T1

Digital WAN carrier facility. T1 transmits DS-1-formatted data at 1.544 Mbps through the telephone-switching network, using AMI or B8ZS coding. Compare with *E1*. See also *AMI*, *B8ZS*, and *DS-1*.

T3

Digital WAN carrier facility. T3 transmits DS-3-formatted data at 44.736 Mbps through the telephone switching network. Compare with *E3*. See also *DS-3*.

TAC

1. Terminal Access Controller. Internet host that accepts terminal connections from dial-up lines.
2. Technical Assistance Center. Cisco TACs provide technical assistance to partners and end users, and form the hub of Cisco global support.

TACACS

Terminal Access Controller Access Control System. Authentication protocol, developed by the DDN community, that provides remote access authentication and related services, such as event logging. User passwords are administered in a central database rather than in individual routers, providing an easily scalable network security solution. See also *TACACS+*.

TACACS+

Proprietary Cisco enhancement to TACACS. Provides additional support for authentication, authorization, and accounting. See also *TACACS*.

tagged traffic

ATM cells that have their CLP bit set to 1. If the network is congested, tagged traffic can be dropped to ensure delivery of higher-priority traffic. Sometimes called *DE (discard eligible)* traffic. See also *CLP*.

TAXI 4B/5B

Transparent Asynchronous Transmitter/Receiver Interface 4-byte/5-byte. Encoding scheme used for FDDI LANs as well as for ATM. Supports speeds of up to 100 Mbps over multimode fiber. TAXI is the chipset that generates 4B/5B encoding on multimode fiber. See also *4B/5B local fiber*.

T-carrier

TDM transmission method usually referring to a line or cable carrying a DS-1 signal.

TCP

Transmission Control Protocol. Connection-oriented transport layer protocol that provides reliable full-duplex data transmission. TCP is part of the TCP/IP protocol stack. See also *TCP/IP*.

TCP/IP

Transmission Control Protocol/Internet Protocol. Common name for the suite of protocols developed by the U.S. DoD in the 1970s to support the construction of worldwide internetworks. TCP and IP are the two best-known protocols in the suite. See also *IP* and *TCP*.

TCS

test and control system. Independently-powered subsystem used to initialize, monitor, and troubleshoot the hardware on a LightStream 2020 ATM switch. The TCS consists of a hub residing on the switch card and slaves on NPs and line cards.

TCU

trunk coupling unit. In Token Ring networks, a physical device that enables a station to connect to the trunk cable.

TDM

time-division multiplexing. Technique in which information from multiple channels can be allocated bandwidth on a single wire based on preassigned time slots. Bandwidth is allocated to each channel regardless of whether the station has data to transmit. Compare with *ATDM*, *FDM*, and *statistical multiplexing*.

TDR
time domain reflectometer. Device capable of sending signals through a network medium to check cable continuity and other attributes. TDRs are used to find physical layer network problems.

Technical Assistance Center
See *TAC*.

Technical Office Protocol
See *TOP*.

telco
Abbreviation for telephone company.

telecommunications
Term referring to communications (usually involving computer systems) over the telephone network.

Telecommunications Industry Association
See *TIA*.

telephony
Science of converting sound to electrical signals and transmitting it between widely removed points.

telex
Teletypewriter service allowing subscribers to send messages over the PSTN.

Telnet
Standard terminal emulation protocol in the TCP/IP protocol stack. Telnet is used for remote terminal connection, enabling users to log in to remote systems and use resources as if they were connected to a local system. Telnet is defined in RFC 854.

Tempest
U.S. military standard. Electronic products adhering to the Tempest specification are designed to withstand EMP. See also *EMP*.

TERENA
Trans-European Research and Education Networking Association. Organization that promotes information and telecommunications technologies development in Europe. Formed by the merging of EARN and RARE. See also *EARN* and *RARE*.

termid
SNA cluster controller identification. Termid is meaningful only for switched lines. Also called *Xid*.

terminal
Simple device at which data can be entered or retrieved from a network. Generally, terminals have a monitor and a keyboard, but no processor or local disk drive.

Terminal Access Controller
See *TAC*.

Terminal Access Controller Access System
See *TACACS*.

terminal adapter
Device used to connect ISDN BRI connections to existing interfaces such as EIA/TIA-232. Essentially, an ISDN modem.

terminal emulation
Network application in which a computer runs software that makes it appear to a remote host as a directly attached terminal.

terminal server
Communications processor that connects asynchronous devices such as terminals, printers, hosts, and modems to any LAN or WAN that uses TCP/IP, X.25, or LAT protocols. Terminal servers provide the internetwork intelligence that is not available in the connected devices.

terminator
Device that provides electrical resistance at the end of a transmission line to absorb signals on the line, thereby keeping them from bouncing back and being received again by network stations.

test and control system
See *TCS*.

Texas Higher Education Network
See *THEnet*.

