time source is successful. It is recommended to enable this function for keeping the accurate calendar.

Configuration Examples The following example configures the NTP update calendar periodically.

```
Orion_B54Q(config)# ntp update-calendar
```

Related Commands

Command	Description
N/A	N/A

Platform Description N/A

3.10 show ntp status

Use this command to display the NTP configuration.

show ntp status

Parameter Description

Parameter	Description
N/A	N/A

Defaults N/A

Command mode Privileged EXEC mode, global configuration mode, interface configuration mode, VLAN configuration mode

Usage Guide Use this command to display the NTP configuration. No configuration is displayed before the synchronization server is configured for the first time.

Configuration Examples The following example displays the NTP configuration.

```
Orion_B54Q# show ntp status
Clock is synchronized, stratum 8, reference is 127.127.1.1
nominal freq is 250.0000 Hz, actual freq is 250.0000 Hz, precision is
2**24
reference time is D4BD819B.433892EE (01:27:55.000 UTC )
clock offset is 0.00000 sec, root delay is 0.00000 sec
root dispersion is 0.00002 msec, peer dispersion is 0.00002 msec
```

Related Commands

Command	Description
N/A	N/A

Platform Description N/A

4 SNTP Commands

4.1 sntp enable

Use this command to enable the SNTP function. Use the **no** form of this command to restore the default value.

sntp enable

no sntp enable

Parameter Description

Parameter	Description
N/A	N/A

Defaults SNTP is disabled by default.

Command mode Global configuration mode.

Usage Guide N/A

Configuration Examples The following example enables SNTP.

```
Orion_B54Q(config)# sntp enable
```

Related Commands

Command	Description
show sntp	Displays the SNTP configuration.

Platform Description N/A

4.2 sntp interval

Use this command to set the interval for the SNTP client to synchronize its clock with the NTP/SNTP server. Use the **no** form of this command to restore the default synchronization interval.

sntp interval *seconds*

no sntp interval

Parameter Description

Parameter	Description
seconds	Synchronization interval. The unit is second, and the range is from 60 to 65,535.

Defaults The default synchronization interval is 1,800 seconds.

Command Global configuration mode.

mode

Usage Guide To make the synchronization interval configuration effective, run the **sntp enable** command.

Configuration Examples The following example configures the synchronization interval to 3,600 seconds.

```
Orion_B54Q(config)# sntp interval 3600
```

Related Commands

Command	Description
sntp enable	Enables SNTP.
show sntp	Displays the SNTP configuration.

Platform Description N/A

4.3 sntp server

Use this command to specify an SNTP server. Use the **no** form of this command to remove the SNTP/NTP server.

sntp server [**oob**] *ip-address* [**via** *mgmt-name*]

no sntp server

Parameter Description

Parameter	Description
ip-address	IP address of the NTP/SNTP server.
oob	(Optional) Accesses the SNTP server from the MGMT interface.
mgmt-name	(Optional) Specifies the egress MGMT interface for the packets in oob mode.

Defaults No NTP/SNTP server is configured by default.

Command mode Global configuration mode.

Usage Guide As SNTP is fully compatible with NTP, the SNTP server can be used as an NTP server in Internet.

Configuration Examples The following example specifies an NTP server in Internet.

```
Orion_B54Q(config)# sntp server 192.168.4.12
```

Related Commands

Command	Description
show sntp	Displays the SNTP configuration.
sntp enable	Enables SNTP.

Platform Description N/A

4.4 show sntp

Use this command to display the SNTP configuration.

show sntp

Parameter Description

Parameter	Description
N/A	N/A

Defaults

Command mode Privileged EXEC mode, global configuration mode, interface configuration mode.

Usage Guide N/A

Configuration Examples The following example displays the SNTP configuration.

```
Orion_B54Q# show  sntp
SNTP state            : Enable
SNTP server           : 192.168.4.12
SNTP sync interval    : 60
Time zone              : +8
```

Related Commands

Command	Description
sntp enable	Enables SNTP.

