Cisco − SNMP FAQs for Cable Networks

Table of Contents

SNMP FAQs for Cable Networks **1**
Questions 1
Introduction 1
Q. What documents on CCO are available to help me understand, configure, and troubleshoot Simple Network Management Protocol (SNMP)? 1
Q. What is an SNMP Trap? 1
Q. How do I set up Cisco CMTS (uBR7200, uBR7100 and/or uBR10000) to send a trap to a Network Management System? 2
Q. Which MIBs are supported in Cisco uBR7200 Series routers? 2
Q. What are the specific cable MIBs, including DOCSIS? 2
Q. What are the Cable/DOCSIS specific MIBs support for DOCSIS 1.0, DOCSIS 1.0+, and DOCSIS 1.1 required in order to perform a basic management of a cable network and its loading sequence? 4
Q. How do I set SNMP community strings to manage Cable Modems? 8
Q. What is SNMP remote query and which Cisco IOS software version do I need on a Cisco CMTS? 9
Q. How do I configure SNMP remote query on a Cisco CMTS? 10
Q. How do I display remote−query information from the CMTS? 10
Q. When does the remote−query information display values of 0.0 when I am retrieving the information? 12
Q. Can I poll SNMP queries from a UNIX workstation? 12
Q. How can I set filtering in a cable modem? 13
Q. What are the most common MIB Objects/OIDs used in a cable environment and in which MIB I can find them? 14
Q. Where can I find an online tool to translate traps and Cisco MIB Object IDs to object names and vice versa? 14
Related Information 14

SNMP FAQs for Cable Networks

Questions

Introduction
What documents on CCO are available to help me understand, configure, and troubleshoot Simple Network Management Protocol (SNMP)?
What is an SNMP Trap?
How do I set up Cisco CMTS (uBR7200, uBR7100 and/or uBR10000) to send a trap to a Network Management System?
Which MIBs are supported in Cisco uBR7200 Series routers?
What are the specific cable MIBs, including DOCSIS?
What are the Cable/DOCSIS specific MIBs support for DOCSIS 1.0, DOCSIS 1.0+, and DOCSIS 1.1 required in order to perform a basic management of a cable network and its loading sequence?
How do I set SNMP community strings to manage Cable Modems?
What is SNMP remote query and which Cisco IOS software version do I need on a Cisco CMTS?
How do I configure SNMP remote query on a Cisco CMTS?
How do I display remote−query information from the CMTS?
When does the remote−query information display values of 0.0 when I am retrieving the information?
Can I poll SNMP queries from a UNIX workstation?
How can I set filtering in a cable modem?
What are the most common MIB Objects/OIDs used in a cable environment and in which MIB I can find them?
Where can I find an online tool to translate traps and Cisco MIB Object IDs to object names and vice versa?
Related Information

Introduction

Simple Network Management Protocol (SNMP) is a network management protocol used almost exclusively in TCP/IP networks. SNMP provides a means to monitor and control network devices, and to manage configurations, statistics collection, performance, and security.

Q. What documents on CCO are available to help me understand, configure, and troubleshoot Simple Network Management Protocol (SNMP)?

Please see Internetworking Technology Overview − Simple Network Management Protocol (SNMP).

Q. What is an SNMP Trap?

SNMP traps enable an agent (like the CMTS) to notify the management station (Like CiscoView, Cisco Cable Manager, or HP Open View) of significant events by way of an unsolicited SNMP message. After receiving the event, a manager is alerted, and the manager may choose to take action based on the event. For instance, he/she can poll the agent (like

Cisco's CMTS) directly, or poll other associated device agents (like the cable modems) to get a better understanding of the event. Trap directed notification can result in substantial savings of network and agent resources by eliminating the need for frivolous SNMP requests. However, it is not possible to totally eliminate SNMP polling. SNMP requests are required for discovery and topology changes. In addition, a managed device agent cannot send a trap if the device has had a catastrophic outage.

In order for a management system (Like CiscoView, Cable Manager, or HPOV) to understand a trap sent to it by an agent (like the CMTS) , the management system must know what the object identifier (OID) defines. Therefore, it must have the MIB for that trap loaded. This provides the correct OID information so that the network management system can understand the traps sent to it.

For more information about this read Understanding Simple Network Management Protocol (SNMP) Traps.

Q. How do I set up Cisco CMTS (uBR7200, uBR7100 and/or uBR10000) to send a trap to a Network Management System?

This configuration involves enabling traps, specifying a source interface for SNMP traps, setting destination host IP addresses, and ensuring the cable modem MIB is set. To enable the cable−specific SNMP traps, configure the Cisco CMTS with the following global configuration commands:

```
snmp−server enable traps
snmp−server trap−source [interface port/slot]
snmp−server host [IP address] [community string]
```

Multiple host IP addresses can be entered to forward traps to multiple SNMP management stations.

Q. Which MIBs are supported in Cisco uBR7200 Series routers?

A list of the MIBs that are supported in the Cisco uBR7200 Series routers is found here.

For a complete list of MIBs for all Cisco products you can go to Cisco MIBs.

