

# 8 SNMP Commands

The following chapter contains information on Text-Based SNMP commands. Topics include:

- Configuring SNMP parameters
- Viewing current SNMP settings

Refer to the command task list below to find the page number for a specific task. If you would like to reference configuration tasks based on traditional UI commands, refer to Appendix A.

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## view snmp

### Command Usage

View SNMP statistics.

### Syntax Options

**view snmp** (No additional syntax options are used.)

### Corresponding UI Command

snmps

### Screen Output

A screen similar to the following will be displayed:

SNMP Statistics			
	In	Out	
Total Packets	67	67	
Bad Versions	0		
Bad Community Names	0		
Bad Community Use	0		
Bad Type Discards:	0		
ASN Parse Errors	0		
Too Big Errors	0	0	
No Such Name Errors	0	1	
Bad Value Errors	0	0	
Read Only Errors	0	0	
General Errors	0	0	
Total Variable Requests	186		
Total Set Variable Requests	0		
Get Requests	17	0	
Get Next Requests	50	0	
Set Requests	0	0	
Get Responses	0	67	
Authentication Trap Enables:	0		
Traps	0	0	

Trap generation is ENABLED to these management stations:

198.206.1.1	/162	--	ffffff:bffffff (on)
198.2.1.1	/162	--	ffffff:7ffffff (off) (SA)

Syntax Options

### Table Description

**Total Packets.** The total number of packets received and sent.

**Bad Version.** The total number of SNMP messages delivered to the OmniSwitch SNMP protocol entity that were for an unsupported SNMP version.

**Bad Community Names.** The total number of SNMP message names delivered to the OmniSwitch SNMP protocol entity that used an unknown SNMP community name.

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**Bad Community Use.** The total number of SNMP messages delivered to the SNMP protocol entity which represented an SNMP operation that was not allowed by the SNMP community named in the message.

**Bad Type Discards.** The total number of SNMP entries that were discarded because the request type was not recognized.

**ASN Parse Errors.** The total number of ASN.1 or BER errors encountered by the SNMP protocols entity when decoding received SNMP Messages.

**Too Big Errors.** The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is 'tooBig'.

**No Such Name Error.** The total number of SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is 'noSuchName'.

**Bad Value Errors.** The total number of valid SNMP PDUs which were delivered to the SNMP protocol entity and for which the value of the error-status field is 'readOnly.' It is a protocol error to generate an SNMP PDU which contains the value 'readOnly' in the error-status field, as such this object is provided as a means of detecting incorrect implementations of the SNMP.

**Read Only Errors.** The total number of valid SNMP PDUs delivered to the SNMP protocol entity and for which the value of the error-status field is 'Read Only'.

**General Errors.** The total number of SNMP PDUs delivered to the OmniSwitch SNMP protocol entity and for which the value of the errors-status field is 'GenError'.

**Total Variable Requests.** The total number of MIB objects which Requests have been retrieved successfully by the SNMP protocol entity as the result of receiving valid SNMP Get-Request and Get-Next PDUs.

**Total Set Variable Requests.** The total number of MIB objects which Requests have been retrieved successfully by the SNMP protocol entity as the result of receiving valid SNMP Set-Request PDUs.

**Get Requests.** The total number of SNMP Get-Request PDUs which have been accepted and processed by the OmniSwitch SNMP protocol entity.

**Get Next Requests.** The total number of SNMP Get-Next PDUs which have been accepted and processed by the OmniSwitch SNMP protocol entity.

**Set Requests.** The total number of SNMP Set-Request Requests Accepted PDUs which have been accepted and processed by the OmniSwitch SNMP protocol entity.

**Get Responses.** The total number of SNMP Response PDUs which have been accepted and processed by the OmniSwitch SNMP protocol entity.

**Authentication Trap Enables.** Indicates whether the SNMP agent Enable process is permitted to generate authentication-failure traps. The value of this object overrides any configuration information, providing a means to enable all authentication-failure traps. It is strongly recommended that you store this object in nonvolatile memory so that it remains constant between reinitializations of the network management system.