Platform Description N/A

5 SPAN-RSPAN Commands

5.1 mac-loopback

Use this command to enable MAC loopback. Use the **no** form of this command to disable MAC loopback.

mac-loopback

no mac-loopback

Parameter Description

Parameter	Description
N/A	N/A

Defaults MAC loopback is disable by default.

Command mode Interface configuration mode.

Usage Guide The MAC loopback feature must be enabled on the interfaces for purposes of local one-to-many mirroring. (Please enable the MAC loopback feature on the down interface, and do not add other configurations to the interface.)

Configuration Examples The following example configures a remote VLAN.

```
Orion_B54Q(config)#vlan 100
Orion_B54Q(config-vlan)#remote-span
Orion_B54Q(config-vlan)#exit
```

The following example configures a session and specifies the mirrored port.

```
Orion_B54Q(config)#monitor session 1 remote-source
Orion_B54Q(config)#monitor session 1 source interface gigabitEthernet 4/1
both
```

The following example configures the mirroring port, and enables MAC loopback on the port.

```
Orion_B54Q(config)#monitor session 1 destination remote vlan 100 interface
gigabitEthernet 4/2 switch
Orion_B54Q(config)#interface gigabitEthernet 4/2
Orion_B54Q(config-if-GigabitEthernet 4/2)#switchport access vlan 100
Orion_B54Q(config-if-GigabitEthernet 4/2)#mac-loopback
```

The following example adds interfaces GigabitEthernet 4/3-4 to the remote VLAN.

```
Orion_B54Q(config)#interface range gigabitEthernet 4/3-4
Orion_B54Q(config-if-range)#switchport access vlan 100
```

Related Commands	Command	Description
	N/A	N/A

Platform Description N/A

5.2 monitor session

Use this command to configure the SPAN session and specify the source port (monitored port).
monitor session *session-num* **source interface** *interface-id* [**both** | **rx** | **tx**]

Use this command to configure the SPAN session mirroring only the traffic permitted by the access list
monitor session *session-num* **source interface** *interface-id* **rx acl** *acl-name*

Use this command to configure the SPAN session and specify the destination port (monitoring port).
monitor session *session-num* **destination interface** *interface-id* [**encapsulation replicate** | **switch**]

Use this command to configure the SPAN session monitoring the CPU packets.
monitor session *session-num* **source interface** *interface-id* **tx cpu**

Use this command to configure the remote SPAN session ID on the source device..
monitor session *session-num* **remote-source**

Use this command to configure the remote SPAN session ID on the destination device.
monitor session *session-num* **remote-destination**

Use this command to configure the remote SPAN session and specify the remote SPAN destination VLAN.
monitor session *session-num* **destination remote vlan** *remote-vlan-id* **interface** *interface-id* [**switch**]

Use this command to configure the SPAN session and specify the source VLAN to monitor. Note that the source VLAN should not be a remote VLAN.
monitor session *session-num* **source vlan** *vlan-id* [**rx** | **tx** | **both**]

Use this command to limit the SPAN source traffic to specific VLANs.
monitor session *session-num* **filter vlan** *vlan-id-list* [**rx | tx | both**]

Use this command to remove the specified SPAN session, or remove the source port or destination port of the specified SPAN session.
no monitor session *session-num* [**source interface** *interface-id* | **destination interface** *interface-id*]

Use this command to remove the specified remote SPAN session, or remove the destination port of the remote SPAN session.
no monitor session *session-num* [**destination remote vlan** *remote-vlan-id* **interface** *interface-id*]

Use this command to remove the specified remote SPAN session, or remote the destination port of the remote SPAN session.
default monitor session *session-num* [**destination remote vlan** *remote-vlan-id* **interface** *interface-id*]

Use this command to remove the specified SPAN session, or remove the source port or destination port of the SPAN session.
default monitor session *session-num* { **source interface** *interface-id* | **destination interface** *interface-id* }

Parameter Description

Parameter	Description
session_number	SPAN session number
interface-id	Interface name
acl *acl-name*	Access list name
remote-vlan-id	Remote VLAN ID
vlan-id	VLAN ID (remote VLAN excluded)
vlan-id-list	VLAN list (remote VLAN excluded)
rx	Monitors the only received traffic.
tx	Monitors the only transmitted traffic.
both	Monitors both received and transmitted traffic. This is the default.
encapsulation replicate	Specifies that the destination port replicates the source interface encapsulation method. If not selected, the default is to send packets in native form (untagged).
switch	Enables switching on the destination port. Switching function is disabled by default.
cpu	Monitors the CPU packets. This is disabled by default.

