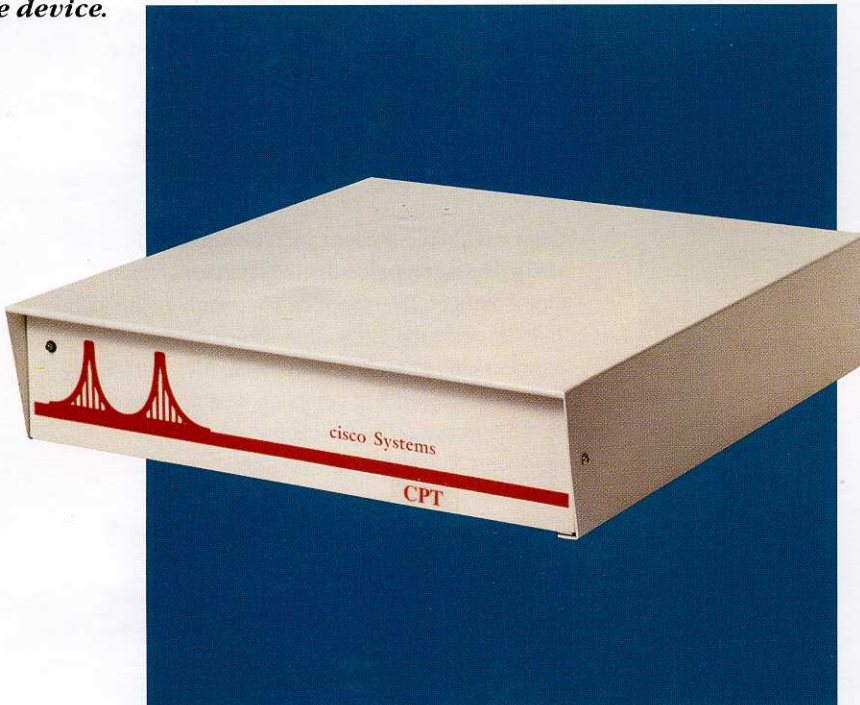


CISCO SYSTEMS

Protocol Translator

With cisco's Protocol Translator, users can access public data networks, X.25 hosts, UNIX and other TCP/IP hosts, and shared equipment and services—all through a single device.



The CPT Protocol Translator includes an MC68020 processor, an Ethernet interface, a synchronous serial communication interface with CCITT X.25 support, one megabyte of system memory, and 32 kilobytes of non-volatile configuration memory.

Cisco Systems, a pioneer in network science, builds complex, manageable LANs and WANs. Internetworking products from cisco provide multi-protocol, multi-media, multi-vendor connectivity.

Now cisco provides automatic protocol translation between X.25 and TCP/IP.

With cisco's Protocol Translator, X.25 and TCP/IP network users can intercommunicate easily.

Organizations that use both TCP/IP and X.25 packet-switched networks can now integrate these environments with a single device. Users can access data on any of these networks from any terminal or workstation.

UNIX and other TCP/IP users can access computers and locations where only X.25 service is available.

TCP/IP users can issue a single TELNET command to connect to a remote host on an X.25 network. Thus, these users can access information services from vendors who use X.25 networks (like Dialog, Tymnet, and Dow-Jones).

Users who travel can dial into an X.25 network PAD and use the Protocol Translator to reach their TCP/IP hosts. Similarly, X.25 network users can connect through the Protocol Translator to access TCP/IP hosts.

The Protocol Translator also enables TCP/IP networks to interconnect with other networks in areas such as Europe, where X.25 service is predominant. With the Protocol Translator, users of a local TCP/IP network can talk to computers all over the world.

Operate over 100 concurrent sessions between two networks without a thicket of cables.

One Protocol Translator can support over 100 concurrent sessions without extra equipment. Previously, you needed two devices for even a single session: an X.25 PAD and a TCP/IP terminal server. For example, to run 48 concurrent sessions without a Protocol Translator, you needed a 48-line X.25 PAD, a 48-line terminal server, and 48 cables.

Cisco's one-device solution is straight-forward—and less than a quarter of the cost of the two-device solution. Because the Protocol Translator requires less hardware, reliability and maintainability are also better.