Q. What are the specific cable MIBs, including DOCSIS?

The specific cable MIBs are:

MIB Filename	Description
SNMPv2−SMI.my SNMPv2−SMI−V1SMI.my	This module specifies the Structure of Management Information (SMI) for SNMPv2, as defined in RFC1902 .
SNMPv2−TC.my SNMPv2−TC−V1SMI.my	This module defines the textual conventions as specified in RFC1903 .

SNMPv2−MIB.my SNMPv2−MIB−V1SMI.my	The management protocol, SNMPv2, provides for the exchange of messages that convey management information between the agents and the management stations, as defined in RFC1907 .
CISCO−SMI.my CISCO−SMI−V1SMI.my	This module specifies the SMI for Cisco's enterprise MIBs.
CISCO−TC.my CISCO−TC−V1SMI.my	This module defines the textual conventions used in Cisco's enterprise MIBs.
IF−MIB.my IF−MIB−V1SMI.my	This module describes generic objects for the Layer 3 network interface sublayers. This MIB is an updated version of MIB−II's if table and incorporates the extensions defined in RFC2233 .
DOCS−IF−MIB.my DOCS−IF−MIB−V1SMI.my	This module describes the DOCSIS−compliant Radio Frequency (RF) interfaces in CMs and the CMTS. This MIB has been released as an RFC2670.
DOCS−BPI−PLUS−MIB.my DOCS−BPI−PLUS−MIB−V1SMI.my	This module describes the attributes for the DOCSIS 1.1−specified Baseline Privacy Interface Plus (BPI+) on CMS and the CMTS. This is a draft revision 05 of the MIB. **Note:** This MIB replaces DOCS−BPI−MIB, which was used in the initial DOCSIS 1.0 releases.
CISCO−DOCS−EXT−MIB.my CISCO−DOCS−EXT−MIB−V1SMI.my	This module extends the DOCSIS standard RFI MIB (DOCS−IF−MIB) with Cisco−specific extensions, such as QoS attributes and connection status and other information regarding the cable modems and CPE devices supported by the CMTS.
CISCO−DOCS−REMOTE−QUERY−MIB.my CISCO−DOCS−REMOTE−QUERY−MIB−V1SMI.my	This module facilitates SNMP polling of remote CMS on a CMTS.
CISCO−CABLE−SPECTRUM−MIB.my CISCO−CABLE−SPECTRUM−MIB−V1SMI.my	This module describes the spectrum management and flap list attributes.

DOCS−QOS−MIB.my [1]	This module describes the quality of service (QoS) attributes. This is a draft revision 05 of the MIB. **Note:** Release 12.1(4)CX implemented revision 02 of this MIB. Revision 05 includes substantial changes to the tables and attributes.
DOCS−SUBMGT−MIB.my [1]	This module describes the subscriber management attributes. This is revision 02 of the MIB.
RFC2933 1	This module describes the IGMP protocol attributes, as defined in RFC2933 .
DOCS−CABLE−DEVICE−MIB.my DOCS−CABLE−DEVICE−MIB−V1SMI.my	This module describes the operation of cable modem and CMTS. Only the syslog and Event tables are supported by this MIB, which was released as RFC2669 .
DOCS−CABLE−DEVICE−TRAP−MIB.my [1]	This is the extension of the RFC2669 (DOCS−CABLE−DEVICE−MIB). It defines all the traps supported by a cable modem and CMTS.

[1] These MIBs are in draft form. They have not yet been finalized by the DOCSIS committee and are subject to change with future releases.

Q. What are the Cable/DOCSIS specific MIBs support for DOCSIS 1.0, DOCSIS 1.0+, and DOCSIS 1.1 required in order to perform a basic management of a cable network and its loading sequence?

To load the MIBs specified below, you can use any Networks Management Systems (NMS) like HP Open View, Castle Rock, or WhatsUp Gold. In this FAQ we used WhatsUp Gold which comes as a part of CiscoWorks for Windows on PC. If you would like to view the vendor specific attributes of other vendor's cable modems then you'll need to acquire the appropriate MIBs for those cable modems, and compile them, too. However, the list below should give you all the DOCSIS compliant MIBs that you need to do basic management and status polling for all DOCSIS complaint Cable Modems Please see the below MIBs at Cisco MIBs.

Below is the list of MIBs to be loaded on WhatsUp Gold Software which is part of Cisco Works for Windows on PC. All these MIBs are released version and it's available under ftp://ftp.cisco.com/pub/mibs/v2/

After installing the WhatsUp Gold Software, which gets integrated with CiscoWorks for Windows, you need to run the mibextra executable program. The command looks like:

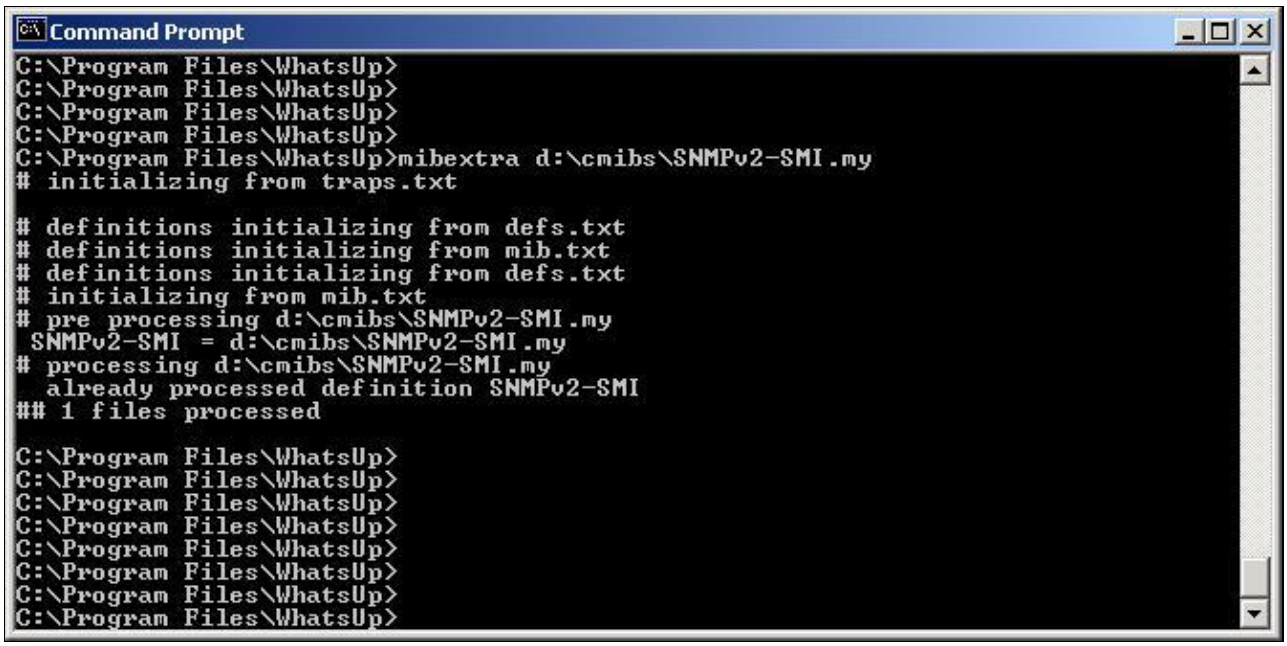
```
C:\WhatsUpGold\mibextra <directory/mib-fileName>
```

In our case, we had this program in C: \Program Files\WhatUp\ directory, the figure below shows an example of how to compile the MIB SNMPv2−SMI.my

Since this MIB is located in d:\cmibs directory, the commands are:

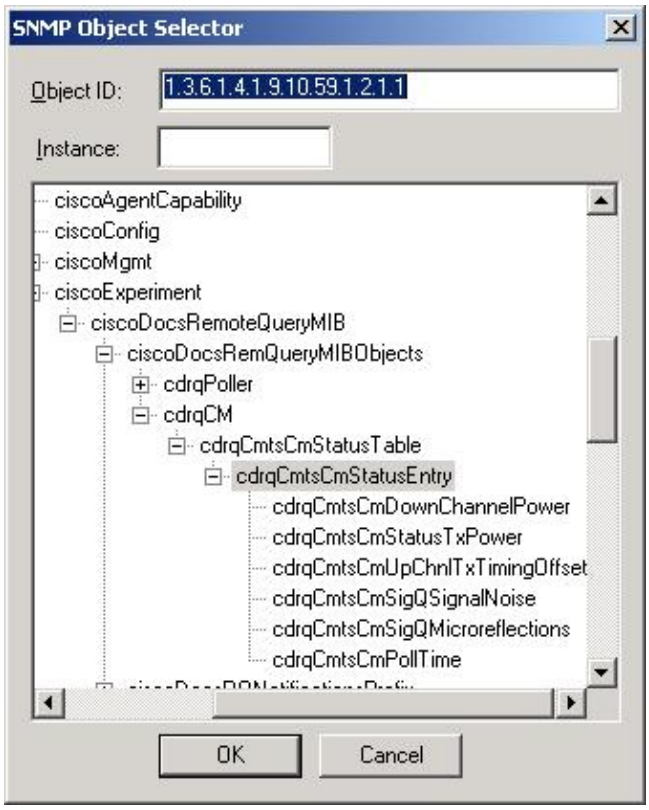
1. **cd \Program Files\WhatsUp**
2. **mibextra d:\cmibs\SNMPv2−SMI.my**

The figure below shows a capture on a DOS prompt while compiling the mib SNMPv2−SMI.my.



Then from WhatsUpGold GUI, you can run Tools −−> NetTools −−> SNMP to walk through each MIB object.

The figure below shows an example of the window you get to walk through a MIB.



