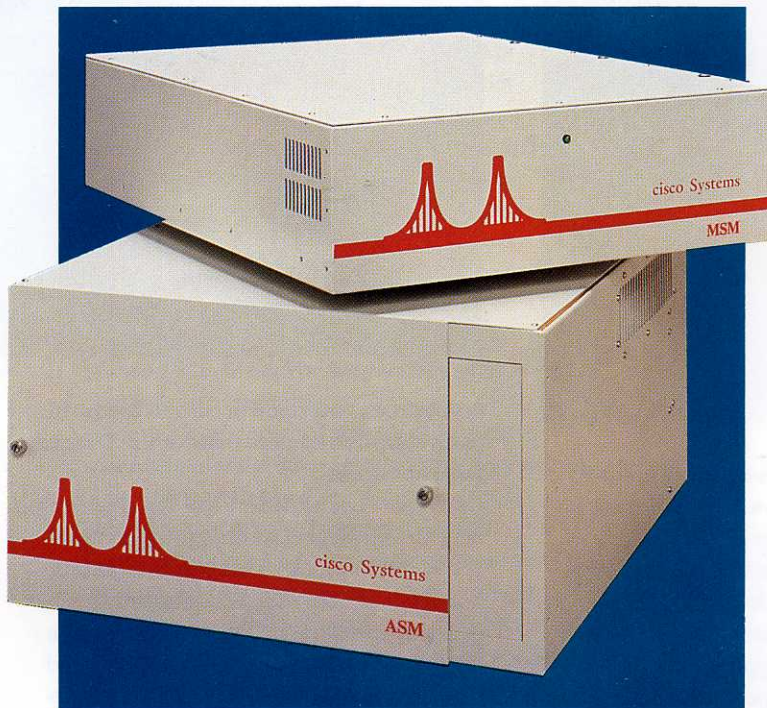# Terminal Servers

Cisco Terminal Servers™ support any size network. They can connect your terminals, printers, modems, and microcomputers to your network today. They are also the foundation for your network tomorrow.

Cisco's ASM and MSM Terminal Servers interface up to 96 asynchronous devices to Ethernet, synchronous serial or Token Ring media and support TCP/IP and X.25 protocols.

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.

Cisco's Terminal Servers bring network services to many types of equipment and provide needed device-sharing functions economically.

Cisco's Terminal Servers are low-cost, high-performance communications processors that connect asynchronous devices to virtually any local or wide area network that uses TCP/IP or X.25. They provide network access to terminals, printers, and computers that may not have built-in network support or which may not be economical to connect directly to the LAN. With cisco Terminal Servers, users throughout an organization can access network resources and share expensive peripherals such as laser printers, high-speed line printers, or plotters.

Cisco Servers offer a number of advantages when operating as distributed data switches. They allow users to access a variety of net-worked host computers, while eliminating the need for expensive dedicated host ports. They manage port selection, contention, and flow control.

Users can establish an unlimited number of concurrent connections to different network hosts. The servers are designed to handle speed and format incompatibilities.

The Servers provide direct communication to any host on the network that supports TCP/IP or X.25 protocol in its operating system soft-ware. They can also serve as front-ends for host systems not equipped with direct network attachment.
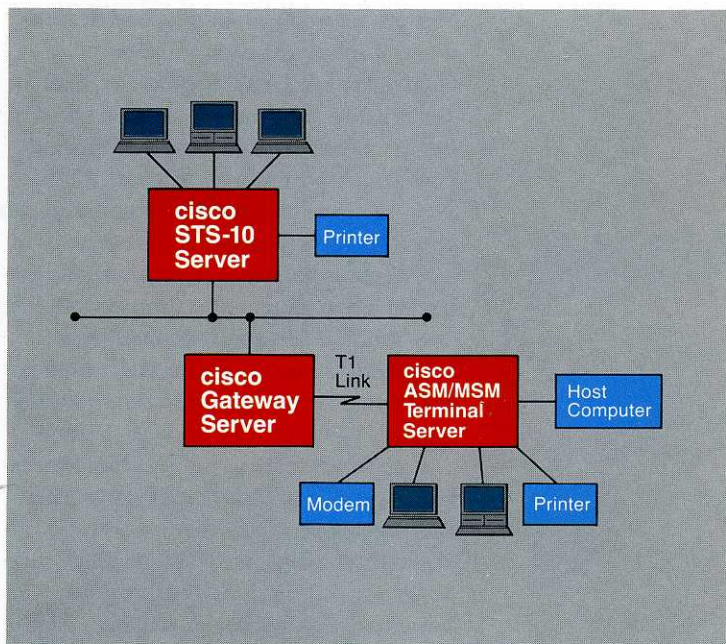
Cisco Terminal Servers automatically monitor and record performance statistics and runtime errors, and provide for selectable name features. A variety of network management services such as remote monitoring, diag-nostics and configuration control are available to the network manager. For greater security, network-wide access restrictions can be set up by the network manager to prevent unauthorized connections.

