Master Glossary

PARADYNE®

Symbols

µ-law Mu-law. A mathematical function used to encode audio for transmission.

Numbers

1in8 Test A test pattern consisting of a one (1) followed by seven zeros (on the network only).

10BaseT A specification for baseband Ethernet running up to 10 Mbps on unshielded twisted-pair wiring.

100BaseFX A specification for baseband Ethernet running up to 100 Mbps on two strands of multimode fiber optic cable.

100BaseT A specification for baseband Ethernet running up to 100 Mbps on Category 5 or above unshielded twisted-pair wiring.

100BaseTX A specification for baseband Ethernet running up to 100 Mbps on two pairs of shielded or unshielded twisted-pair wiring.

100BaseX A general term comprising the 100BaseFX and 100BaseTX specifications.

1000BaseLX A specification for baseband Ethernet running up to 1 Gbps on fiber optic cable using a long wavelength laser.

1000BaseSX A specification for baseband Ethernet running up to 1 Gbps on fiber optic cable using a short wavelength laser.

1000BaseT A specification for baseband Ethernet running up to 1 Gbps on Category 5 or above shielded or unshielded twisted-pair wiring.

1000BaseX A general term for high speed Ethernet based on IEEE 802.3z, including 1000BaseLX and 1000BaseSX.

16-CAP Carrierless Amplitude/Phase Modulation with a 16-state constellation pattern.

2B1Q Two Binary, one Quaternary. A line coding technique that compresses two binary bits of data into one time state as a four-level code.

32767 Test A pseudo-random bit sequence (PRBS) that is 32767 bits long (on the network only). This is a PRBS 2^{15}-1 test.

4-wire private line A dedicated data communications channel with separate transmit and receive pairs, dedicated to one user only.

511 A random bit test 511 bytes in length.

511 bits A random bit test 511 bytes in length.

511 Test A pseudo-random bit sequence (PRBS) that is 511 bits long (on the data ports only). This is a PRBS 2^{9}-1 test.

64-CAP Carrierless Amplitude/Phase Modulation with a 64-state constellation pattern.

A

AAC ACCULINK Access Controller. A T1 product which permits connection to a variety of network services.

AAL ATM Adaptation Layer. The layer above the ATM layer in the logical protocol stack, the AAL translates a higher-layer service format into ATM cells.

AAL-1 The ITU-T classification for an ATM Adaptation Layer (AAL) that supports constant bit rate (Class A), time-dependent data traffic. Also known as circuit emulation.

AAL-2 Not entirely specified, this is the ITU-T classification for an ATM Adaptation Layer (AAL) that supports variable bit rate (Class B) data traffic.

AAL-3/4 The ITU-T classification for an ATM Adaptation Layer (AAL) that supports variable bit rate, connection-oriented (Class C) or connectionless (Class D), delay-tolerant data traffic.

AAL-5 The ITU-T classification for a simplified ATM Adaptation Layer (AAL) that supports connection-oriented, delay-tolerant data traffic.

AAL connection An association of higher-layer entities established by the ATM Adaptation Layer.

ABR Available Bit Rate. An ATM layer service type in which feedback is sent to the end system to limit traffic according to available bandwidth.

ACAMI Alternate Channel Alternate Mark Inversion. A T1 line coding technique.

ACCA Auto-Call Auto-Answer. A circuit restoration feature used on point-to-point telephone circuits that allows a station to initiate a call automatically and respond to a call automatically over a switched line.

access node One of several DSLAMs that reside in a Network Access Provider Network.

Access Security A major alarm signifying that a dial access security alarm is active. This is caused by accessing the security information via the front panel.

ACCULINK® A product family and a registered trademark of Paradyne.

ACR Allowed Cell Rate. In ATM, a traffic management parameter that sets the cell transmission rate for a connection based on network traffic conditions.

Activ Active configuration area. The configuration option set that is currently active for the device. Before a configuration option set becomes active, you must save the set to the Active configuration area.

active alert An alarm, abnormal status condition, or event occurrence that is currently being reported to the NMS. Once the alert is cleared, it becomes a historical alert and is no longer considered active by NMS.

adapter Hardware that provides some transitional function between two or more devices.

address A symbol (usually numeric) that identifies the interface attached to a network.

address mask A 32-bit mask used to identify the network and local portions of an IP address.

ADPCM Adaptive Differential Pulse Code Modulation. A low bit-rate audio encoding technique in which the PCM input data is compared to a signal estimate, and the difference is encoded based on recent values.

ADR Alert-Driven Routine. A routine that is triggered for execution by the arrival of an alert to the NMS.