MIB LOAD SEQUENCE

1. SNMPv2−SMI.my
2. SNMPv2−SMI−V1SMI.my
3. SNMPv2−TC.my
4. SNMPv2−TC−v1SMI.my
5. CISCO−SMI.my
6. CISCO−SMI−V1SMI.my
7. SNMPv2−CONF.my
8. SNMPv2−MIB.my
9. SNMPv2−MIB−V1SMI.my
10. CISCO−TC.my
11. CISCO−TC−V1SMI.my
12. IANAifType−MIB.my
13. IF−MIB.my
14. IF−MIB−V1SMI.my
15. ETHERLIKE−MIB.my
16. BRIDGE−MIB.my
17. UDP−MIB.my
18. RFC1213−MIB.my
19. DOCS−IF−MIB.my
20. DOCS−IF−MIB−V1SMI.my
21. DOCS−BPI−MIB−V1SMI.my
22. DOCS−BPI−MIB.my
23. CISCO−DOCS−EXT−MIB−V1SMI.my
24. CISCO−DOCS−EXT−MIB.my
25. SNMP−FRAMEWORK−MIB.my
26. CISCO−CABLE−SPECTRUM−MIB−V1SMI.my
27. CISCO−CABLE−SPECTRUM−MIB.my

28. DOCS−CABLE−DEVICE−MIB−V1SMI.my
29. DOCS−CABLE−DEVICE−MIB.my
30. CISCO−DOCS−REMOTE−QUERY−MIB−V1SMI.my
31. CISCO−DOCS−REMOTE−QUERY−MIB.my

Cable/DOCSIS specific MIBs support for DOCSIS 1.1.

This is the list of mibs to be loaded on WhatsUp Gold Software/Cisco Works for Windows on PC.

Cisco IOS® software Version Support : 12.1(4)CX These additional MIBS are not available on CCO as the date of this FAQ.

1. DOCS−BPI−PLUS−MIB−V1SMI.my
2. DOCS−BPI−PLUS−MIB.my
3. DOCS−QOS−MIB−V1SMI.my
4. DOCS−QOS−MIB.my−02 [SNMP version 2]

Load MIB sequence for DOCSIS 1.1

1. SNMPv2−SMI.my
2. SNMPv2−SMI−V1SMI.my
3. SNMPv2−TC.my
4. SNMPv2−TC−v1SMI.my
5. CISCO−SMI.my
6. CISCO−SMI−V1SMI.my
7. SNMPv2−CONF.my
8. SNMPv2−MIB.my
9. SNMPv2−MIB−V1SMI.my
10. CISCO−TC.my
11. CISCO−TC−V1SMI.my
12. IANAifType−MIB.my
13. IF−MIB.my
14. IF−MIB−V1SMI.my
15. ETHERLIKE−MIB.my
16. BRIDGE−MIB.my
17. UDP−MIB.my
18. RFC1213−MIB.my
19. DOCS−IF−MIB.my
20. DOCS−IF−MIB−V1SMI.my
21. DOCS−BPI−MIB−V1SMI.my
22. DOCS−BPI−MIB.my
23. CISCO−DOCS−EXT−MIB−V1SMI.my
24. CISCO−DOCS−EXT−MIB.my
25. SNMP−FRAMEWORK−MIB.my
26. CISCO−CABLE−SPECTRUM−MIB−V1SMI.my
27. CISCO−CABLE−SPECTRUM−MIB.my
28. DOCS−CABLE−DEVICE−MIB−V1SMI.my
29. DOCS−CABLE−DEVICE−MIB.my
30. CISCO−DOCS−REMOTE−QUERY−MIB−V1SMI.my
31. CISCO−DOCS−REMOTE−QUERY−MIB.my
32. DOCS−BPI−PLUS−MIB−V1SMI.my
33. DOCS−BPI−PLUS−MIB.my
34. DOCS−QOS−MIB−V1SMI.my

35. DOCS−QOS−MIB.my−02

Q. How do I set SNMP community strings to manage Cable Modems?

Cable Modems may be managed using the Simple Network Management Protocol (SNMP). In order to make sure that only the appropriate parties and devices can manage a Cable Modem via SNMP, it is possible to send a set of community strings to the Cable Modem via the DOCSIS configuration file. Only SNMP requests that contain the correct community string will be answered. In addition, it is possible to restrict the allowed source IP address of SNMP requests.

The most common SNMP community strings are "public" which has read−only access, and "private" which has read−write access. The complete specification of these strings are defined on Table 1 and Table 2 on Building DOCSIS 1.0 Configuration Files Using Cisco DOCSIS Configurator (registered customers only)