An extensive user command interface provides the user with help facilities, command completion, and parameter displays. Asynchronous port and modem control parameters, including autobaud, can be individually selected on a line-by-line basis.

Cisco's flexible wiring topology makes the network easy to expand, reduces device-to-switch cabling costs and does not require patch panels.

All cisco Terminal Servers support TCP/IP, including the TELNET virtual terminal protocol, remote login (rlogin), Interface Control Message Protocol (ICMP) and Address Resolution Protocol (ARP).

The method of connecting the asynchronous devices to the Terminal Servers varies among the models. The STS-10 Server uses only 10-wire telephone-style modular connectors. In the MSM Servers, RJ11C or 50-pin telco connectors can be specified. In the ASM Servers, RJ11C, 50-pin telco connectors or DB-25 connectors can be ordered.

Cisco's STS-10 Terminal Server interfaces up to 10 asynchronous devices to an Ethernet LAN, while the cisco ASM and MSM Terminal Servers interface up to 96 devices to Ethernet, synchronous serial or Token Ring Interfaces. All cisco Terminal Servers support TCP/IP.

Cisco PADs provide up to 96 devices with direct connection to public packet-switched networks using X.25/X.3/X.28/X.29 protocols.

Cisco Terminal Servers connect up to 96 serial devices, offer a variety of network interfaces, and support TCP/IP.
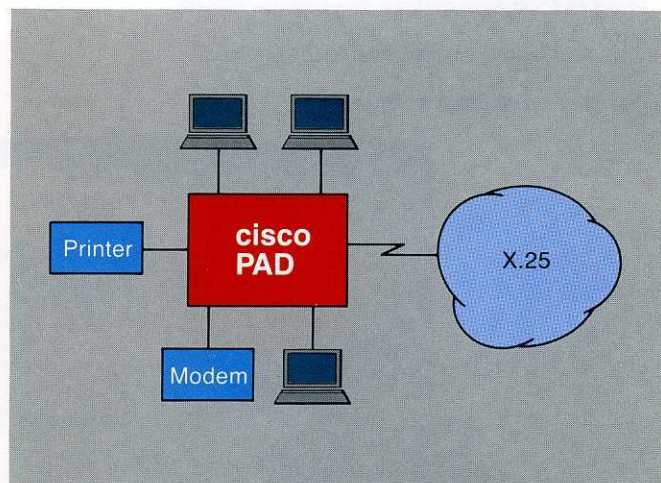
Cisco's line of Terminal Servers support from 10 to 96 RS-232 compatible devices. Cisco's STS-10 Server is particularly suited for office use. The MSM™ Series supports 16 to 32 lines and the ASM™ Series supports up to 96 lines for larger network needs. The MSM and ASM Series products are configured with one to six 16-line asynchronous serial line interface cards. Each terminal line supports data rates up to 38.4Kbps, while providing both rotary and modem functions.

