CHAPTER 1

Overview of the Cisco 600 Series

Purpose

This chapter provides an overview of the Cisco 600 series customer premises equipment (CPE) devices including the following CPE models:

- Cisco 627
- Cisco 633
- Cisco 673
- Cisco 675
- Cisco 675e
- Cisco 676
- Cisco 677
- Cisco 678

This chapter also describes the general applications available with the Cisco 600 series CPEs.

Note This chapter documents general product features available in the Cisco 600 series CPEs. Please refer to the *Release Notes for the Cisco Broadband Operating System* available on CCO for a current list of upgraded software features.

Product Description

The Cisco 600 series CPEs provide home connectivity to a digital subscriber line (DSL) service provider network over a DSL/ATM physical layer. Table 1-1 shows the maximum receive and transmit rates for the Cisco 600 series CPEs:

Table 1-1 Maximum Receive and Transmit Rates (kbps)

CPE Model/Encoding	Receive (Downstream)	Transmit (Upstream)
Cisco 627		
DMT[1]	8032	864
G.Lite	1536	512
G.DMT	8032	864
Cisco 633	1168	1168
Cisco 673	1168	1168
Cisco 675	7168	1088
Cisco 675e	7168	1088
Cisco 676	9200	832
Cisco 677		
DMT	8032	864
G.Lite	1536	512
G.DMT	8032	864
Cisco 678		
DMT	8032	864
CAP[2]	7168	1088
G.Lite	1536	512

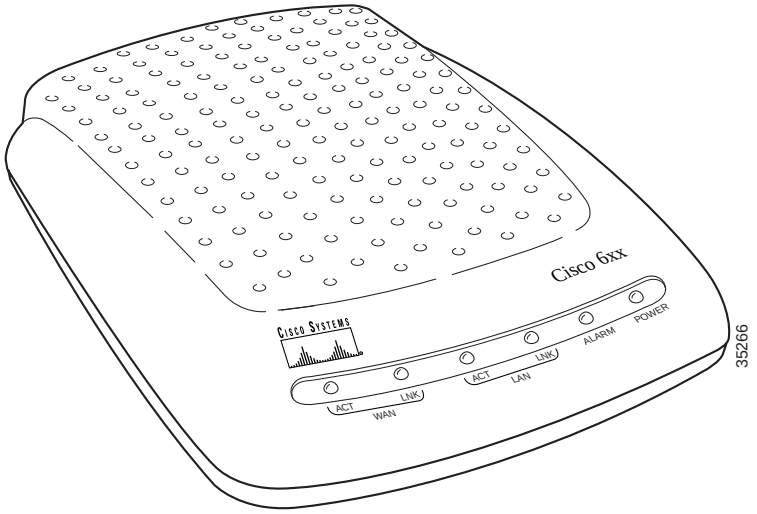
[1] Discrete Multi-Tone

[2] Carrierless Amplitude and Phase modulation

Note Despite the maximum transmission rates listed above, the actual maximum operative rate is determined by the service provider's central office (CO) equipment. Line length and line conditions can also have a great effect on transmission rate.

Figure 1-1 shows a front view of the generic Cisco 600 series CPEs.

Figure 1-1 Cisco 600 series CPEs



System Features

Hardware Features

Table 1-2 summarizes the hardware features of the Cisco 600 series CPEs.

Table 1-2 Cisco 600 Series CPE Hardware Features

Feature	627	633	673	675	675e	676	677	678
DMT Issue 1[1]-based ADSL physical layer						x		
DMT Issue 2[2] (T1.413), G.Lite (G.992.2)-based ADSL physical layer	x						x	x
SDSL[3] interface with 2B1Q line code		x	x					
CAP ADSL[4] interface				x	x			x
G.DMT-based ADSL physical layer	x						x	
Serial interface with Frame Relay encapsulation		x						
ATM25 interface	x							
ATM cell delineation adherent to ITU-T I.432	x	x	x	x	x	x	x	x
Supports ATM Forum-compliant PVCs)	x	x	x	x	x	x	x	x
Autonegotiating 10BaseT or 100BaseTX Ethernet interface, compliant with IEEE 802.3 and 802.3u Fast Ethernet			x	x	x	x	x	x
Status LEDs indicating ATM25/Ethernet/Serial and ADSL/SDSL activity	x	x	x	x	x	x	x	x

[1] Discrete Multi-Tone Issue 1

[2] Discrete Multi-Tone Issue 2

[3] Symmetrical digital subscriber line

[4] Asymmetric digital subscriber line

Software Features

Table 1-3 summarizes the software standards supported by the Cisco 600 series CPEs.