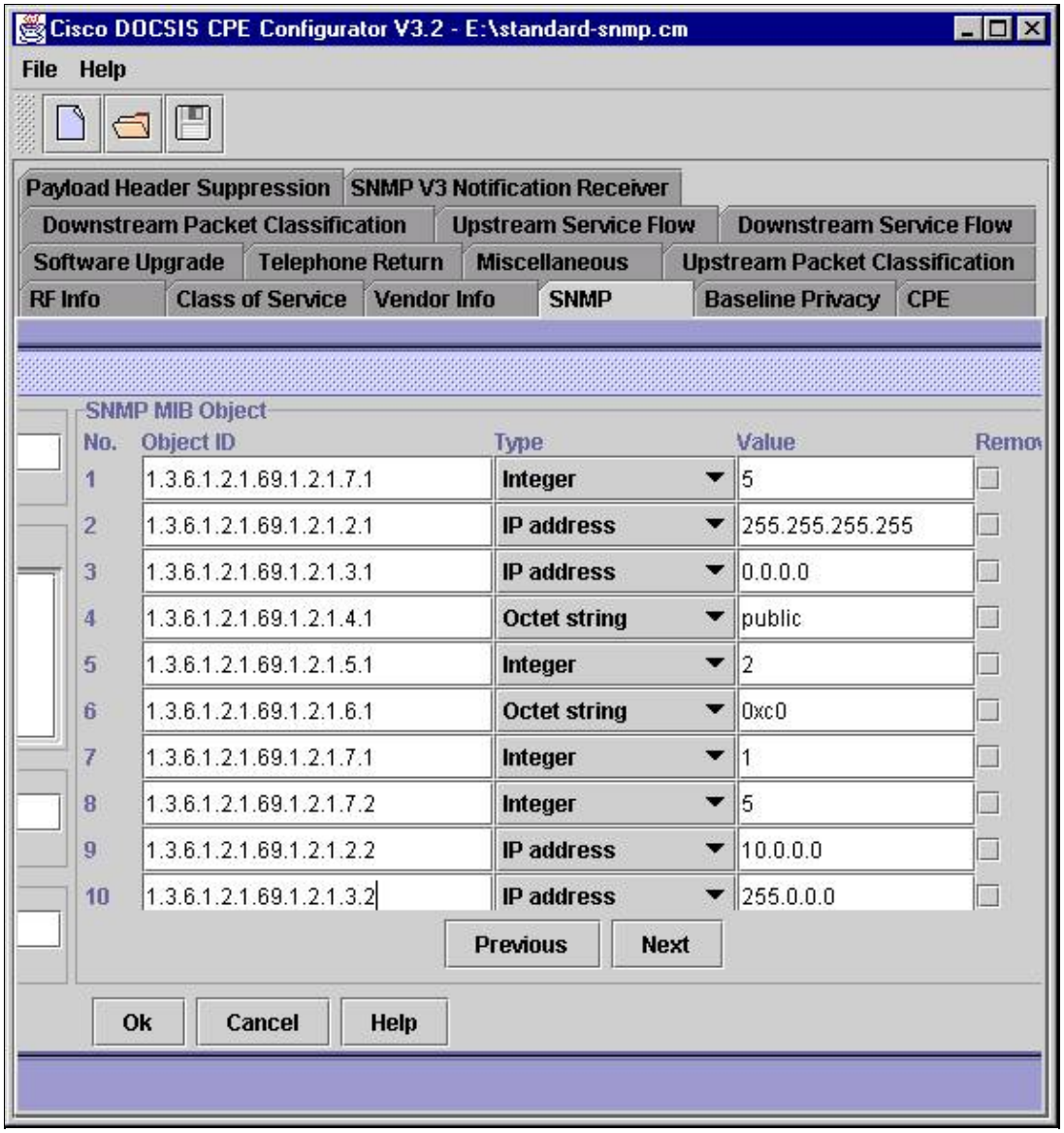
Note: Cisco's Cable Modems community strings are disabled by default, while with other vendors they are enabled by default.

You must use the docsDevNmAccessTable defined in DOCS−CABLE−DEVICE−MIB (RFC2669) to configure a community string in DOCSIS, NOT by IOS. Following these rules:

1. If no `docsDevNmAccessEntry` is configured, any community string works.
2. If an entry has an empty community string, any string works as long as the query filters through the other restriction of that entry. This is because community strings can be associated with IP addresses, so that queries using certain community strings are deemed valid only if the source is one of the permitted IP addresses, such as the snmp−server community <comm> acl <acl> command.
3. If an entry has a non−empty community string, then only queries with that community string can filter through any restrictions of that entry.

The following picture shows an example of how to set the community strings using DOCSIS CPE Configurator Tool V3.2 so that it programs a cable modem to allow read−only access to any host via the public community string. In addition, the DOCSIS Configurator tool will also specify the read−write community string private which allows access via the Cable interface only, and from workstations in the 10.0.0.0/255.0.0.0 network exclusively. By this we mean that cable modems only respond to SNMP requests if the request came from a Network management workstation that was:

- On the cable side of the cable modem. In other words, it wasn't a CPE device.
- Its IP address was within 10.0.0.0/8



For more detailed information, read Building DOCSIS 1.0 Configuration Files Using Cisco DOCSIS Configurator (registered customers only) .

Q. What is SNMP remote query and which Cisco IOS software version do I need on a Cisco CMTS?

SNMP remote query is a feature that allows the CMTS to poll certain statistics about the cable modems connected to it. You can do remote queries only about about the following information:

Object Identifier Name	Object Identifier Number	Meaning
cdrqCmtsCmDownChannelPower (TenthdBmV)	1.3.6.1.4.1.9.10.59.1.2.1.1.1	Downstream Power
cdrqCmtsCmStatusTxPower (TenthdBmV)	1.3.6.1.4.1.9.10.59.1.2.1.1.2	Upstream Transmit Power

cdrqCmtsCmUpChnlTxTimingOffset	1.3.6.1.4.1.9.10.59.1.2.1.1.3	Upstream Channel Transmit Timing Offset
cdrqCmtsCmSigQSignalNoise (TenthdB)	1.3.6.1.4.1.9.10.59.1.2.1.1.4	S/N Ratio
cdrqCmtsCmSigQMicroreflections	1.3.6.1.4.1.9.10.59.1.2.1.1.5	Micro Reflections
cdrqCmtsCmPollTime	1.3.6.1.4.1.9.10.59.1.2.1.1.6	Polling time

To see how these statistics are shown in the CMTS, read question How do I display remote−query information from the CMTS?