Defaults Port monitoring is disabled by default.

Command mode Global configuration mode.

Usage Guide Use this command to configure SPAN or remote SPAN, and specify the source port or destination port.
If the **both**, **rx** or **tx** is not specified for the source port, the **both** parameter is the default.
Configuring an access list for the source port indicates that only the traffic permitted by the access list is monitored.
The **switch** and **encapsulation replicate** features are disabled on the destination port.
CPU packet monitoring, which is enabled through the **cpu** parameter, is disabled by default.

Configuration Examples

The following example configures the source port and destination port of the SPAN session.

```
Orion_B54Q(config)# monitor session 1 source interface gigabitEthernet 0/1
Orion_B54Q(config)# monitor session 1 destination interface
gigabitEthernet 0/2
```

The following example configures the SPAN session mirroring only the traffic permitted by the access list.

```
Orion_B54Q(config)# monitor session 3 source interface gigabitEthernet 0/3
rx acl 90
```

The following example configures a remote SPAN session.

```
Orion_B54Q(config)# monitor session 10 remote-source
```

The following example configures the destination port of the remote SPAN session.

```
Orion_B54Q(config)# monitor session 4 destination remote vlan 10 interface
gigabitEthernet 0/5
```

The following example configures the source VLAN of the SPAN session.

```
Orion_B54Q(config)# monitor session 1 source vlan 1
```

The following example removes the SPAN session.

```
Orion_B54Q(config)# no monitor session 1
```

The following example removes the source port and destination port of the SPAN session.

```
Orion_B54Q(config)# no monitor session  1 source interface gigabitEthernet
0/18
Orion_B54Q(config)# no monitor session  1 destination interface
gigabitEthernet 0/18
```

The following example configures the SPAN session monitoring only the traffic sent from CPU.

```
Orion_B54Q(config)# monitor session 3 source interface gigabitEthernet 0/3
tx cpu
```

The following example configures the SPAN session monitoring traffic, including the traffic sent from CPU.

```
Orion_B54Q(config)# monitor session 3 source interface gigabitEthernet 0/3
tx cpu
Orion_B54Q(config)# monitor session 3 source interface gigabitEthernet 0/3
tx
```

Related Commands

Command	Description
N/A	N/A

Platform Description N/A

5.3 remote-span

Use this command to configure a remote SPAN VLAN in VLAN configuration mode. Use the **no** form of this command to disable the remote SPAN VLAN.

remote-span

no remote-span

Parameter Description

Parameter	Description
N/A	N/A

Defaults Remote SPAN VLAN is disabled by default.

Command mode VLAN configuration mode.

Usage Guide N/A

Configuration Examples The following example configures a remote SPAN VLAN.

```
Orion_B54Q(config)# vlan 100
Orion_B54Q(config-vlan)# remote-span
```

Related Commands

Command	Description
show vlan	Displays VLAN configuration.

Platform Description N/A

5.4 show monitor

Use this command to display the SPAN configurations.

show monitor [**session** *session_number*]

Parameter Description

Parameter	Description
session_number	Displays the specified SPAN session.

Defaults N/A

Command mode Privileged EXEC mode, global configuration mode and interface configuration mode

Usage Guide N/A

Configuration Examples This following example displays all SPAN sessions.

```
Orion_B54Q(config)# show monitor
sess-num: 2
span-type: LOCAL_SPAN
src-intf:
TenGigabitEthernet 0/5      frame-type Both
dest-intf:
TenGigabitEthernet 0/6
sess-num: 1
span-type: LOCAL_SPAN
src-intf:
TenGigabitEthernet 0/3      frame-type Both
dest-intf:
```

The following example displays SPAN session 1.

```
Orion_B54Q(config)# show monitor session 1
sess-num: 1
span-type: LOCAL_SPAN
src-intf:
TenGigabitEthernet 0/3      frame-type Both
dest-intf:
TenGigabitEthernet 0/4
```

Related Commands

Command	Description
N/A	N/A

Platform Description N/A

6 ERSPAN Commands

6.1 destination ip address

Use this command to configure the destination IP address for GRE encapsulation. Use the **no** form of this command to delete the destination IP address.

destination ip address *ip_address*

no destination ip address

Parameter Description

Parameter	Description
ip_address	The destination IP address of GRE encapsulation.