ADSL Asymmetric Digital Subscriber Line. A variety of DSL with which a higher data rate is employed downstream (to the customer site) than upstream (to the service provider). Varieties include ANSI T1.413, ITU 992.1 (G.DMT), ITU 992.2 (G.lite), ITU 992.3/4 (ADSL2) and ITU 992.5 (ADSL2+).

ADSL2 A high speed ADSL technology defined by ITU G.992.3/4, capable of 12 Mbps downstream.

ADSL2+ A high speed ADSL technology defined by ITU G.992.5, capable of 24 Mbps downstream.

ADSL/R® Asymmetric Digital Subscriber Line/ReachDSL. The trade name for a technology that allows a modem or circuit to provide both ADSL and ReachDSL service.

ADTF ACR Decrease Time Factor. In ATM, the time permitted between the sending of RM-cells before the rate is decreased to the Initial Cell Rate (ICR).

AFI Authority and Format Identifier. In ATM, the part of the network level address header that describes the Initial Domain Identifier type.

agent A software program housed within a managed network device, such as a host, gateway, or terminal server. An agent stores management data and responds to the manager's data requests.

agent (SNMP) A software program housed within a device to provide SNMP functionality. Each agent stores management information and responds to the manager's request for this information.

aggregate To combine two or more bit streams into a single bit stream.

aggregate rate The sum of the DTE rates.

AHFG ATM-attached Host Functional Group. The class of capabilities of a host in a Multiprotocol Over ATM environment.

AID Access IDentifier. In TL1, the address of an entity in the network.

AIR Additive Increase Rate. In ATM, the rate of increase in cell transmission rate.

AIRF Additive Increase Rate Factor. In ATM, a signal calculated as AIR times Nrm over Peak Cell Rate (AIR*Nrm/PCR).

AIS Alarm Indication Signal. A signal transmitted downstream instead of the normal signal to preserve transmission continuity and to indicate to the rest of the network that a fault exists. Also called a Blue Alarm.

AIX Advanced Interactive eXecutive. IBM's implementation of UNIX.

alarm An abnormal condition affecting communications equipment, usually requiring attention. Major alarms indicate a service disruption; minor alarms are less severe, but are indications of a developing problem.

Alarm Indication Signal A signal transmitted downstream instead of the normal signal to preserve transmission continuity and to indicate to the rest of the network that a fault exists. Also called a Blue Alarm.

alert An occurrence of interest within the network. Alerts include alarms and changes of status experienced by communications equipment.

alert export A feature permitting the export of alert data to external systems.

alert filtering A feature that times or judges each alert and passes it only if the alert exceeds the specified duration threshold or other criteria.

alert group A predefined collection of alerts used to manage alerts for filtering purposes. An alert group may consist of one or more alerts.

alternate destination A designated port, DLCI, and EDLCI that provides an alternate path for backup when the primary link or path is out of service.

alternate port The unused Port 1, either the V.35 or the EIA-232-D interface, that provides an aggregate data path for an external dial backup unit.

AMI Alternate Mark Inversion. A line coding technique used to accommodate the ones density requirements of E1 or T1 lines.

AN Access Node.

analog bridge A multiport broadcast polling bridge that is used to increase the number of dial backup units available for multipoint backup. An analog bridge can be used at either a remote tributary site or at the control modem site.

analog loop A test in which the modem's transmit VF signal is looped to its receiver.

analog signal A type of signal composed of continuously variable values, used to transmit voice or data over telephone lines.

ANSI American National Standards Institute. A member of ISO, ANSI accredits and implements standards.

ANSI T1.403 The ANSI specification that defines T1 operation.

ANSI T1.413 Issue 2 An ANSI specification that describes DMT line modulation, used for a version of ADSL.

Answer mode The state of a modem that is ready to receive an incoming call.

answering One of a device's internal operational modes that indicates the device is receiving a request to connect.

API Application Program Interface. The facility provided with application software for its customization, or for communication with other software.

APL Analog Private Line. The private circuit used for data transmission. Also called 4-wire private line, private line, or leased line.

APM APplication Module. A circuit card that supports a particular application, such as synchronous data or voice.

application The use to which a device is put.

ARP Address Resolution Protocol. Part of the TCP/IP suite, ARP dynamically links an IP address with a physical hardware address.

ASCII American Standard Code for Information Interchange. The standard for data transmission over telephone lines. A 7-bit code establishes compatibility between data services. The ASCII code consists of 32 control characters (nondisplayed) and 96 displayed characters.

ASCII terminal/printer A device that can be attached, either locally or remotely, to data communications equipment to display or print alarm messages.