Cisco has introduced the remote−query feature in uBR7200 Cisco IOS software release 12.0(7)XR to be able to poll the information mentioned above from cable modems from the CMTS. This command has been also committed in 12.1(2)T train. If you need to poll information that is not in the above list, you need to know the specific OID and have a Network Management System (NMS) in you cable plant. Cisco's NMS are Cable Manager and Cisco View. Another very popular NMS is HP Open View or WhatsUp Gold that comes with CiscoWorks suite.

Q. How do I configure SNMP remote query on a Cisco CMTS?

CMTS Configuration: On CMTS enable the following global commands via CLI:

```
snmp−server community public RO
snmp−server manager
cable modem remote−query 10 public
```

Cable Modem Configuration: On the Cable Modem enable the following global commands via CLI:

```
snmp−server community public RO
```

- RO (Optional) Specifies read−only access. Authorized management stations are only able to retrieve MIB objects. This is the default mode of access.
- RW (Optional) Specifies read−write access. Authorized management stations are able to both retrieve and modify MIB objects.

You can also configure the community strings inside the DOCSIS Config file. To learn how to do it, please click here (registered customers only) .

For more detailed information about the remote−query command click here.

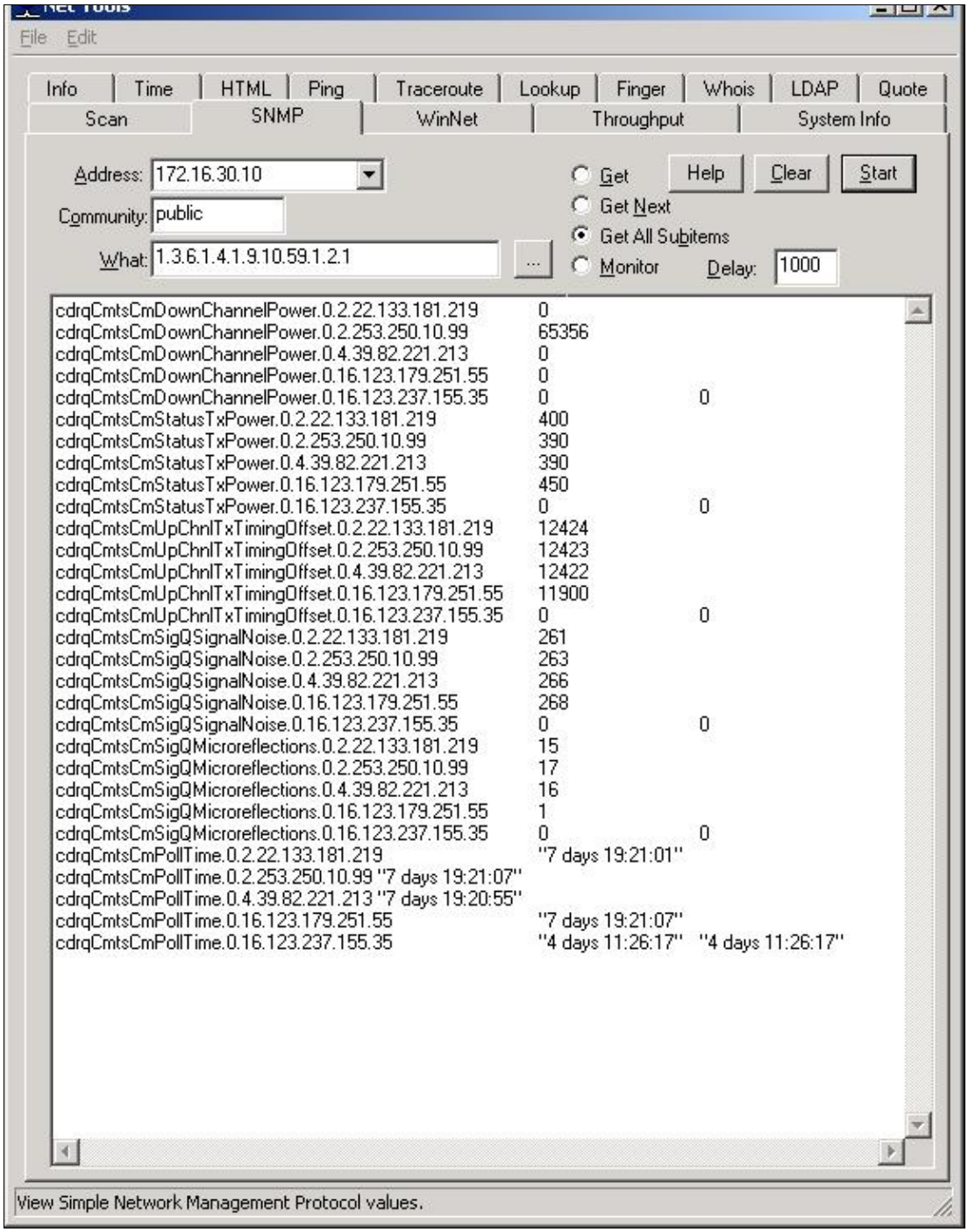
Q. How do I display remote−query information from the CMTS?