**Traps.** The number of SNMP Trap PDUs that have been generated by the SNMP protocol entity. Traps are broadcast only.

**Traps are broadcast only.** This message appears if traps are set to broadcast. The address is the broadcast address of the default VLAN of AutoTracker group 1.

**Trap generation is ENABLED to these management stations.** This message appears if you have set up one or more management stations to receive traps.

## view snmp configuration

### Command Usage

View SNMP configuration details (e.g., community name, broadcast and unicast trap status, NMS status, NMS IP address, etc).

### Syntax Options

**view snmp configuration** (No additional syntax options are used.)

### Corresponding UI Command

snmpc

### Screen Output

A screen similar to the following will be displayed:

1)	Set Community Name	- public	
2)	Get Community Name	- public	
3)	Trap Community Name	- public	
4)	Broadcast Traps	- disabled	
5)	2 Unicast Traps	- disabled	
6)	NMS IP address	- 198.206.1.1	/162 -- ffffffff:bfffffff (on )
7)	NMS IP address	- 198.2.1.1	/162 -- ffffffff:7fffffff (off) (SA)

### Table Description

**Set Community Name.** The read-write community name. The default is **public**.

**Get Community Name.** The read-only community name. The default is **public**.

**Trap Community Name.** The trap community name. The default is **public**.

**Broadcast Traps.** The current status for broadcast traps (**enabled** or **disabled**). The default is **disabled**.

**Unicast Traps.** The current number of unicast traps and the current status of unicast traps (**enabled** or **disabled**). The default is **disabled**.

**NMS IP address.** The IP address to which SNMP unicast traps will be sent. (Also shows the UDP port number, NMS status (**on** or **off**), and whether the NMS station has special access (**SA**).)

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## snmp community

### Command Usage

Configure SNMP community parameters.

### Syntax Options

```
snmp community {read-only | read-write | read | write | trap} [community-string]
```

#### Definitions:

**read-only** = the community string will be used for the read-only—or *Get*—community name

**read-write** = the community string will be used for the read-write—or *Set*—community name

**read** = same as **read-only**

**write** = same as **read-write**

**trap** = the community string will be used for the trap community name

*community-string* = user-defined SNMP community name (e.g., **private**)

#### Switch Default:

*community-string* = **public**

#### Command Examples:

**snmp community read-only private**

**snmp community read-write private**

**snmp community read "my password"**

**snmp community write**

**snmp community trap public**

### Corresponding UI Command

**snmpc**

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## **snmp trap broadcast**

### **Command Usage**

Enable SNMP broadcast traps.

### **Syntax Options**

<b>snmp trap broadcast</b> [ <i>udp-port</i> ]
<p><u>Definitions:</u> <i>udp-port</i> = specifies a UDP destination port number</p> <p><u>Switch Default:</u> <i>udp-port</i> = <b>162</b></p> <p><u>Command Example:</u> <b>snmp trap broadcast</b> <b>snmp trap broadcast 162</b></p>

### **Corresponding UI Command**

**snmpc**

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## **snmp trap unicast**

### **Command Usage**

Enable SNMP unicast traps.

### **Syntax Options**

**snmp trap unicast** (No additional syntax options are used.)

### **Corresponding UI Command**

**snmpc**

## snmp station

### Command Usage

Set up an NMS station.

### Syntax Options

**snmp station** <*ip-address*> {*trap enable* | *trap disable* | *bit-mask*} [*udp-port*] [on | off] [special]

#### Definitions:

*ip-address* = the IP address to which SNMP unicast traps will be sent

*trap* = the SNMP trap category that is to be enabled or disabled (refer to additional information below)

*bit-mask* = a binary notation representing SNMP traps (e.g., **0000c001:00000200 bb000000:00000200**)

**enable** = enables the specified trap type (only enabled trap types will be sent to the specified IP address)

**disable** = disables the specified trap type (all disabled trap types *will not* be sent to the specified IP address)

*udp-port* = specifies a UDP destination port

**on** = turns the NMS state *on*

**off** = turns the NMS state *off*

**special** = specifies that the station being configured has special access (i.e., it can update other entries, as well as its own)

#### Switch and Command Defaults:

*udp-port* = **162**

**on | off** = NMS state **on**

#### Valid Trap Categories:

**all, system, port, vlan, routing, bridge, fr, atm, health, rmon**

#### ♦ Syntax Notes ♦

Each trap category contains a subset set of SNMP traps. For a complete list of SNMP traps, refer to page 8-9.