ASDS ACCUNET Spectrum of Digital Services. An AT&T network service offering the alternatives of fractional T1, 9.6, 56 or 64 Kbps (clear channel) digital, and analog access to a digital core network.

ASP Application Service Provider. A business that provides to multiple users access to an application maintained at a central facility.

asymmetric rate The ability of a device to transmit at a different rate than it receives.

asynchronous Lacking concurrence, such as a data transmission synchronized by framing characters with leading and trailing bits.

asynchronous data Data that is formatted so it is synchronized by a transmission start bit at the beginning of a character and one or more stop bits at the end.

asynchronous transmission	Data transmission that is synchronized by a transmission start bit at the beginning of a character (five to eight bits) and one or more stop bits at the end.
async terminal	Asynchronous terminal. A terminal such as the VT100 used for controlling computing devices.
AT Command mode	The idle state prior to the device establishing a successful connection with a remote device. It is from the AT Command mode that AT Commands are issued.
AT command set	A group of commands, issued from an asynchronous DTE, that allow control of the modem while in Command mode. All commands must begin with the characters AT and end with a carriage return.
AT command string	Several AT commands issued at once. The string is preceded by an AT prefix.
AT commands	The group of commands used to control and configure a device through a DTE, such as a personal computer. The commands must begin with the characters AT and end with a carriage return.
AT prefix	A prefix issued before AT commands that identifies the DTE's data rate, parity, and character length.
ATI	Asynchronous Terminal Interface. A menu-driven, VT100-compatible system for configuring and managing a termination unit.
ATM	Asynchronous Transfer Mode. A high-speed, low-delay, connection-oriented switching and multiplexing technique using 53-byte cells to transmit different types of data concurrently across a single physical link.
ATM Forum	An international organization for the promotion and standardization of ATM.
ATM layer link	The connect of two entities at the ATM layer level of the logical protocol stack.
ATM link	A virtual path link or virtual channel link.
ATM switch	A high-capacity, cell-based switch in the carrier backbone network. It provides access, multiplexing, and switching functions, permitting combined data, video, imaging, and voice services on a single platform.
ATM traffic descriptor	A list of traffic management parameters that characterizes a virtual connection, including Peak Cell Rate (PCR), Sustainable Cell Rate (SCR), and Maximum Burst Size (MBS).
ATR	Automatic Trouble Reporting. A feature that allows the automatic reporting of alerts or alarms to local or remote printers or terminals.
attenuation	The dissipation of the power of a transmitted signal as it travels over a wire.
ATU	ADSL Transmission Unit. Sometimes used broadly to mean any xDSL termination device.
ATU-C	ATU – Central Office. An ATU at the CO end of the local loop.
ATU-R	ATU – Remote. An ATU at the remote (customer premises) end of the local loop.
authentication server	A server whose function is to authenticate and log an end-user's access location.
authentication Failure trap	An SNMP trap that indicates that the device has received an SNMP protocol message that has not been properly authenticated.
autobaud	The mode in which the device automatically determines the asynchronous DTE data rate.
AutoBaud	A connection algorithm, agreed upon by a consortium of CLECs and manufacturers, for SDSL transceivers using 2B1Q.

autobaud mode The mode in which the access unit forces automatic redetermination of the DDS line rate (56 or 64 Kbps) as soon as a valid DDS network signal is detected.

auto-configuration (LMI) A FrameSaver feature that simplifies configuration. The FrameSaver unit creates network and port interface DLCIs that match DLCIs identified in an LMI response message, then connects the network interface DLCIs with the port DLCIs.

auto-configuration (ILMI) A FrameSaver feature that simplifies configuration. Using VPI/VCI numbers returned from an ILMI request on the network port or entered manually, the FrameSaver SLV 9580 DSU creates and cross-connects associated DLCIs and EDLCIs.

automatic adaptive equalization Equalization of a transmission channel that is adjusted while signals are being transmitted to adapt to changing line characteristics.

automatic answer A capability to respond to a call received over a dial line.

automatic rate control A feature which allows modems to adjust their signaling rate based on current line conditions.

automode To change modulations or rates within a modulation when modems first connect. A modem may automode to a different modulation than what it is configured for due to the limitations of the remote modem, or automode to a lower rate due to unfavorable VF line conditions during connection.

autorate In analog modems, the ability to adjust to varying VF line conditions by changing the data rate to a higher or lower rate after connection. The lowest rate the modem autorates to is 4800 bps; the highest possible rate depends on the modulation the modems connected with. In V.34, the modems may autorate asymmetrically.

