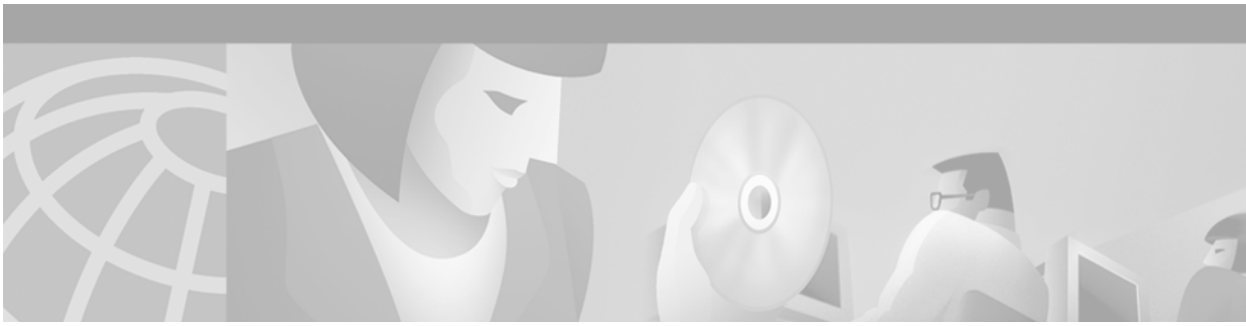

Dial MIBs and OIDs Used in the Case Study

This section describes the MIBs and OIDs used to manage the dial Internet access service in the case study.

See the following tables and choose the variables you want to use in your network. Explore the OIDs and determine whether to poll and graph the results on a regular basis.

- To explore the MIBs and OIDs, use UCD-SNMP. For more information, see the "Task 2— Exploring SNMP Capabilities by Using UCD-SNMP" section on page 45.
- To graph the trending statistics for a specific OID, use Multi Router Traffic Grapher (MRTG). For more information, see the "Task 3—Using MRTG to Monitor and Graph Traffic Loads" section on page 53.

Caution Be cautious when polling network elements. Polling OIDs that retrieve large amounts of data can cause CPU problems on a Cisco IOS device. For example, do not get the ARP table, walk large portions of a MIB tree, poll the wrong OID too frequently, or get statistics that have an entry for every interface. For example, a Cisco 7200 may have 10 interfaces; whereas, a Cisco AS5800 may have 3,000 interfaces.

Table 10 MIBs to Consider Using for the Dial NMS

Dial Related	System Management	MIB II / Interfaces
CISCO-POP-MGMT-MIB[1]	OLD-CISCO-CHASSIS	RFC1213-MIB
CISCO-MODEM-MGMT-MIB	CISCO-MEMORY-POOL-MIB	IF-MIB
CISCO-VPDN-MGMT-MIB	CISCO-SYSTEM-MIB	CISCO-CAS-IF-MIB
CISCO-AAA-SESSION-MIB	CISCO-FLASH-MIB	CISCO-ISDN-MIB
CISCO-AAA-SERVER-MIB	CISCO-CONFIG-MAN-MIB	
CISCO-CALL-HISTORY-MIB	CISCO-PROCESS-MIB	
CISCO-DIAL-CONTROL-MIB		
CISCO-CALL-RESOURCE-POOL-MIB		

1. This MIB was enhanced in Cisco IOS Release 12.1(2)XH and later releases.

- For a complete list of available Cisco MIBs, go to http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml
- For a list of Cisco-supported traps, go to http://www.cisco.com/public/mibs/traps

- For more information about other NMS enhancements for dial, see *Call Tracker plus ISDN and AAA Enhancements for the Cisco AS5300 and Cisco AS5800* at

  http://www.cisco.com/univercd/cc/td/doc/product/software/ios121/121newft/121limit/121x/121xh/121xh_2/dt_cltrk.htm

Note To protect a network access server from over polling, use the SNMP get bulk feature. It's available in SNMP v2 in CISCO-BULK-FILE-MIB.

Table 11 and Table 12 identify useful OIDs and variables within selected MIBs from Table 10. Equivalent Cisco IOS commands are shown wherever applicable. Sometimes data is more clearly inspected by using OIDs and a graphing tool instead of CLI commands.

To see the complete structure of the CISCO-POP-MGMT-MIB and CISCO-MODEM-MGMT-MIB, refer to the Appendix in "Task 3—Using MRTG to Monitor and Graph Traffic Loads" section on page 53. For further MIB information, refer to the following links:

- For descriptions of supported MIBs and how to use MIBs, see the Cisco MIB web site on Cisco.com at the following URL: http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml.
- To obtain lists of MIBs supported by platform and Cisco IOS release and to download MIB modules, go to the Cisco MIB web site on Cisco.com at the following URL: http://www.cisco.com/public/sw-center/netmgmt/cmtk/mibs.shtml.