TFTP
Trivial File Transfer Protocol. Simplified version of FTP that allows files to be transferred from one computer to another over a network.

TH
transmission header. SNA header that is appended to the SNA basic information unit (BIU). The TH uses one of a number of available SNA header formats. See also *FID0*, *FID1*, *FID2*, *FID3*, and *FID4*.

THC over X.25
Feature providing TCP/IP header compression over X.25 links, for purposes of link efficiency.

THEnet
Texas Higher Education Network. Regional network comprising over 60 academic and research institutions in the Texas (United States), area.

Thinnet
Term used to define a thinner, less expensive version of the cable specified in the IEEE 802.3 10Base2 standard. Compare with *Cheapernet*. See also *10Base2*, *Ethernet*, and *IEEE 802.3*.

throughput
Rate of information arriving at, and possibly passing through, a particular point in a network system.

TIA
Telecommunications Industry Association. Organization that develops standards relating to telecommunications technologies. Together, the TIA and the EIA have formalized standards, such as EIA/TIA-232, for the electrical characteristics of data transmission. See also *EIA*.

TIC
Token Ring interface coupler. Controller through which an FEP connects to a Token Ring.

time-division multiplexing
See *TDM*.

time domain reflectometer
See *TDR*.

Time Notify
See *TNotify*.

time-out
Event that occurs when one network device expects to hear from another network device within a specified period of time, but does not. The resulting time-out usually results in a retransmission of information or the dissolving of the session between the two devices.

Time To Live
See *TTL*.

TN3270
Terminal emulation software that allows a terminal to appear to an IBM host as a 3278 Model 2 terminal. The Cisco TN3270 implementation allows users to access an IBM host without using a special IBM server or a UNIX host acting as a server.

TNotify
Time Notify. Specifies how often SMT initiates neighbor notification broadcasts. See also *SMT*.

token
Frame that contains control information. Possession of the token allows a network device to transmit data onto the network. See also *token passing*.

token bus
LAN architecture using token passing access over a bus topology. This LAN architecture is the basis for the IEEE 802.4 LAN specification. See also *IEEE 802.4*.

token passing
Access method by which network devices access the physical medium in an orderly fashion based on possession of a small frame called a token. Contrast with *circuit switching* and *contention*. See also *token*.

Token Ring
Token-passing LAN developed and supported by IBM. Token Ring runs at 4 or 16 Mbps over a ring topology. Similar to IEEE 802.5. See also *IEEE 802.5*, *ring topology*, and *token passing*.

Token Ring interface coupler
See *TIC*.

Token Ring Interface Processor
See *TRIP*.

TOP
Technical Office Protocol. OSI-based architecture developed for office communications.

topology
Physical arrangement of network nodes and media within an enterprise networking structure.

topology map
Tool for managing a LightStream 2020 ATM switch that examines a network and displays the status of its nodes and trunks. The topology map is an HP OpenView-based application that runs on an NMS.

TOS
type of service. See *COS (class of service)*.

to switch unit
See *TSU*.

TP0
Transport Protocol Class 0. OSI connectionless transport protocol for use over reliable subnetworks. Defined by ISO 8073.

TP4
Transport Protocol Class 4. OSI connection-based transport protocol. Defined by ISO 8073.

traffic management
See *ControlStream traffic management*.

traffic policing
Process used to measure the actual traffic flow across a given connection and compare it to the total admissable traffic flow for that connection. Traffic outside of the agreed upon flow can be tagged (where the CLP bit is set to 1) and can be discarded en route if congestion develops. Traffic policing is used in ATM, Frame Relay, and other types of networks. Also know as *admission control*, *permit processing*, *rate enforcement*, and *UPC (usage parameter control)*. See also *tagged traffic*.

traffic profile
Set of COS attribute values assigned to a given port on a LightStream 2020 ATM switch. The profile affects numerous parameters for data transmitted from the port including rate, cell drop eligibility, transmit priority, and inactivity timer. See also *COS*.

traffic shaping
Use of queues to limit surges that can congest a network. Data is buffered and then sent into the network in regulated amounts to ensure that the traffic will fit within the promised traffic envelope for the particular connection. Traffic shaping is used in ATM, Frame Relay, and other types of networks. Also known as *metering*, *shaping*, and *smoothing*.

trailer
Control information appended to data when encapsulating the data for network transmission. Compare with *header*.

transaction
Result-oriented unit of communication processing.

transaction services layer
Layer 7 in the SNA architectural model. Represents user application functions, such as spreadsheets, word-processing, or electronic mail, by which users interact with the network. Corresponds roughly with the *application layer* of the OSI reference model. See also *data flow control layer*, *data link control layer*, *path control layer*, *physical control layer*, *presentation services layer*, and *transmission control layer*.

transceiver
See *MAU*.

transceiver cable
See *AUI*.

