

Product Overview

This section provides an overview of the protocol translator product line. You will find the following information in this chapter:

- Protocol translator functionality
- Supported transmission protocols and services
- Supported interfaces and connections
- Physical configuration options

Protocol Translator Functionality

Protocol translators are high-performance application-level gateways that can provide connectivity among systems running differing protocols and over a variety of media.

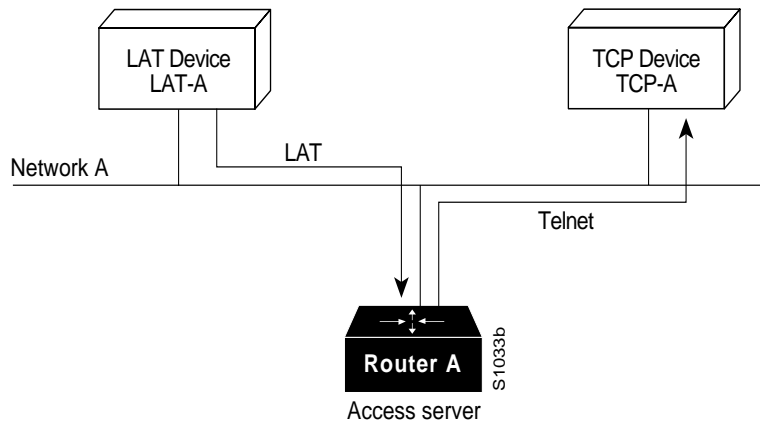
As part of their software capability, protocol translators provide distributed network management facilities to assist in performance monitoring and run-time error logging, and support the Simple Network Management Protocol (SNMP). These facilities enable the network manager to examine and adjust the protocol translators for optimum performance.

Protocol translators translate virtual terminal protocols to allow devices running dissimilar protocols to communicate. The protocol translation software supports Telnet (called TCP for Transmission Control Protocol in the configuration syntax of protocol translation software), Local Area Transport (LAT), and X.25. One-step protocol translation software performs bidirectional translation between any of the following protocols:

- Telnet and LAT
- Telnet and X.25
- LAT and X.25

Figure 1-1 illustrates LAT-to-Telnet protocol translation.

Figure 1-1 LAT-to-Telnet Protocol Translation



Note TN3270 and XRemote also are supported by the protocol translation software. However, to translate between these and other supported protocols, you must use the two-step method. For information about two-step translations in general, refer to the *Communication Server and Protocol Translator Connection Guide*. Refer to Chapters 5 and 6 of this guide for information about TN3270 and XRemote.

Supported Transmission Protocols and Services

Protocol translators provide a flexible set of capabilities for making connections using different media and between different hosts and resources running different protocols. The following descriptions summarize the protocols and connection services supported by protocol translators:

- TCP/IP protocols—The most widely implemented protocol suite on networks of all media types. TCP/IP is today’s standard for internetworking and is supported by most computer vendors, including all UNIX-based workstation manufacturers.
- Local Area Transport (LAT) protocol—Digital Equipment Corporation’s proprietary terminal connection protocol used with Digital minicomputers. Router/bridges support bridging of the LAT protocol. Protocol translators translate LAT packets to X.25, Telnet, and TN3270.
- X.25 PAD protocols—Permit cost-effective, as-needed use of major public networks in the United States and Europe. Protocol translators support the X.25 protocol and X.3/X.28/X.29 specifications.
- IBM 3278 terminal emulation—Provides TN3270-based connectivity to IBM hosts over serial lines.
- Network Computing Devices Inc. XRemote terminal facility—Allows for remote X Window operation using your NCD terminal.

Supported Interfaces and Connections

In addition to supporting Ethernet (the 802.3 specification of the Institute of Electrical and Electronic Engineers [IEEE]), protocol translators support synchronous serial circuits at many speeds. A protocol translator can be connected to up to ten serial lines. Protocol translator serial interfaces are capable of transmitting and receiving data at up to four megabits per second, and support connectivity to WAN services such as Switched Multimegabit Data Service (SMDS), Frame Relay, and X.25.

A broad line of media adapters are also available for your convenience, including RS-232, V.35, X.21, and RS-449.

Physical Configuration Options

Part of the power and flexibility of the protocol translator's components is derived from its physical configuration options. You can choose from single-board systems or card-based chassis configurations that offer processor, back-panel connector mountings, and communications interfaces best suited to your network.

Protocol Translator Models

The following protocol translator models are available:

- The CPT model is built on the C chassis, a compact, two-slot chassis. Connection options include one Ethernet and one or two synchronous serial connectors. This model is best suited as a central-site protocol translator.
- The Cisco 3000 is a two-port multiprotocol router in a fixed configuration with Ethernet, Token Ring, serial, and BRI interface options. BRI is the Integrated Services Digital Network (ISDN) interface composed of two B channels and one D channel for circuit-switched communication of voice, data, and video. The Cisco 3000 comes standard with Flash EPROM and is ideal for use in branch office or remote environments. Protocol translation is provided as a software option, thereby supporting concurrent routing, bridging, and protocol translation capabilities.
- The IGS/L, IGS/R, and IGS/TR models are single-board routers with two network interfaces—either Ethernet and synchronous serial, or Token Ring and synchronous serial. Protocol translation is provided as a software option, thereby supporting concurrent routing, bridging, and protocol translation capabilities.
- Protocol translation is also supported on the 500-CS and the ASM-CS communication servers.

Microprocessors

Your protocol translator products use either the MC68020, MC68030, or MC68040 microprocessor for high-speed operation. All microprocessors contain onboard RAM, system ROM holding all operating system, bootstrap, and diagnostic software, and hardware and software support for a control console.

Protocol translators also provide optional nonvolatile memory that retains configuration information despite power losses or system reboots. With the nonvolatile memory option, the terminal and network servers do not need to rely on other network servers for configuration and boot service information.