AutoRate A feature that allows a DSL termination unit to train to the optimal line rate.

AVC Aggregated Virtual Circuit. In multilink frame relay, a virtual circuit comprising one or more independent virtual circuits.

AWG American Wire Gauge. An indication of wire diameter. The heavier the gauge, the lower the AWG number, and the lower the impedance.

B

B8ZS Bipolar 8 Zero Substitution. Encoding scheme for transmitting clear channel signals over a T1 line.

BAC Broadband Access Concentrator. Another name for a DSLAM or BLC.

backbone The main circuit that carries the data before it is split into extended circuits going to their final destination. Often used to refer to the part of the network that joins LANs together.

backhaul The act of, or mechanism for, transmission from a remote site to a central site.

backplane A common bus at the rear of a nest or chassis that provides communications and power to circuit card slots.

backup The process of preserving copies of files on a different drive, directory, or medium to protect against the destruction or loss of the original files in the event of hardware or system failure.

bandwidth The range of frequencies that can be passed by a transmission medium, or the range of electrical frequencies a device is capable of handling

baseband A category of transmission in which a single signal is sent over a single medium without frequency division.

basic NAT Basic Network Address Translation. An implementation of NAT in which a group of external addresses is reserved for dynamic mapping to private network addresses.

baud A unit of signaling speed that is equal to the number of symbols per second. This is not necessarily the same as bits per second, although the terms are frequently interchanged.

B_c Committed burst size. In frame relay networks, the maximum amount of data the network agrees to deliver in a particular time interval under normal conditions. Expressed in bits.

B-channel ISDN Bearer Channel. A 56 or 64 Kbps channel that carries customer information like voice calls, circuit-switched data, or packet-switched data.

B_e Excess burst size. In frame relay networks, the maximum amount of uncommitted data over the committed burst size that the network can attempt to deliver in a particular time interval. Expressed in bits.

BECN Backward Explicit Congestion Notification. A bit set and forwarded by the network to notify users of data traffic congestion, sent in the opposite direction of the frame carrying the BECN indicator or bit. Outbound frames may encounter congestion and be dropped.

Bell 103J A standard for 300 bps data transmission.

Bell 212A A standard for 1200 bps data transmission.

BER Bit Error Rate. The number of bits in error over a given period compared to the number of bits transmitted successfully.

BERT Bit Error Rate Test. A local pattern test used to analyze the network circuit that causes the device to transmit and monitor a test pattern.

BES Bursty Error Seconds. A second in which more than one but less than 320 CRC6 error events have occurred.

B-ICI B-ISDN InterCarrier Interface. An ATM Forum interface specification for public ATM networks.

bilateral loopback A combination of the DTE and Digital Loopbacks operating simultaneously in the same DSU.

BIOS Basic Input/Output System. The program interface between the hardware and the operating system of a PC.

bipolar signal A signal in which successive ones (marks, pulses) are of alternating positive and negative polarity, and in which a zero (space, no pulse) is of zero amplitude.

bis Latin for twice. Used to distinguish the second version of a standard from other versions; e.g., V.32bis.

B-ISDN Broadband ISDN. A high-speed (over 1.544 Mbps) ISDN implementation that can include multiprotocol services such as data, voice, and video in the same network.

bisync Binary synchronous communications. An IBM communications protocol that has become an industry standard. It uses a defined set of control characters and control-character sequences for synchronized transmission of binary-coded data between stations in a data communications system.

bit Binary digit. The smallest unit of digital information, having a value of one or zero.

bit robbing A method of transmitting signaling information by displacing a digit time slot at regular intervals.

BitStorm® The trade name for a series of IP DSLAMs and CPE.

BLC Broadband Loop Carrier. Paradyne BLCs include 1U units and multi-slot chassis.

BLEC Building Local Exchange Carrier. A telephone service provider whose equipment and network are contained within a building or complex.

BLERT BLock Error Rate Test. A local pattern test used to analyze the network circuit that causes the device to transmit and monitor a test pattern.

block allocation method A method of allocating digital signal level 0 (DS0) channels as a group rather than individually.

BNC Bayonet Neil Concelman. A bayonet-type connector for coaxial cables.

BONDING Bandwidth ON Demand INteroperability Group. A method for combining two B-channels onto one channel, allowing more data to flow through an ISDN connection.

BOOTP Bootstrap Protocol. Described in RFCs 951 and 1084, it is used for booting diskless nodes.

bps Bits per second. Indicates the speed at which bits are transmitted across a data connection.

BPV Bipolar Violation. In a bipolar signal, a one (mark, pulse) which has the same polarity as its predecessor.