Defaults N/A

Command mode ERSPAN configuration mode

Usage Guide To return to privileged EXEC mode, enter the **end** command or the **Ctrl-C** key combination.
To return to global configuration mode, enter the **exit** command.

Configuration Examples The following example configures the destination IP address.

```
Orion_B54Q(config)# monitor session 2 erspan-source
Orion_B54Q(config-mon-erspan-src)destination ip address 10.1.1.2
```

Related Commands

Command	Description
show monitor	Displays the mirror sessions.

Platform Description N/A

6.2 ip dscp

Use this command to configure the DSCP value of the IP packets. Use the **no** form of this command to restore the default setting.

ip dscp *dscp-value*

no ip dscp

Parameter Description

Parameter	Description
dscp-value	The DSCP value of the IP packets.

Defaults The default DSCP value is 0.

Command mode ERSPAN configuration mode

Usage Guide To return to privileged EXEC mode, enter the **end** command or use the **Ctrl-C** key combination.
To return to global configuration mode, enter the **exit** command.

Configuration Examples The following example configures the DSCP value of the IP packets.

```
Orion_B54Q(config)# monitor session 2 erspan-source
Orion_B54Q(config-mon-erspan-src)#ip dscp 56
```

Related Commands

Command	Description
show monitor	Displays the mirror sessions.

Platform Description N/A

6.3 ip ttl

Use this command to configure the TTL value of the IP packets. Use the **no** form of this command to restore the default setting.
ip ttl *ttl-value*
no ip ttl

Parameter Description

Parameter	Description
ttl-value	The TTL value of the IP packets.

Defaults The default TTL value is 64.

Command mode ERSPAN configuration mode

Usage Guide To return to privileged EXEC mode, enter the **end** command or use the **Ctrl-C** key combination.
To return to global configuration mode, enter the **exit** command.

Configuration Examples The following example configures the TTL value of IP packets.

```
Orion_B54Q(config)# monitor session 2 erspan-source
Orion_B54Q(config-mon-erspan-src)#ip ttl 65
```

Related Commands

Command	Description
show monitor	Displays the mirror sessions.

Platform N/A

Description

6.4 monitor session

Use this command to create an ERSPAN session. Use the **no** form of this command to delete the session.

monitor session *session_num* { **erspan-source** }

no monitor session *session_num*

Parameter Description

Parameter	Description
session-num	Session ID

Defaults N/A

Command mode Global configuration mode

Usage Guide To return to privileged EXEC mode, enter the **end** command or the **Ctrl-C** key combination.
To return to global configuration mode, enter the **exit** command.

Configuration Examples The following example creates an ERSPAN session.

```
Orion_B54Q(config)# monitor session 2 erspan-source
```

Related Commands

Command	Description
show monitor	Displays the mirror session information.

Platform Description N/A

6.5 origin ip address

Use this command to configure the source IP address for GRE encapsulation. Use the **no** form of this command to delete the source IP address.

origin ip address *ip_address*

no origin ip address

Parameter Description

Parameter	Description
ip_address	The source IP address of GRE encapsulation.

Defaults N/A

Command mode ERSPAN configuration mode

Usage Guide To return to privileged EXEC mode, enter the **end** command or use the **Ctrl-C** key combination.
To return to global configuration mode, enter the **exit** command.

Configuration Examples The following example configures the source IP address.

```
Orion_B54Q(config)# monitor session 2 erspan-source
Orion_B54Q(config-mon-erspan-src)origin ip address 11.1.1.2
```

Related Commands

Command	Description
show monitor	Displays the mirror sessions.