Standards Compliance

Table 1-3 Standards Compliance

Standard	627	633	673	675	675e	676	677	678
DMT (ANSI T1.413) Issue 1						x		
DMT (ANSI T1.413) Issue 2	x						x	x
Point-to-Point Protocol (PPP) (RFC 1661)			x	x	x	x	x	x
*Multiprotocol Encapsulation over ATM Adaptation Layer 5 (*RFC 1483)	x	x	x	x	x	x	x	x
ATM Forum UNI Version 3.1 PVC	x	x	x	x	x	x	x	x
IEEE 802.3 and 802.3u 10BaseT and 100BaseTX Physical Layer Specification			x	x	x	x	x	x
IEEE 802.1d Transparent Learning Bridging		x	x	x	x	x	x	x
PPP Bridging Control Protocol (BCP) (RFC 1638)			x	x	x	x	x	x
Splitterless ADSL Transceivers G.992.2	x						x	x

[1] American National Standards Institute

Routing Support (Cisco 67x)

- *Internet Protocol* (RFC 791)
  - *User Datagram Protocol* (RFC 768)

  - *Internet Control Message Protocol* (RFC 792)
  - *Ethernet Address Resolution Protocol* (RFC 826)
  - RIP version 1 updating of routing tables
- Static routing
- *Remote Authentication Dial-In User Service (RADIUS) Security and Accounting* (RFC 2058, RFC 2059)
- Dynamic Host Configuration Protocol (DHCP) client and server
- Network Address Translation (NAT)

Bridging Support

- Transparent learning bridge:
  - *Multiprotocol Encapsulation over ATM Adaptation Layer 5 (*RFC 1483)
  - *PPP (Bridging Control Protocol)* (RFC 1638)
- Management channel support for remote configuration/management

Management

Table 1-4 summarizes the management methods supported by the Cisco 600 series CPEs.

Table 1-4 Management Methods

Management method	627	633	673	675	675e	676	677	678
HTML browser interface		x	x	x	x	x	x	x
Command-line interface	x	x	x	x	x	x	x	x
Telnet support	x	x	x	x	x	x	x	x
TFTP[1]	x	x	x	x	x	x	x	x
SNMP[2] MIB[3] support				x	x	x	x	x
Multilevel password protection	x	x	x	x	x	x	x	x
Enables different logins through serial management port	x							

[1] Trivial File Transfer Protocol
[2] Simple Network Management Protocol
[3] Management Information Base

System Memory

The Cisco 600 series CPEs are equipped with 4 MB of DRAM.

Environmental Constraints

The Cisco 600 series CPEs operate in an ambient temperature environment of 32° to 104°F (0° to 40°C) and may be stored in an ambient temperature environment of –40°to 185°F (–40°to 85°C).

Note Electrical equipment generates heat. Ambient air temperature might not be adequate to cool equipment to acceptable operating temperatures without adequate circulation. Ensure that the room in which you operate the CPE has adequate air circulation.

Be careful not to block the air vents on the CPE.

Network Management and Security Applications

The Cisco 627 and Cisco 633 support the following network system management applications:

- Telnet server described in “Using Telnet” section on page 3-6.
- TFTP server described in “Using a Trivial File Transfer Protocol Server” section on page 3-10.

The general applications supported by the Cisco 673, Cisco 675, Cisco 675e, Cisco 676, Cisco 677, and Cisco 678 are:

- DHCP client and server
- NAT

- Ping
- RADIUS
- RIP
- SNMP
- SYSLOG client
- Telnet server
- TFTP server and client
- Traceroute
- Web server (HTTP server)

For more information on each of these applications, see the “Configure Applications” section on page 5-18.