



# APPENDIX **B**

## HP OpenView Sample SNMP Configuration

### Configuring the Cisco MGC to Send Alarms to HP OpenView

This sample configuration sets up a Cisco MGC to send alarms to HP OpenView.

- Step 1** Load the following MIBs in HP OpenView, in the order shown below. To load MIBs, select the **Options** menu, and choose **Load/Unload MIBs: SNMP**.

MIB	Location
CISCO-SMI.my	/opt/TransPath/snmp
tp.my	/opt/TransPath/snmp
measurement.my	/opt/TransPath/snmp
v3-tgt.my	/opt/TransPath/snmp
SNMP-FRAMEWORK-MIB.my	ftp://ftp.cisco.com/pub/mibs/v2/
SNMP-NOTIFICATION-MIB.my	ftp://ftp.cisco.com/pub/mibs/v2/



**Note** You must also install the generic HP OpenView MIB files SNMP-FRAMEWORK and SNMP-NOTIFICATION. These files are available from your HP OpenView installation medium.

- Step 2** Open the MIB browser and select the Tools menu, then choose **SNMP MIB Browser**.
- Step 3** Under Name or IP Address, enter the name or IP address of the Cisco MGC you are configuring.
- Step 4** Under Community Name, enter **public**.
- Step 5** Navigate to the SNMP target address table by double-clicking **snmpV2 | snmpModules | snmpTargetMIB | snmpTargetObjects | snmpTargetAddrTable | snmpTargetAddrEntry**.
- Step 6** Select the MIB object **snmpTargetAddrRowStatus** (see table below).
- Step 7** Click **Start Query**. Two values should appear at the bottom of the window, 49: active and 50: active.
- Step 8** Under MIB Instance, enter **51** (see table below).
- Step 9** Under SNMP Set Value, enter **5** (see table below).
- Step 10** Click **Set**. You should see a dialog box indicating that the values are entered successfully.
- Step 11** Continue this process until all the MIB object IDs in the table below have the correct MIB instance and SNMP set values.

Select MIB Object ID	MIB Instance	SNMP Set Value
snmpTargetAddrRowStatus	51	5
snmpTargetAddrRowStatus	52	5
snmpTargetAddrTDomain	52	.1.3.6.1.6.1.1
snmpTargetAddrTDomain	52	.1.3.6.1.6.1.1
snmpTargetAddrTAddress	51	Hex representation of NMS IP (see note below)
snmpTargetAddrTAddress	52	Hex representation of NMS IP (see note below)
snmpTargetAddrTimeout	51	100
snmpTargetAddrTimeout	52	100
snmpTargetAddrRetryCount	51	3
snmpTargetAddrRetryCount	52	3
snmpTargetAddrTagList	51	Manager1
snmpTargetAddrTagList	52	Manager1
snmpTargetAddrParams	51	v1ExampleParams
snmpTargetAddrParams	52	v2cExampleParams
snmpTargetAddrStorageType	51	3
snmpTargetAddrStorageType	52	3
snmpTargetAddrRowStatus	51	1
snmpTargetAddrRowStatus	52	1

**Note**

When you are configuring `snmpTargetAddrTAddress`, the address of the network management station running HP OpenView must be entered. This SNMP field is a generic six-byte field designed to accommodate IP and non-IP SNMP implementations. Since the Cisco MGC supports only SNMP over IP, this field always contains the IP address of the network management system. The IP address, however, must be converted into a six-byte hexadecimal value. This is done by converting the IP address to hexadecimal notation, then appending two bytes of zeros as padding. For example, if the IP address of the HP OpenView station is 172.24.236.241, the value entered for `snmpTargetAddrTAddress` is AC 18 EC F1 00 00.

**Tip**

You can verify the settings by selecting each MIB object ID and clicking **Start Query**. When you do this for `snmpTargetAddrRowStatus`, it should show four entries set to active.

**Step 12** Navigate to the `snmpNotify` table by clicking **Up Tree** four times to return to the `snmpModules` part of the MIB. Then navigate down the tree by double-clicking **snmpNotificationMIB | snmpNotifyObjects | snmpNotifyTable | snmpNotifyEntry**.

**Step 13** As before, associate the correct MIB instance and SNMP set values with the MIB object IDs.

Select MIB Object ID	MIB Instance	SNMP Set Value
snmpNotifyRowStatus	50	5
snmpNotifyTag	50	Manager1

snmpNotifyStorageType	50	3
snmpNotifyRowStatus	50	1

**Tip**

You can verify the settings by selecting each MIB OID and clicking **Start Query**. When you do this for snmpNotifyRowStatus, it should show four entries set to active. When you have verified the settings, you can close the MIB browser window.

**Step 14** Click **Close**.

**Step 15** At this point, HP OpenView should start receiving alarms from the Cisco MGC. You can verify this by, for example, performing a **set-sc-state** MML command to take a signaling channel out of service.

## Formatting Trap Messages

When HP OpenView receives the traps from the Cisco MGC, HP OpenView does not automatically interpret the trap and display it in a useful manner. The trap is sent with basic information indicating the alarm category, description, and severity. Because many failures require extra detail for troubleshooting, you should refer to the log file on the Cisco MGC for complete alarm information and for determining root causes.

You can, however, configure HP OpenView to format the traps into a more readily understandable format by following the steps below:

- Step 1** Open the Event Configuration window by selecting **Options | Event Configuration** from the HP OpenView menu.
- Step 2** Under Enterprise Name, select **TransPath**. The five alarm types should be displayed under Event Identification.
- Step 3** Double-click one of the event names under Event Identification; for example, commAlarm.
- Step 4** Under Event Log Message, enter the message that you want logged to the HP OpenView log file when HP OpenView receives this alarm. You can use variables from the following table in your message to provide specific information about the alarm.

Variable	Definition	Explanation
\$1	tpAlarmId	Alarm identification
\$2	tpAlarmCatId	Alarm category identification number
\$3	tpAlarmCatName	Alarm category name
\$4	tpAlarmCatDesc	Alarm category description
\$5	tpAlarmSet	Alarm set/not set. 2 means the alarm is being set. 1 means the alarm is being cleared
\$6	tpAlarmNotify	Alarm notified/not notified
\$7	tpAlarmSeverity	Alarm severity
\$8	tpAlarmReported	Alarm reported
\$9	tpComponentId	Component identification number. This number consists of two parts, the component type and component instance.  The most significant 2 bytes signify the component type.  The least significant 2 bytes are the sequential instance of the type.
\$10	tpComponentType	Component type identification number
\$11	tpCompMMLName	Short notation of the component name. It is also the MML name that can be used in the MML session.
\$12	tpCompDesc	Component description
\$13	tpCompParentId	Component parent identification
\$14	tpAlarmTime	Time the alarm occurred

Following is an example of an event log message string:

```
SC2200: ID#: $13 Name: $12 Set: $10 MMLname: $4 CatDesc: $11 CompDesc: $3
Severity: $8 CompID: $6 CompType: $5 CatID: $14 AlarmNotify: $9 AlarmTime: $1
ParentID: $2 AlarmReported: $7
```

Following is another example showing more simple formatting:

```
MGC $7 alarm $5 -- $12: $4
```

- Step 5** Click **OK** to set your message.
- Step 6** Repeat the procedure for each event name.
- Step 7** From the Event Configuration window, select **File | Save**.
- Step 8** Close the window.
- Step 9** Verify that alarms are being received and formatted correctly by generating an alarm on the Cisco MGC (for instance, take a signaling channel out of service to see if you get an alarm).