



Cable Modem Test Platform

Promptlink's Cable Modem Test Platform (CMTP) is an SNMP based tool designed specifically to test and verify the functionality of DOCSIS cable modems and EMTAs. This system allows MSOs, Cable Modem Manufacturers and Test Laboratories to perform testing and verification on CPE, up to hundreds at a time. CMTP acts as a test harness, allowing rapid and cost-effective testing, such as monitoring and upgrading the modems that are returned from subscribers. This system is highly flexible - it can test and upgrade modems from different vendors and generate Pass/Fail notices or other detailed customizable reports.

The test procedures can also be customized to meet specific needs. CMTP quickly creates a test environment that simulates a small cable plant, building benefits from a controlled environment that isolates the health of the CPE under test.

Overview

Promptlink's CMTP includes Cable Modem Test Software which is a Client/Server application consisting of several components:

- SNMP Engine, with a high performance Embedded Object database
- Firmware Management and Upgrade module
- DOCSIS Test Module
- DOCSIS Provisioning system with SNMP Inform capability
- Reporting and Notification Module
- PacketCable EMTA Test Module

CMTP has an easy to use User Interface. Through this interface, a System Administrator can set test parameters, Pass/Fail Criteria and/or upgrade procedures.

CMTP is available in two configurations: 1) CMTP software only, 2) a turn-key package with CMTP software and any specific hardware needed. CMTP software includes:

- DOCSIS & PacketCable Provisioning System
- Automated multiple vendor, multiple step Firmware Upgrade software
- Cable Modem Testing Tool (CMTT)
- Reporting Module

How does the system work?

The system follows a simple process.

The administrator defines the test procedure, Pass/Fail criteria, reporting parameters and firmware upgrade procedures for different modems

A user initiates the defined test(s), sorts the CPE by their results, and can then generate test reports using CMTP's report tools

CMTP is an excellent test and development platform for building cable modem upgrade scenarios. As soon as modems are connected to the CMTP system and come online, the system analyzes the modem information and, based on the criteria set by the administrator, decides to upgrade the modem firmware. The firmware upgrade is highly selective and only the modems that meet the upgrade conditions will be upgraded. The firmware upgrade procedure may also involve multiple steps and may be different for different modems, makes and models.

After the optional modem firmware upgrade step, the modems remain ready to be tested. The testing process is triggered by inserting an Ethernet Cable to the Ethernet port of the cable modem in single mode, or by clicking the "Start" button in Batch mode.

The testing will take only a few seconds for each device, depending on the test configuration. In Batch mode, up to 48 EMTA or CM can be tested in a single rack of devices. This represents the highest number of EMTA able to be tested in a single unattended session.

The screenshot displays the Automated Cable Modem Test Platform (CMTP) interface. The main window, titled "Automated Cable Modem Test Platform version: 0.0.3273 (Test Station #1)", shows the "Server Operational Status" as "Operational" with a green checkmark. Below this, there are rows of status indicators for 12 modems (A1-A12, B1-B10, C1-C10), each represented by a colored circle (green for Pass, yellow for Warning, red for Fail). The "Test Status" section shows "Done testing." with a circular progress indicator. The "Test Progress" section also shows "Done testing." with a circular progress indicator. The "Overall Test Progress" section shows a progress bar and "Modems tested" with a list of modem IDs. A "Test Configuration (RMA Processing) - Ping" dialog box is open, showing settings for Ping count (5), Packet size (64), Pinging IP (172.16.8.1), and Ping address type (Private address). It also shows a "Ping No Reply Level" bar with Fail (99%) and Warn (60%) thresholds. A "Test Result (port: 10. A10)" window is also open, displaying test details for a specific modem. The test start and end times are 29.10.2009 13:24:45 and 29.10.2009 13:25:04, respectively. The test duration is 00:00:18, and the overall test status is WARNING. The test results are as follows:

Parameter	Value
Provisioning Status	Operational (12)
Ping	Host 192.168.100.1 Alive (sent5/recv5/loss: 0,00%)
System Description	Toshiba DOCSIS 1.1 Cable Modem <HW_REV: 3.2.1; VENDOR: Toshiba
System Uptime	04:17:43
Provisioning Mode	DOCSIS: 1.1, BPI: Disabled, TX burst: 3044, Annex: Annex B (North)
Modem MAC and IP Address	MAC: 00:00:39:04:CA:22 IP: 172.16.4.28
Modem Serial No	Serial: 2100313890
Vendor/Model/HW	Toshiba / PCX2000 / 3.2.1
Firmware Revision	2.1R.007
Modem boot file	cmUm11tosh1.bin
Bit Error Rate	Pre-FEC: 0,000197; Post-FEC: 1,56e-06
Downstreams	
Downstream Power Level 1	-0,6 dBmV at 585,00 MHz; Mod.: QAM256;
Downstream SNR 1	33,2 dB
Upstreams	
Upstream Power Level 1	49 dBmV at 15,18 MHz; Mod.: tdma;
Upstream SNR 1	26,8 dB
EMTA Status	EMTA not detected or not provisioned.