BRI Basic Rate Interface. An ISDN service rate of 144 Kbps, provided as two B-channels of 64 Kbps each for data transfer and one D-channel of 16 Kbps for control and signaling.

bridge A connection that allows the passing of data packets between two network segments.

bridge mode A mode in which all ports are assigned to one digital-sharing group.

bridged tap Any part of the local loop that is not in the direct electrical path between the CO and the service user.

BRITE Basic Rate Interface Transmission Extension. A device that extends ISDN functionality over a T1 trunk.

broadband A system requiring or providing communication channels with transmission rates in excess of 64 Kbps.

broadcast A method of transmission. The simultaneous transmission to two or more communicating devices.

brouter A device used as a bridge or router utilizing the SNMP protocol.

BT Burst Tolerance. The limit parameter of the Generic Cell Rate Algorithm (GCRA).

buffer A temporary storage area used to compensate for differences in data flow rate when transmitting data from one device to another.

bus An assembly of conductors that carries signals to and from devices along its path.

busied out One of a device's operational states. When a device is in the busy out (or make busy) state, it will not be able to answer calls. If the busied out device is on a rotary, the rotary will skip the device when servicing incoming calls. A device that has its dial line busied out may switch to the service line for further use.

busy The state of a communications device when it is occupied with processing a call, or has been made to appear that way. A device appears busy when its Tip and Ring signals are joined together.

BVI Bridge group Virtual Interface. A representation of a bridge group used to exchange packets between the bridge group interface and routed interfaces.

byte A sequence of successive bits (usually eight) handled as a unit in data transmission.

C

cabinet A structure that houses carriers (usually a maximum of six).

cable binder Multiple insulated copper pairs bundled together in the telephone network.

CAC Connection Admission Control. The set of actions taken at SVC or PVC establishment to determine whether the connection should be rejected.

campus The grounds of an institution or business, comprising multiple buildings in close geographical proximity.

CAP Carrierless Amplitude and Phase Modulation. A transmission technology for implementing a DSL. Transmit and receive signals are modulated into two wide-frequency bands using passband modulation techniques.

capacitance The property of an electric nonconductor that permits the storage of energy as a result of electric displacement.

carrier A continuous frequency signal that can be modulated by another signal that contains information to be transmitted.

CAS Channel Associated Signaling. A type of signaling in which the state of the circuit is denoted by status bits appropriated from information packets. Also called Robbed Bit Signaling.

CAT3 Category 3. A level of unshielded twisted-pair wiring performance as defined by EIA/TIA-568. CAT 3 cable is used for transmission speeds up to 20 Mbps.

CAT5 Category 5. A level of unshielded twisted-pair wiring performance as defined by EIA/TIA-568. CAT 5 cable is used for transmission speeds up to 100 Mbps.

C-bit One of several bits in a DS3 subframe used for parity checking, error reporting, and other control functions.

CBR Constant Bit Rate. An ATM service category with a guaranteed rate, used for video, voice, and other applications to which timing is critical.

CC Cluster Controller. A device that handles remote communications for multiple async (or other VT100-compatible) terminals or workstations.

CC Control Channel. The diagnostic interface between an NMS and a network device.

CCA Circuit Card Assembly. A printed circuit board to which separate components are attached.

CCITT Consultative Committee on International Telegraphy and Telephony. An advisory committee established by the United Nations to recommend communications standards and policies. It was renamed ITU in March 1993.

CCR Current Cell Rate. In ATM, an RM-cell field set by the source to its own current Allowed Cell Rate (ACR).

CCS Common Channel Signaling. A type of signaling in which a group of circuits share a single reserved signaling channel.

CCV C-bit Coding Violation. A CP-bit parity error.

CD Carrier Detect. The received line signal detector. V.24 circuit 109.

CDF Cutoff Decrease Factor. In ATM, a parameter that controls the decrease in Allowed Cell Rate (ACR) in the Cell Rate Margin (CRM).

CDV Cell Delay Variation. In ATM, differences in cells' transmission times caused by buffering and cell scheduling. Peak-to-peak CDV is a Quality of Service (QoS) delay parameter in CBR and VBR services.

CDVT Cell Delay Variation Tolerance. In ATM, the maximum CDV that can be tolerated by the recipient.

cell The unit of transmission in ATM. An ATM cell contains a 5-byte header and a 48-byte data payload.

cell header Protocol control information used at the ATM layer, providing flow control, addressing, prioritization, and error control.

cell site A facility that provides the equipment needed to establish wireless communication links.

central office CO. The PSTN facility that houses one or more switches serving local telephone subscribers.