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This diagram shows a few of the interconnections the Protocol Translator supports. Users on workstations, hosts, or terminal servers connected to TCP/IP networks (right) can access information provided by an X.25 host (top left). Users dialing into X.25 PADs (top center) can connect to their computer systems. In all these cases, the Protocol Translator translates as needed between TCP/IP, TELNET and X.25 protocols.

Protocol Translator provides security and access control for all connections.

When users attempt to establish a connection through a Protocol Translator, it provides security and network access control.

Cisco access lists let the network administrator determine which nodes and lines may connect through the Protocol Translator. With this capability, you have better control of the Protocol Translator and of host or node usage.

Other security features include optional line passwords or user name/password pairs.

End-to-end communication option negotiation lets you customize line characteristics.

Users and programs can set the communication options between any two end nodes. The Protocol Translator automatically converts between X.3 and TELNET option specification and negotiation protocols.

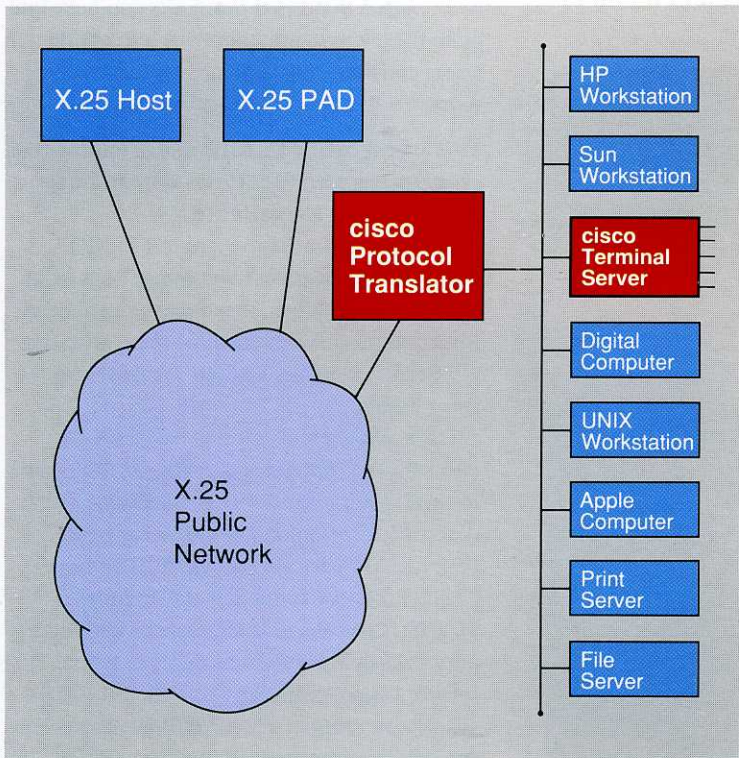
Setting options like parity, line speed, character-by-character or line-at-a-time transmission, and line terminators enables users to take advantage of terminal and host features, as well as application programs. Users needn't "make do" with a least-common-denominator selection of options.

To meet the needs of application programs, the Protocol Translator allows the host to change communication parameters during a session and achieve faster response and more efficient transmission. For example, you can specify character transmission when editing data, and line-mode transmission when transferring files.

Cost-effective Protocol Translators simplify network administration.

One Protocol Translator can serve an entire TCP/IP network, providing multiple user connections to an X.25 network. Alternative solutions from other vendors, which require an X.25 connection for each computer or workstation, are far more complicated and costly.

With cisco's one-device solution, network administrators don't have to manage both a PAD and a terminal server—another way the Protocol Translator saves time and expense.



Specifications for Conferenced Protocols

<i>Protocol</i>	<i>Specification</i>
IP	MIL STD 1777 and RFC 791
ICMP	RFC 792
TCP	MIL STD 1778 and RFC 793
UDP	RFC 768
TELNET	MIL STD 1782 Section 3.3 and RFC 854
Domain Name System	RFCs 1034 and 1035
TFTP	RFC 783
SNMP	RFC 1028
Broadcast	RFCs 919 and 922
X.25 Packet	CCITT X.25
X.25 Option Negotiation	CCITT X.29
X.25 Line Options	CCITT X.3

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