Platform Description N/A

6.6 shutdown

Use this command to shut down the session. Use the **no** form of this command to restore the default setting.
Shutdown
no shutdown

Parameter Description

Parameter	Description
N/A	N/A

Defaults The ERSPAN session is enabled by default.

Command mode ERSPAN configuration mode

Usage Guide To return to privileged EXEC mode, enter the **end** command or the **Ctrl-C** key combination.
To return to global configuration mode, enter the **exit** command.

Configuration Examples The following example shuts down ERSPAN session 2.

```
Orion_B54Q(config)# monitor session 2 erspan-source
Orion_B54Q(config-mon-erspan-src)#shutdown
```

Related Commands

Command	Description
show monitor	Displays the mirror sessions.

Platform N/A

Description

6.7 source interface

Use this command to configure the ERSPAN source interface. Use the **no** form of this command to delete this source interface.
source interface *single-interface* [**rx | tx | both**]
no source interface *single-interface* [**rx | tx | both**]

Use this command to configure the flow-based ERSPAN source interface. Use the **no** form of this command to delete this source interface.
source interface *single-interface* **rx acl** *acl-name*

Parameter Description

Parameter	Description
single-interface	Source interface of the mirror.
rx	Receives only the traffic of Rx direction.
tx	Receives only the traffic of Tx direction.
both	(Default) Receives the traffic of Tx and Rx directions.
acl *acl-name*	ACL name.

Defaults N/A

Command mode ERSPAN configuration mode

Usage Guide To return to privileged EXEC mode, enter the **end** command or use the **Ctrl-C** key combination. To return to global configuration mode, enter the **exit** command.

Configuration Examples The following example configures an ERSPAN source interface.

```
Orion_B54Q(config)# monitor session 2 erspan-source
Orion_B54Q(config-mon-erspan-src)#source interface gigabitethernet 0/1
both
```

The following example configures a flow-based ERSPAN source interface.

```
source interface gigabitEthernet 0/3 rx acl 90
```

Related Commands

Command	Description
show monitor	Displays the mirror sessions.

Platform Description N/A

6.8 vrf

Use this command to configure VRF. Use the **no** form of this command to restore the default setting.

vrf *vrf-name*

no vrf

Parameter Description

Parameter	Description
vrf-name	VRF name

Defaults VRF name is null by default.

Command mode ERSPAN configuration mode

Usage Guide To return to privileged EXEC mode, enter the **end** command or use the **Ctrl-C** key combination. To return to global configuration mode, enter the **exit** command.

Configuration Examples The following example configures the VRF name.

```
Orion_B54Q(config)# monitor session 2 erspan-source
Orion_B54Q(config-mon-erspan-src)# vrf vrf-name
```

Related Commands

Command	Description
show monitor	Displays the mirror sessions.

Platform Description N/A

7 sFlow Commands

7.1 sflow agent

Use this command to configure the address of the sFlow Agent.
sflow agent { **address** { *ip-address* | **ipv6** *ipv6-address* }} | { **interface** { *interface-name* | **ipv6** *interface-name* }}

Use this command to delete the address of the sFlow Agent.
no sflow agent { address | interface }

Use this command to restore the default setting.
default sflow agent { address | interface }

Parameter Description

Parameter	Description
address	Configures the IP address of the sFlow Agent.
ip-address	sFlow Agent IPv4 address.
ipv6 *ipv6-address*	sFlow Agent IPv6 address.
interface	Configures the interface of the sFlow Agent.
interface-name	Interface of IPv4 address.
ipv6 *interface-name*	Interface of IPv6 address.

Defaults No sFlow Agent address is configured by default.

Command Mode Global configuration mode

Default Level 14

Usage Guide This command is used to configure the Agent IP address field in the output sFlow datagram. The datagram not configured with this filed cannot be output. The sFlow Agent address shall be a host address. When a non-host address (for example, a multicast or broadcast address) is configured as the sFlow Agent address, a message indicating configuration failure is displayed. It is recommended that the IP address of the sFlow Agent device be configured as the sFlow Agent address.