CEPT The European Conference of Postal and Telegraph Authorities. A European standards organization.

CER Cell Error Ratio. In ATM, the number of cells with errors relative to the total number of cells transmitted.

CES C-bit Errored Second. A second during which a CCV, OOF, or incoming AIS was detected.

CES Circuit Emulation Service. A facility that extends a non-ATM circuit (such as T3 or E3) over an ATM network.

CEU Commercial End User.

CGA Carrier Group Alarm. Indicates one of the following on the T1 interface: AIS (Blue alarm), Yellow alarm, or LOS or OOF (Red alarm).

CGI Common Gateway Interface. A standard for running programs on an HTTP server.

channel A bidirectional DS0, voice, or data path, for electrical transmission between two or more points. Also called a circuit, line, link, path, or facility.

channel allocation Assigning specific DS0 channels in the device to specific interfaces (Network, DTE Drop/Insert, etc.).

channel group An end-to-end allocation of bandwidth in integer multiples of 64 Kbps in the range of 64 Kbps to 1536 Kbps.

channeling device A device in which the data coming in to or going out of a certain port or ports is distributed to or gathered from the devices attached to various other ports, such as multiplexers and control modems on a multipoint circuit.

CHAP Challenge Handshake Authentication Protocol. A security technique that allows a user password to be encrypted for transmission.

character A letter, figure, number, punctuation, or other symbol.

character echo A way to check the accuracy of data transmission by sending (displaying) all the characters being transmitted to the monitor.

chassis ground Pin 1 of an EIA RS-232 interface.

checksum A value transmitted with a data packet, used by the receiver to assess the fidelity of the data received. It is created by adding the bytes or words of data, ignoring overflow.

CI Congestion Indicator. In ATM, an RM-cell field sent to a source to cause it to reduce its Allowed Cell Rate (ACR).

CIR Committed Information Rate. Less than or equal to the access rate, the CIR is used by the service provider for rate enforcement when the network allocates bandwidth. When rates exceed the CIR, frames may be discarded.

circuit A logical connection between two devices.

circuit multiplexing A proprietary method that provides the ability to multiplex the data of multiple DLCIs or data coming from multiple frame relay devices onto a single DLCI, sharing a single PVC connection.

circuit pack lock A screw lock tab installed over a circuit card's latch release tab to prevent the unit from being removed without a tool.

CISPR International Special Committee on Radio Interference. A technical committee of the International Electrotechnical Commission (IEC).

clamping A function of the DSU that forces the output signal to go low (Off) and causes the DSU to ignore input signals.

Class 1 fax A fax modem standard. Under Class 1 computer software handles most of the protocol, compression, and conversion tasks.

Class 2 fax A fax modem standard. Under Class 2 the modem handles most of the protocol, compression, and conversion tasks as well as modulation, leaving the computer free for other work.

CLEC Competitive Local Exchange Carrier. A telecommunications service provider that competes with an RBOC to provide local telephone service.

CLI Command Line Interface. Used to access a DSL router's internal interface to display status, edit configuration settings, and access router tests.

client A device that receives a specific service, such as database management, from a server.

CLLM Consolidated Link Layer Management. An ANSI-defined method for sending Link Layer messages to a node to warn of congestion or link failure.

CLP Cell Loss Priority. A bit in the ATM header that identifies cells that can be discarded during periods of congestion. Cells with a CLP of 1 have lower priority than cells with a CLP of 0.

CLR Cell Loss Ratio. A network-specific Quality of Service (QoS) parameter in ATM, CLR is the number of lost cells compared to the total number of cells transmitted.

cluster Composite object containing a group of sites which have been aggregated together in order to avoid icon overlap on the screen.

cluster controller A device that controls communications processing for multiple terminals.

CMI Control Mode Idle. A control signal sent over the DDS line to indicate that no data is being sent.

CMR Cell Misinsertion Rate. In ATM, the number of cells received that were not transmitted by the proper source compared to the number of cells correctly received.

CN Concentrator Node.

CNIS Calling Number Identification Service. A service package ordered from the service provider that supports ISDN Caller ID.

CO Central Office/Central Site. The PSTN facility that houses one or more switches serving local telephone subscribers.

coaxial cable A transmission cable consisting of a conducting outer tube which encloses and is insulated from an inner conducting core.

coding A technique used to accommodate the ones density requirements of E1 lines.

collision Occurs when two tributary DSUs transmit data onto the network at the same time. The transmissions interfere with each other and neither is successfully received.

COM port Communications port. A computer's serial communications port used to transmit to and receive data from a modem. The modem connects directly to this port.