Table 11 Description of CISCO-POP-MGMT-MIB

Description	OID	Equivalent Cisco IOS Command
Number of analog calls connected	cpmISDNCfgBChanInUseForAnalog .1.3.6.1.4.1.9.10.19.1.1.2	**show modem summary**
Number of active DS0s in use	cpmActiveDS0s .1.3.6.1.4.1.9.10.19.1.1.4	**show controllers t1 call-counters** **show isdn memory** (See the number of call control blocks, CCBs, in the command output.)
Total call count per DS0	cpmCallCount .1.3.6.1.4.1.9.10.19.1.1.1.1.7	**show controllers t1 call-counters**
Total time in use for each DS0	cpmTimeInUse .1.3.6.1.4.1.9.10.19.1.1.1.1.8	**show controllers t1 call-counters**
Total octets received on a DS0	cpmInOctets .1.3.6.1.4.1.9.10.19.1.1.1.1.9	None available
Total octets transmitted on a DS0	cpmOutOctets .1.3.6.1.4.1.9.10.19.1.1.1.1.10	None available
Total packets received on a DS0	cpmInPackets .1.3.6.1.4.1.9.10.19.1.1.1.1.11	None available

Table 11 Description of CISCO-POP-MGMT-MIB (continued)

Description	OID	Equivalent Cisco IOS Command
Total packets transmitted on a DS0	cpmOutPackets .1.3.6.1.4.1.9.10.19.1.1.1.1.12	None available
Number of active PPP calls	cpmPPPCalls .1.3.6.1.4.1.9.10.19.1.1.5	None available
Number of active V120 calls	cpmV120Calls .1.3.6.1.4.1.9.10.19.1.1.6	None available
Number of active V110 calls	cpmV110Calls .1.3.6.1.4.1.9.10.19.1.1.7	None available
Maximum number of DS0s used simultaneously	cpmActiveDS0sHighWaterMark .1.3.6.1.4.1.9.10.19.1.1.8	**show controllers t1 call-counters**
Type of call currently connected to each DS0	cpmDS0CallType .1.3.6.1.4.1.9.10.19.1.1.1.1.5	None available

Table 12 Description of CISCO-MODEM-MGMT-MIB

Variable Description	OID	Equivalent Cisco IOS Command
Modems available to take calls	cmSystemModemsAvailable .1.3.6.1.4.1.9.9.47.1.1.7	**show modem summary**
Average call duration for each modem	cmCallDuration .1.3.6.1.4.1.9.9.47.1.3.1.1.9	**show modem**
Number of times each modem failed to answer	cmRingNoAnswers .1.3.6.1.4.1.9.9.47.1.3.3.1.1	**show modem**
Number of times each modem failed to train up successfully	cmIncomingConnectionFailures .1.3.6.1.4.1.9.9.47.1.3.3.1.2	**show modem**
Number of times each modem successfully trained up	cmIncomingConnectionCompletions .1.3.6.1.4.1.9.9.47.1.3.3.1.3	**show modem**
Current TX speed for all the modems	cmTXRate .1.3.6.1.4.1.9.9.47.1.3.1.1.14	**show modem connect-speeds**
Current RX speed for all the modems	cmRXRate .1.3.6.1.4.1.9.9.47.1.3.1.1.15	**show modem connect-speeds**
List of users currently connected and authenticated	cpmActiveUserID .1.3.6.1.4.1.9.10.19.1.3.1.1.3	**show caller**
Call durations for currently connected and authenticated users	cpmActiveCallDuration .1.3.6.1.4.1.9.10.19.1.3.1.1.8	**show caller**

Table 12 Description of CISCO-MODEM-MGMT-MIB (continued)

Variable Description	OID	Equivalent Cisco IOS Command
List of user CLIDs	cpmActiveRemotePhoneNumber .1.3.6.1.4.1.9.10.19.1.3.1.1.2	**show caller ip** **show isdn history**
List of called DNIS phone numbers	cpmActiveLocalPhoneNumber .1.3.6.1.4.1.9.10.19.1.3.1.1.13	**show caller ip**
List of TTY interfaces in use	cpmActiveTTYNumber .1.3.6.1.4.1.9.10.19.1.3.1.1.14	**show caller ip**
List of which user is using which modem slot	cpmActiveModemSlot .1.3.6.1.4.1.9.10.19.1.3.1.1.6	**show caller user**
List of which user is using which modem port	cpmActiveModemPort .1.3.6.1.4.1.9.10.19.1.3.1.1.7	**show caller user**
List of which IP addresses are currently in use	cpmActiveUserIpAddr .1.3.6.1.4.1.9.10.19.1.3.1.1.4	**show caller ip**