Configuration Examples The following example configures 192.168.2.1 as the sFlow Agent address.

```
Orion_B54Q(config)# sflow agent address 192.168.2.1
```

Verification Use the show sflow command to display the sFlow configuration.

Prompt Messages Prompt an error message when the address is invalid.

```
invalid host address.
```

Common N/A

Errors

Platforms N/A

7.2 sflow collector collector-id destination

Use this command to configure the address of the sFlow Collector.
sflow collector *collector-id* **destination** { *ip-address* | **ipv6** *ipv6_address* } *udp-port* **[[vrf** *vrf-name* **] | [oob [via mgmt** *mgmt-name* **]]]**

Use this command to delete the address of the sFlow Collector.
no sflow collector *collector-id* **destination** { *ip-address* | **ipv6** *ipv6_address* } *udp-port* **[[vrf** *vrf-name* **] | [oob [via mgmt** *mgmt-name* **]]]**

Use this command to delete the address of the sFlow Collector.
default sflow collector *collector-id* **destination** { *ip-address* | **ipv6** *ipv6_address* } *udp-port* **[[vrf** *vrf-name* **] | [oob [via mgmt** *mgmt-name* **]]]**

Parameter Description

Parameter	Description
collector-id	sFlow Collector ID. The range is from 1 to 2.
ip-address	sFlow Collector IPv4 address
ipv6 *ipv6-address*	sFlow Collector IPv6 address
udp-port	sFlow Collector listening port number
vrf *vrf-name*	VRF instance name. It is not configured by default.
oob	The sampled traffics are output through the management interface. By default, this parameter is not configured.

Defaults No sFlow Collector address is configured by default.

Command Mode Global configuration mode

Default Level 14

Usage Guide This command is used to configure the sFlow Collector address. The sFlow Collector address shall be a host address. When a non-host address (for example, a multicast or broadcast address) is configured as the sFlow Collector address, a message indicating configuration failure is displayed. The sFlow Collector monitors the sFlow datagram on the specified port. When the vrf parameter is configured, the corresponding VRF instance must exist. When you remove the a VRF instance, the sFlow Collector address will be removed if this VRF instance is also configured for an sFlow Collector address. When the oob parameter is configured, a datagram is sent to the sFlow Collector through the management interface.

Configuration Examples The following example configures 192.168.1.100 as the address of sFlow Collector 1, 6343 as the port number and vpn 1 as the VRF instance.

```
Orion_B54Q(config)# sflow collector 1 destination 192.168.2.100 6343 vrf
vpn1
```

Verification Use the **show sflow** command to display the sFlow Collector.

Prompt Messages Prompt an error message when the address is invalid.

```
invalid host address.
```

No VPN exists.

```
vpn is not exist
```

Common Errors N/A

Platforms N/A

7.3 sflow collector collector-id max-datagram-size

Use this command to configure the maximum length of the output sFlow datagram.
sflow collector *collector-id* **max-datagram-size** *datagram-size*

Use this command to restore the default maximum length of the output sFlow datagram.
no sflow collector *collector-id* **max-datagram-size**

Use this command to restore the default maximum length of the output sFlow datagram.
default sflow collector *collector-id* **max-datagram-size**

Parameter Description

Parameter	Description
collector-id	sFlow Collector ID. The range is from 1 to 2.
max-datagram-size *datagram-size*	The maximum length of the output sFlow datagram. The range is from 200 to 9,000.

Defaults The default maximum length of the output sFlow datagram is 1,400.

Command Mode Global configuration mode

Default Level 14

Usage Guide N/A

Configuration Examples The following example configures 1,000 as the maximum length of the output sFlow datagram for sFlow Collector.

```
Orion_B54Q(config)# sflow collector 1 max-datagram-size 1000
```

Verification Use the **show sflow** command to display the maximum length of the output sFlow datagram.