Once you have configured your CMTS for remote queries (see previous question), there are two ways to get the information.

First, you can display remote query information from CLI on your Cisco CMTS using "show cable modem remote−query" command.

```
ubr7246#show cable modem remote-query
Remote Query Polling State : Active
IP address      MAC address     S/N    US     DS     Tx Time Micro (dB) Modem
                                Ratio  Power  Power  Offset  Reflection State
10.224.32.25    0004.2752.ddd5  26.6   39.0    0.0   12422   16         online(pt)
10.224.32.23    0010.7bed.9b23   0.0    0.0    0.0   0       0          online(pt)
10.224.32.26    0002.1685.b5db  26.1   40.0    0.0   12424   15         online(pt)
10.224.32.21    0010.7bed.9b27   0.0    0.0    0.0   0       0          online(pt)
10.224.32.24    0002.fdfa.0a63  26.3   39.0  -18.0   12423   17         online(pt)
10.224.32.22    0010.7bb3.fb37  26.8   45.0    0.0   11900   1          online(pt)
```

Second, you can retrieve "cdrqCmtsCmStatusTable" from CISCO−DOCS−REMOTE−QUERY−MIB in your NMS. For example using WhatsUp Gold, the figure below shows the output given for this output.



Notice here that the last portion of the OIDs represents the Mac address of the cable modems converted from Hexadecimal to Decimal Values.

For example 0.2.22.133.181.219 is the decimal representation of 0002.1685.b5db. In the table below you can see the details of the conversion.

Hexadecimal	Decimal
00	0
02	2
16	22
85	133
b5	181
db	219

From the figure above, notice also that the measure of Transmit Power and SNR are in tenth dB in the while the output of show cable modem remote−query is in dBs.

Q. When does the remote−query information display values of 0.0 when I am retrieving the information?

Sometimes you can see that the information provided via the **show cable modem remote−query** gives values of 0.0. The most common reason for this is that the cable modem was not configured with the SNMP community strings. In the output shown in the previous question, only five cable modems were configured with the SNMP community strings and therefore are providing us with some information. There are two cable modems that had all fields filled with 0.0 values. Those two cable modems did not have SNMP community strings configured. Notice that the information that you can get using this feature is only the information shown in the the table above. This is because the CMTS is not a Network Management System (NMS) and only provides basic information. If you require other statistics you can use other NMS like Cisco Cable Manager or Cisco View to query the information you need.

Q. Can I poll SNMP queries from a UNIX workstation?

Yes, you can use the built in SNMP facilities from a UNIX workstation to do the polling. The facility is "snmpwalk" Using snmpwalk facility in a UNIX station that can ping then CMTS. Make sure you have the MIBs loaded in your systems and that you have the SNMP daemon running. Otherwise you will not get valuable information. Below there is an example of the mib "cdrqCmtsCmStatusTable" which OID corresponds to .1.3.6.1.4.1.9.10.59.1.2.1.1.4. You can find all the Remote Query objects here.