If you specify a trap category in the command line (e.g., **routing**), all traps in the category's subset will be included. As an option, you can also specify a specific trap name (from any subset) in the command line (e.g., **ClockBuslineStatus**).

#### Command Examples:

**snmp station 172.23.9.100 atm enable**

**snmp station 168.5.0.101 0000c001:00000200 bb000000:00000200**

**snmp station 172.5.9.0 port enable off**

**snmp station 1.1.1.1 system disable 162 on special**

**snmp station 172.23.7.23 system disable on**

**snmp station 172.0.0.0 ClockBuslineStatus enable**

### Corresponding UI Command

snmpc

### Remarks

Refer to your User Manual's SNMP chapter for detailed information on *bit-mask* representations.



SNMP Trap Type Contents		
<b>all</b> Enables or disabled all supported traps.	<b>system</b> coldStart warmStart TempAlarm ModuleChange PowerEvent ControllerEvent ModuleResetReload SystemEvent ClockBuslineStatus	<b>port</b> linkDown linkUp PortLinkUpEvent PortLinkDownEvent PortPartitioned PortRecordMismatch dsx3LineStatusChange dsx1LineStatusChange
<b>vlan</b> GroupChange VlanChange PortMove MacVlanViolation AuthVLANAttempt BindingViolation	<b>routing</b> ipxTrapCircuitDown ipxTrapCircuitUp VlanRouteTableFull SapTableFull DuplicateIPAddress VRRPNewMaster VRRPAuthFailure AVLAAuthAttempt	<b>bridge</b> newRoot topologyChange MacDuplicatePort PortManualForwardingMode
<b>fr</b> frDLCIStatusChange DLCICreate DLCIDelete DLCIActive DLCIInactive	<b>atm</b> atmVpcChange atmVccChange AtmSSCOPstate IlmiState AtmConnection AtmService atmCesVccCreate (or CConnCreate) atmCesVccDelete (or CConnDelete)	<b>health</b> HealthThresholdRising HealthThresholdFalling HealthThresholdDevice HealthThresholdModule HealthThresholdPort
<b>rmon</b> risingAlarm fallingAlarm		

### Additional Trap Options

The following traps may be enabled/disabled individually by entering them in the command line as written. In addition, you can enable/disable all traps (including those listed below) by specifying **all** in the command line (refer to Syntax Options for more information).

DuplicateMACAddress  
 authenticationFailure  
 egpNeighborLoss  
 LoginViolation  
 FDDIWrapChange  
 XMAPPortChange  
 XMAPStateChange  
 GMAPFailedUpdate

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## **no snmp station**

### **Command Usage**

Delete an NMS station.

### **Syntax Options**

<b>no snmp station</b> < <i>ip-address</i> >
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Definitions:

*ip-address* = the IP address for the NMS station you want to delete

Command Example:

**no snmp station 1.1.1.1**

### **Corresponding UI Command**

**snmpc**

## snmp trap generate

### Command Usage

Generate a simulated SNMP trap.

### Syntax Options

**snmp trap generate** <*trap-name*>

#### Definitions:

*trap-name* = the exact name of the trap you want to generate. Command choices include:

- warmstart
- coldstart
- systemevent
- tempalarm
- modulechange
- powerevent
- controllerevent
- portlinkdownevent
- portlinkupevent
- loginviolation
- newroot
- topologychange
- vlanchange
- groupchange
- vrrpauthfailure
- vrrpnewmaster
- vlanroutetablefull
- atmconnection
- atmervice
- healththresholdrising
- healththresholdfalling
- healththresholddevice
- healththresholdmodule
- dlcicreate
- dlcidelete
- linkdown
- linkup

#### Command Examples:

**snmp trap generate portlinkupevent**

**snmp trap generate atmervice**

### Remarks

Simulated SNMP traps—or *test traps*—can be generated to verify that individual traps are being correctly handled by the Network Management Station (NMS).