Prompt Messages	N/A
Common Errors	N/A
Platforms	N/A

7.4 sflow counter collector

Use this command to enable the sFlow Agent to send counter samples to the sFlow Collector.
sflow counter collector *collector-id*

Use this command to disable the sFlow Agent to send counter samples to the sFlow Collector.
no sflow counter collector

Use this command to disable the sFlow Agent to send counter samples to the sFlow Collector.
default sflow counter collector

Parameter Description

Parameter	Description
collector-id	sFlow Collector ID. The range is from 1 to 2.

Defaults	Sending counter samples to the sFlow Collector is disabled by default.
Command Mode	Interface configuration mode
Default Level	14
Usage Guide	This command can be used for physical ports, SVI ports and sub routed ports and aggregate ports. sFlow datagrams can be output only when an IP address is configured for the corresponding sFlow Collector.
Configuration Examples	The following example enables interface TenGigabitEthernet 0/5 to send counter samples to sFlow Collector 2. `Orion_B54Q(config-if-TenGigabitEthernet 0/5)# sflow counter collector 2`
Verification	Use the **show sflow** command to display the sFlow counter sampling configuration.
Prompt Messages	N/A
Common Errors	N/A
Platforms	N/A

7.5 sflow counter interval

Use this command to configure the sFlow counter sampling interval.
sflow counter interval *seconds*

Use this command to restore the default sFlow counter sampling interval.
no sflow counter interval

Use this command to restore the default sFlow counter sampling interval.
default sflow counter interval

Parameter Description

Parameter	Description
seconds	sFlow counter sampling interval. The range is form 3 to 2,147,483,647. The unit is second.

Defaults The default sFLow counter sampling interval is 30 seconds.

Command Mode Global configuration mode

Default Level 14

Usage Guide This command is used to configure the global sFlow counter sampling interval, and sFlow Counter sampling of all interfaces uses this sampling interval.

Configuration Examples The following example configures the sFlow counter sampling interval to 60 seconds.

```
Orion_B54Q(config)# sflow counter interval 60
```

Verification Use the **show sflow** command to display the sFlow counter sampling interval.

Prompt Messages N/A

Common Errors N/A

Platforms N/A

7.6 sflow flow collector

Use this command to enable the sFlow Agent to send flow samples to the sFlow Collector.
sflow flow collector *collector-id*

Use this command to disable the sFlow Agent to send flow samples to the sFlow Collector.
no sflow flow collector

Use this command to disable the sFlow Agent to send flow samples to the sFlow Collector.
default sflow flow collector

Parameter Description

Parameter	Description
collector-id	sFlow Collector ID. The range is from 1 to 2.

Defaults Sending the flow samples to the sFlow Collector is disabled by default.

Command Mode Interface configuration mode

Default Level 14

Usage Guide This command can be used for physical ports, SVI ports, sub routed ports and aggregate ports. sFlow datagrams can be output only when an IP address is configured for the corresponding sFlow Collector.

Configuration Examples The following example enables interface TenGigabitEthernet 0/5 to send flow samples to sFlow Collector 2.

```
Orion_B54Q(config-if-TenGigabitEthernet 0/5)# sflow flow collector 2
```

Verification Use the **show sflow** command to display the sFlow flow sampling configuration.

Prompt Messages N/A

Common Errors N/A

Platforms N/A

7.7 sflow flow max-header

Use this command to configure the maximum length of the packet header copied during flow sampling.
sflow flow max-header *length*

Use this command to restore the default maximum length of the packet header copied during flow sampling.
no sflow flow max-header

Use this command to restore the default maximum length of the packet header copied during flow sampling.
default sflow flow max-header

Parameter Description

Parameter	Description

length	Maximum length of the packet header to be copied. The range is from 18 to 256. The unit is byte.

Defaults The default length is 64 bytes.

Command Mode Global configuration mode

Default Level 14

Usage Guide Configure the maximum number of bytes of the packet content copied from the header of the original packet. The copied content is recorded in the generated sample.

Configuration Examples The following example sets the maximum length of the packet header copied during sFlow flow sampling to 128 bytes.

```
Orion_B54Q(config)# sflow flow max-header 128
```

Verification Use the **show sflow** command to display the maximum length of the packet header copied during sFlow flow sampling.