All cisco Terminal Servers can be configured to interface to Ethernet LANs. In addition, the ASM and MSM models can be configured to support Token Ring LANs, or synchronous serial network connections that operate at speeds from 2.4Kbps to 4Mbps with a choice of hardware connections including RS-232, RS-449 and V.35.
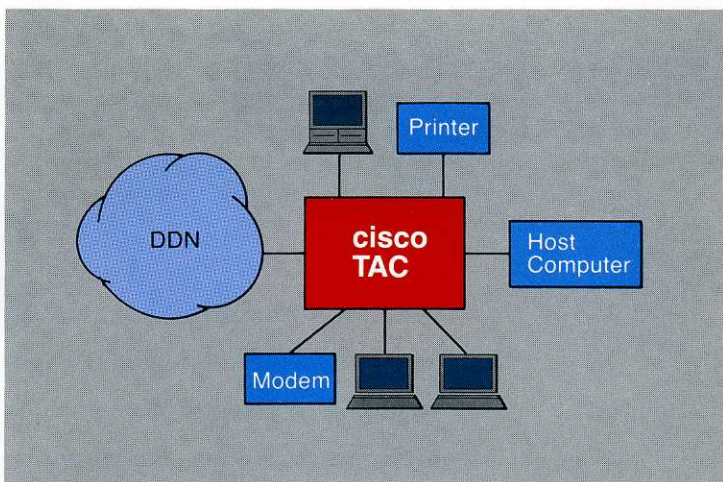
Sometimes you need access to the public packet-switched networks or the Defense Data Networks.

Cisco's ASM and MSM Series of Terminal Servers offer you convenient access to X.25 networks. The Packet Assembler/Disassembler (PAD), a member of cisco's Terminal Server line, provides up to 96 asynchronous devices with direct connections to public packet-switched networks using the X.25/X.3/X.28/X.29 protocols. Cisco PADs support data transfer rates to the networks from 2.4Kbps to 4Mbps. They can be connected to all of the major public PSNs including Telenet,™ Tymnet,™ Accunet, Datapac, Datex-P, and TRANSPAC.

Terminal Access Controllers (TACs) from cisco interconnect up to 96 devices to the Defense Data Network, using the DDN-X.25 Standard or DDN-HDH connection techniques. These products multiplex both serial lines and parallel ports onto the network access link with security on a per-line basis. Cisco has been certified by the Defense Communications Agency for attachment to the Defense Data Network.

Cisco TACs provide direct connection to the Defense Data Network.

The STS-10 Terminal Server is easy to use, offering a complete on-line help facility. Users quickly learn to use network devices via the Server. As with all cisco Systems products, system administration is controlled through password protection to prevent unauthorized system use, while permitting configuration changes from any point on the network.

Cisco's STS-10 Terminal Server interfaces up to 10 asynchronous RS-232 terminals to Ethernet LANs supporting TCP/IP protocols.

When you need to network your PCs quickly, cost-effectively.

All cisco Terminal Servers may be configured to support the Serial Line Internet Protocol (SLIP), originally implemented in Berkeley UNIX,® which has emerged as a *defacto* standard in the microcomputer marketplace. SLIP defines a method for sending internet datagrams over RS-232 asynchronous lines to personal computers running MS-DOS™ or MAC OS and is a very economical way of connecting PCs to a large network.
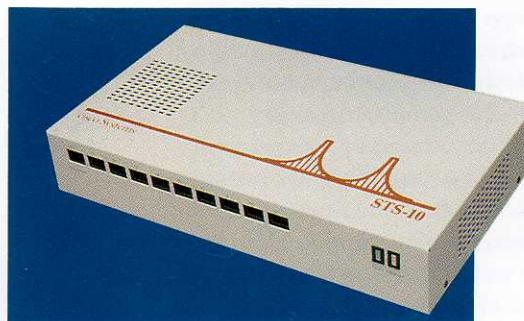
Cisco's STS-10 Server may satisfy your initial requirements.

Cisco's STS-10 Terminal Server offers many of the features of the larger ASM and MSM Series, but is oriented toward users in remote office locations that need to be connected to the main network. It is a compact, modular server that directly interfaces up to 10 asynchronous devices to an Ethernet network using TCP/IP. The STS-10 is very cost-effective in a campus or office environment where there are fewer users or where they are geographically dispersed.

The STS-10 operates with all types of asynchronous devices. Terminal speed and format are specified to the server, so that users can connect a variety of systems to the network with little effort.

The multiple terminal session feature allows a local terminal to open multiple remote timesharing connections with the hosts and to switch among them.

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