COMCODE A code used when ordering AT&T or Lucent Technologies parts.

command button An on-screen icon which is selectable with the mouse. Selection of a command button invokes a specific pre-defined function from a full-feature workstation. Command buttons are used to invoke application-specific commands and basic commands (e.g., logoff, refresh, etc.).

Command mode One of two modem operating modes. When in Command mode, the modem accepts commands instead of transmitting or receiving data.

Committed Burst Size B_c. In frame relay networks, the maximum amount of data the network agrees to deliver in a particular time interval under normal conditions. Expressed in bits.

Committed Information Rate Less than or equal to the access rate, the Committed Information Rate (CIR) is used by the service provider for rate enforcement when the network allocates bandwidth. When rates exceed the CIR, frames may be discarded.

Committed Rate Measurement Interval T_c. In frame relay networks, the variable time interval during which only the Committed Burst Size (B_c) plus the Excess Burst Size (B_e) can be sent.

common carrier A company that provides telecommunications transmission services.

community name An identification used by an SNMP manager to grant an SNMP server access rights to a MIB.

compandor A combination of a compressor at one point in a communication path for reducing the volume range of signals, followed by an expandor at another point for restoring the original volume range. Usually its purpose is to improve the ratio of the signal to the interference in the path between the compressor and expandor.

comparator A circuit in a DSU or in external test equipment that compares or checks a generated message for errors and indicates the result of the comparison.

composite object An object on the network map that contains or is composed of other objects. For example, a site may contain network devices.

compression The encoding of redundant data to reduce the number of bits it is necessary to transmit.

COMSPHERE® A proprietary product family name and a registered trademark of Paradyne.

concentrator node A switch or multiplexer that resides in the core of the network, providing data transport.

configuration The arrangement of a system or network as defined by the characteristics of its functional units.

configuration management The storage, administration, and synchronization of data concerning a network; e.g., device, facility, connectivity, user, and vendor data.

configuration option Device software that sets specific operating parameters for the device. Sometimes referred to as straps.

configuration shortcuts A feature that simplifies basic setup (configuration) of the access unit. Based upon the application selected, the access unit automatically configures certain options like DLCIs from information obtained from the network.

congestion In a network, the state of having more traffic than capacity.

connected The state of having one device linked to another for exchanging data.

connector An outlet on equipment and cables that provides a connection.

constituent link In multilink frame relay, one of the independent virtual circuits that forms an Aggregated Virtual Circuit.

control	A device that is, for diagnostic purposes, at the logical head of a hierarchical network. It is the unit from which tests and commands are issued to other units on the same circuit. There is only one control per link.
Controlled Slip Seconds	A one-second interval containing one or more controlled slips. A controlled slip is the replication or deletion of the payload bits of a DS1 frame, occurring when there is a timing difference between a synchronous receiving terminal and the received signal.
CoS	Cost of Service.
CP	Customer Premises.
CP-bit	A C-bit used to carry DS3-path parity information.
CPCS	Common Part Convergence Sublayer. A component of the ATM Adaptation Layer's Convergence Sublayer (CS) that is the same for all traffic types.
CPCS-SDU	Common Part Convergence Sublayer – Service Data Unit. A protocol data unit shipped to the receiving ATM Adaptation Layer (AAL).
CPE	Customer Premises Equipment. Terminal equipment on the service user's side of the telecommunications network interface.
CPU	Central Processing Unit. The main or only computing device in a data processing system.
CPU fail	Central Processing Unit failure. A Self-Test Health message indicating a failure in the device's central processing unit.
CRC	Cyclic Redundancy Check. A mathematical method of confirming the integrity of received digital data.
CRC4	CRC using four check bits.
CRC5	CRC using five check bits.
CRC6	CRC using six check bits.
CRM	Cell Rate Margin. The difference in cells per second between the effective bandwidth and the bandwidth allocated to cell transmission.
crossed pairs	When the DDS receive and transmit pairs are crossed, a facility alarm is generated.
crosstalk	Line distortion due to wire pairs in the same bundle being used for separate signal transmission.
CRS	Cell Relay Service. An implementation of ATM standards.
CS	Convergence Sublayer. The upper half of the ATM Adaptation Layer (AAL), which performs the conversion between ATM and non-ATM formats.
CSA	Canadian Standards Association.
CSA	Carrier Serving Area. The loops extending a limited distance (up to 9,000 feet using 26 AWG unloaded twisted pair wiring or 12,000 feet using 24 AWG) from a CO or a DLC.
CSES	C-bit Severely Errored Second. A second during which 44 or more CCVs were detected, or an OOF or an incoming AIS was detected.
CSS	Controlled Slip Seconds. A period in which a frame was added or deleted because of a variance in timing.
CSU	Channel Service Unit. A device that connects service user equipment such as a DSU to the local digital telephone loop, protects the line from damage, and regenerates the signal.
CTAG	Correlation Tag. In TL1, a unique identifier used to correlate a response message and an input command.