Prompt Messages N/A

Common Errors N/A

Platforms N/A

7.8 sflow sampling-rate

Use this command to configure the sampling rate of sFlow flow sampling.
sflow sampling-rate *rate*

Use this command to restore the default the sampling rate of sFlow flow sampling.
no sflow sampling-rate

Use this command to restore the default sampling rate of sFlow flow sampling.
default sflow sampling-rate

Parameter Description

Parameter	Description
rate	Sampling rate of sFlow sampling. One packet is sampled from every *n* packets (*n* equals the value of rate). The range is from 4,096 to16,777,215.

Defaults The default sFlow flow sampling rate is 8,192.

Command Global configuration mode

Mode

Default Level 14

Usage Guide This command is used to configure the global sampling rate of sFlow flow sampling, and sFlow flow sampling of all interfaces uses this sampling rate.

Configuration Examples The following example sets the sFlow flow sampling rate to 4,096.

```
Orion_B54Q(config)# sflow sampling-rate 4096
```

Verification Use the **show sflow** command to display the sFlow flow sampling rate.

Prompt Messages N/A

Common Errors N/A

Platforms N/A

7.9 sflow enable

Use this command to enable flow sampling and counter sampling on the interface.
sflow enable [**ingress** | **egress**]

Use this command to disable flow sampling and counter sampling on the interface.
no sflow enable

Use this command to disable flow sampling and counter sampling on the interface.
default sflow enable

Parameter Description

Parameter	Description
ingress	Enables sFlow sampling in ingress direction.
egress	Enables sFlow sampling in egress direction.

Defaults The sFlow sampling function on an interface is disabled by default.

Command Mode Interface configuration mode

Default Level 14

Usage Guide This command can be used to enable counter sampling and flow sampling for physical ports, SVI ports, sub routed ports and aggregate ports. sFlow datagram can be output only when an IP address is configured for the corresponding sFlow Collector.
If the direction parameter is not specified, sampling on both directions are enabled.
The SVI ports and sub routed ports support only the **ingress** parameter.

Configuration Examples The following example enables the sFlow sampling on interface TenGigabitEthernet 0/5.

```
Orion_B54Q(config-if-TenGigabitEthernet 0/5)# sflow enable
```

Verification Use the **show sflow** command to display the status of the sFlow sampling function.

Prompt Messages N/A

Common Errors N/A

Platforms N/A

7.10 show sflow

Use this command to display the sFlow configuration.

show sflow

Parameter Description

Parameter	Description
N/A	N/A

Command Mode Privileged EXEC mode/global configuration mode/interface configuration mode

Default Level 14

Usage Guide N/A

Configuration Examples The following example displays the sFlow configuration.

```
Orion_B54Q(config)#show sflow
sFlow datagram version 5
Global information:
Agent IP: 10.10.10.10
sflow counter interval:30
sflow flow max-header:64
sflow sampling-rate:8192
Collector information:
ID   IP                              Port Size VPN
1    192.168.2.100                   6343 1400
2    NULL                            0    1400
Port information
Interface                       CID  FID  Enable
TenGigabitEthernet 0/1          0    1    Y
TenGigabitEthernet 0/2          0    1    N
```

Field Description:

Field	Description
sFlow datagram version	sFlow datagram version. Currently, Orion_B54Q supports V5 only.
Agent IP	IP address of the sFlow Agent. It can be configured by using the sflow Agent address {*ip-address* | ipv6 *ipv6-address* } command.
sflow counter interval	Counter sampling interval
sflow flow max-header	The maximum length of bytes of the packet header to be copied
sflow sampling-rate	Flow sampling rate
ID	sFlow Collector ID
IP	The IP address of the sFlow Colletor to receive sFlow datagram
Port	Port No. of the sFlow Collector to receive sFlow datagram
Size	The maximum length of the output sFlow datagram
VPN	VPN instance name of sFlow Collector
Interface	An interface configured with sFlow function
CID	The destination sFlow Collector ID to which the sFlow Agent sends the counter samples.
FID	The destination sFlow Collector ID to which the sFlow Agent sends the flow samples.
Enable	The status of the sFlow sampling function

Prompt Messages N/A

Platforms N/A