Trans-European Research and Education Networking Association
See *TERENA*.

transfer priority
See *transmit priority*.

transit bridging
Bridging that uses encapsulation to send a frame between two similar networks over a dissimilar network.

translational bridging
Bridging between networks with dissimilar MAC sublayer protocols. MAC information is translated into the format of the destination network at the bridge. Contrast with *encapsulation bridging*.

transmission control layer
Layer 4 in the SNA architectural model. This layer is responsible for establishing, maintaining, and terminating SNA sessions, sequencing data messages, and controlling session level flow. Corresponds to the *transport layer* of the OSI model. See also *data flow control layer*, *data link control layer*, *path control layer*, *physical control layer*, *presentation services layer*, and *transaction services layer*.

Transmission Control Protocol
See *TCP*.

Transmission Control Protocol/Internet Protocol
See *TCP/IP*.

transmission group
In SNA routing, one or more parallel communications links treated as one communications facility.

transmission header
See *TH*.

transmission link
See *link*.

transmit priority
Queuing scheme in which each internal TOS of a LightStream 2020 ATM switch correlates to a relative priority in queues in the ATM network. This priority determines which traffic is serviced first in the case of contention for a network resource. Also known as *forwarding priority* and *transfer priority.*

TRANSPAC
Major packet data network run by France Telecom.

Transparent Asynchronous Transmitter/Receiver Interface 4-byte/5-byte
See *TAXI 4B/5B.*

transparent bridging
Bridging scheme often used in Ethernet and IEEE 802.3 networks in which bridges pass frames along one hop at a time based on tables associating end nodes with bridge ports. Transparent bridging is so named because the presence of bridges is transparent to network end nodes. Contrast with *SRB.*

transport layer
Layer 4 of the OSI reference model. This layer is responsible for reliable network communication between end nodes. The transport layer provides mechanisms for the establishment, maintenance, and termination of virtual circuits, transport fault detection and recovery, and information flow control. Corresponds to the *transmission*

control layer of the SNA model. See also *application layer, data link layer, network layer, physical layer, presentation layer,* and *session layer*.

Transport Protocol Class 0
See *TP0*.

Transport Protocol Class 4
See *TP4*.

trap
Message sent by an SNMP agent to an NMS, console, or terminal to indicate the occurrence of a significant event, such as a specifically defined condition or a threshold that has been reached. See also *alarm* and *event*.

tree topology
LAN topology similar to a bus topology, except that tree networks can contain branches with multiple nodes. Transmissions from a station propagate the length of the medium and are received by all other stations. Compare with *bus topology*, *ring topology*, and *star topology*.

TRIP
Token Ring Interface Processor. High-speed interface processor on the Cisco 7000 series routers. The TRIP provides two or four Token Ring ports for interconnection with IEEE 802.5 and IBM Token Ring media with ports independently set to speeds of either 4 or 16 Mbps.

Trivial File Transfer Protocol
See *TFTP*.

trunk
Physical and logical connection between two ATM switches across which traffic in an ATM network travels. An ATM backbone is composed of a number of trunks.

trunk card
Line card on a LightStream 2020 ATM switch that is configured to communicate with other ATM switches. LightStream 2020 trunk cards offer a variety of interface types. CLCs, LSCs, and MSCs can operate as trunk cards. See also *edge card*.

trunk coupling unit
See *TCU*.

trunk up-down
See *TUD*.

TSU
to switch unit. Subsystem on each LightStream 2020 ATM switch line card that appends ATM routing information to outgoing cells and sends the cells to the switch card.

TTL
Time To Live. Field in an IP header that indicates how long a packet is considered valid.

tunneling
Architecture that is designed to provide the services necessary to implement any standard point-to-point encapsulation scheme. See also *encapsulation*.

TUD
trunk up-down. Protocol used in ATM networks that monitors trunks and detects when one goes down or comes up. ATM switches send regular test messages from each trunk port to test trunk line quality. If a trunk misses a given number of these messages, TUD declares the trunk down. When a trunk comes back up, TUD recognizes that the trunk is up, declares the trunk up, and returns it to service. See also *trunk*.

TUV
German test agency that certifies products to European safety standards.

twisted pair
Relatively low-speed transmission medium consisting of two insulated wires arranged in a regular spiral pattern. The wires can be shielded or unshielded. Twisted pair is common in telephony applications and is increasingly common in data networks. See also *STP* and *UTP*.

two-way simultaneous
See *TWS*.

TWS
two-way simultaneous. Mode that allows a router configured as a primary SDLC station to achieve better utilization of a full-duplex serial line. When TWS is enabled in a multidrop environment, the router can poll a secondary station and receive data from that station while it sends data to or receives data from a different secondary station on the same serial line.

TYMNET
See *XStream*.

Type 1 operation
IEEE 802.2 (LLC) connectionless operation.

Type 2 operation
IEEE 802.2 (LLC) connection-oriented operation.

type of service
See *TOS*.