Below you can see that from the UNIX workstation called "unix−station" the command " snmpwalk 172.16.30.10 public .1.3.6.1.4.1.9.10.59.1.2.1" was entered.

```
UNIX−station% snmpwalk 172.16.30.10 public .1.3.6.1.4.1.9.10.59.1.2.1
enterprises.cisco.ciscoExperiment.59.1.2.1.1.1.0.2.22.133.181.219 = 0
enterprises.cisco.ciscoExperiment.59.1.2.1.1.1.0.2.253.250.10.99 = −180
enterprises.cisco.ciscoExperiment.59.1.2.1.1.1.0.4.39.82.221.213 = 0
enterprises.cisco.ciscoExperiment.59.1.2.1.1.1.0.16.123.179.251.55 = 0
```

```
enterprises.cisco.ciscoExperiment.59.1.2.1.1.1.0.16.123.237.155.35 = 0
enterprises.cisco.ciscoExperiment.59.1.2.1.1.1.0.16.123.237.155.39 = 0
enterprises.cisco.ciscoExperiment.59.1.2.1.1.2.0.2.22.133.181.219 = 400
enterprises.cisco.ciscoExperiment.59.1.2.1.1.2.0.2.253.250.10.99 = 390
enterprises.cisco.ciscoExperiment.59.1.2.1.1.2.0.4.39.82.221.213 = 390
enterprises.cisco.ciscoExperiment.59.1.2.1.1.2.0.16.123.179.251.55 = 450
enterprises.cisco.ciscoExperiment.59.1.2.1.1.2.0.16.123.237.155.35 = 0
enterprises.cisco.ciscoExperiment.59.1.2.1.1.2.0.16.123.237.155.39 = 0
enterprises.cisco.ciscoExperiment.59.1.2.1.1.3.0.2.22.133.181.219 = Gauge32: 12424
enterprises.cisco.ciscoExperiment.59.1.2.1.1.3.0.2.253.250.10.99 = Gauge32: 12423
enterprises.cisco.ciscoExperiment.59.1.2.1.1.3.0.4.39.82.221.213 = Gauge32: 12422
enterprises.cisco.ciscoExperiment.59.1.2.1.1.3.0.16.123.179.251.55 = Gauge32: 11900
enterprises.cisco.ciscoExperiment.59.1.2.1.1.3.0.16.123.237.155.35 = Gauge32: 0
enterprises.cisco.ciscoExperiment.59.1.2.1.1.3.0.16.123.237.155.39 = Gauge32: 0
enterprises.cisco.ciscoExperiment.59.1.2.1.1.4.0.2.22.133.181.219 = 261
enterprises.cisco.ciscoExperiment.59.1.2.1.1.4.0.2.253.250.10.99 = 263
enterprises.cisco.ciscoExperiment.59.1.2.1.1.4.0.4.39.82.221.213 = 266
enterprises.cisco.ciscoExperiment.59.1.2.1.1.4.0.16.123.179.251.55 = 268
enterprises.cisco.ciscoExperiment.59.1.2.1.1.4.0.16.123.237.155.35 = 0
enterprises.cisco.ciscoExperiment.59.1.2.1.1.4.0.16.123.237.155.39 = 0
enterprises.cisco.ciscoExperiment.59.1.2.1.1.5.0.2.22.133.181.219 = 15
enterprises.cisco.ciscoExperiment.59.1.2.1.1.5.0.2.253.250.10.99 = 17
enterprises.cisco.ciscoExperiment.59.1.2.1.1.5.0.4.39.82.221.213 = 16
enterprises.cisco.ciscoExperiment.59.1.2.1.1.5.0.16.123.179.251.55 = 1
enterprises.cisco.ciscoExperiment.59.1.2.1.1.5.0.16.123.237.155.35 = 0
enterprises.cisco.ciscoExperiment.59.1.2.1.1.5.0.16.123.237.155.39 = 0
enterprises.cisco.ciscoExperiment.59.1.2.1.1.6.0.2.22.133.181.219 = Timeticks: (6744
enterprises.cisco.ciscoExperiment.59.1.2.1.1.6.0.2.253.250.10.99 = Timeticks: (67446
enterprises.cisco.ciscoExperiment.59.1.2.1.1.6.0.4.39.82.221.213 = Timeticks: (67445
enterprises.cisco.ciscoExperiment.59.1.2.1.1.6.0.16.123.179.251.55 = Timeticks: (674
enterprises.cisco.ciscoExperiment.59.1.2.1.1.6.0.16.123.237.155.35 = Timeticks: (386
enterprises.cisco.ciscoExperiment.59.1.2.1.1.6.0.16.123.237.155.39 = Timeticks: (386
```

Notice that the numbers we get with the snmpwalk command are 10 times the real values (see previous question). Also notice that the order is different.

Q. How can I set filtering in a cable modem?

There are two types of filtering , the Logical Link Control (LLC), and IP traffic.

Filtering can be set in two ways:

1. DOCSIS Configuration File
2. SNMP

DOCSIS Configuration File

DOCSIS Config file tool set IP and Logical Link Control (LLC) filters for your cable modems. You usually do this via the DOCSIS Configuration file. For a detailed explanation on the OID's that you need and how to build the DOCSIS configuration file, please read the "IP and LLC Filters" sub section of Building DOCSIS 1.0 Configuration Files Using Cisco DOCSIS Configurator (registered customers only) .

SNMP

You need to set the two following tables from the DOCS−CABLE−DEVICE−MIB:

docsDevFilerLLCTable for the LLC filtering

docsDevFilterIPTable for the IP traffic filtering

Q. What are the most common MIB Objects/OIDs used in a cable environment and in which MIB I can find them?

The following table shows some of the most common MIBs used in a cable environment. Note: This table is not exhaustive and its intend is to show only the most commonly asked OIDs for cable.

OID	Name	MIB where t
1.3.6.1.4.1.9.10.59.1.2.1.1.4	cdrqCmtsCmSigQSignalNoise	CISCO−DOC
.1.3.6.1.4.1.9.9.114.1.1.5.1.4	ccsFlapObjects.ccsFlapTable.ccsFlapEntry.ccsFlapInsertionFails	CISCO−DOC
1.3.6.1.2.1.10.127.1.1.2.1.3	docsIfUpChannelWidth	DOCS−IF−M

Q. Where can I find an online tool to translate traps and Cisco MIB Object IDs to object names and vice versa?

You can find the SNMP Object Navigator on the NMS Tools page.

Related Information

- **Technical Support − Cisco Systems**

All contents are Copyright © 1992−2003 Cisco Systems, Inc. All rights reserved. Important Notices and Privacy Statement.