CTD Cell Transfer Delay. The time it takes a cell to go from one ATM node to another.

CTS Clear To Send. A signal indicating that the device is ready for the DTE to transmit data. Usually occurs in response to Request To Send (RTS).

cut-through access A type of access or terminal emulation from a window or an NMS to another computer system.

CV Code Violation. Detected when using HDB3 coding format, this is equivalent to a BPV when using AMI coding.

CVC Constituent Virtual Circuit. In multilink frame relay, one of the independent virtual circuits that forms an Aggregated Virtual Circuit.

D

D4 The transmission standard that specifies 12 frames as a superframe that is used for frame synchronization and to locate signaling bits.

DAA Data Access Arrangement. Hardware that acts as a protective interface between the telephone circuit and the modem. It performs such functions as ring detection, DC isolation, and surge protection to protect the circuit from being disturbed by a modem malfunction.

DACS Digital Access and Cross-connect System. A device that allows DS0 channels to be individually rerouted and reconfigured.

daemon An agent program that runs continuously on a server system and provides resources to client systems on the network.

daisy chaining Connecting the COM port of one device to the AUX port of another device to provide SNMP connectivity.

data carrier A continuous frequency signal that can be modulated by another signal that contains information to be transmitted.

data compression The elimination of empty fields, redundancies, and gaps in order to reduce storage capacity needs and the amount of data to be transmitted. Anything that is compressed is restored after the data is received.

Data mode One of two general operating modes; the other is Command mode. When in Data mode, the modem considers any input from the computer to be data and transmits it across the telephone line to the remote modem.

data port The electrical interface between the device and the synchronous data terminal equipment.

data rate The speed at which data is transferred over the telephone line. This rate is measured in bits per second.

data router A sophisticated circuit switch in the DSU that is capable of connecting several communication interfaces in more than one way, redirecting or routing data to an alternate path.

database An organized compilation of computerized data.

datagram A data packet used to implement message transmissions between multiplexers and NMS; these can include alerts, configuration, commands, etc.

dBm A decibel referenced to one milliwatt into 600 ohms. This unit measures relative signal power.

DBM Dial Backup Module. The optional internal ISDN BRI feature that provides automatic dial backup and service restoration of failed digital circuits. Provides an ISDN U-interface.

DCD Data Carrier Detect. A signal passed from a local DCE to a local DTE when the DCE has received an acceptable carrier signal over the line. Also known as RLSD (Received Line Signal Detect).

DCE Data Communications Equipment. The equipment that provides the functions required to establish, maintain, and end a connection. It also provides the signal conversion required for communication between the DTE and the network.

DCE Manager See OpenLane.

D-channel Data channel. The ISDN channel that carries signaling information to control call setup.

DCLB Data Channel LoopBack. Loops the data received from the network interface, for all DS0 channels allocated to the selected port, back to the network.

DCP Diagnostic Control Panel. The front panel of a device that continuously provides status information about the device's operation and allows an operator to manage its operation. A generic term used for both the standalone and carrier-mounted models.

DDD Direct Distance Dialing. Telephone exchange service, the public switched telephone network (PSTN) that enables a telephone service user to access telephone lines without operator assistance.

DDR Data Delivery Ratio. The number of bytes received by a far-end device divided by the number of bytes sent to it.

DDS Digital Data Service, such as DATAPHONE Digital Service or ACCUNET Spectrum of Digital Services, that provides private digital communication circuits.

DE Discard Eligibility. Part of the frame header that marks a frame for low priority if there is congestion on the network. If congestion occurs, DE frames are the first to be discarded by the network.

decompression With a unit equipped with the data compression feature, compressed data coming from the network is routed, decompressed, then serialized again for the DTE port.

default A factory-preset value that is assumed to be correct unless changed by the user.

default route The address used for routing packets whose destination is not in the routing table. In Routing Information Protocol (RIP), this is IP address 0.0.0.0.

deiconification The transformation of an iconified window back into a full-size window caused by clicking on an icon.

DELT Dual-Ended Loop Testing. A measure for obtaining diagnostic information about an ADSL2 loop with equipment connected at both ends.

demarc The point of demarcation between a telephone communications facility and customer equipment or wiring.

demodulation The process of recovering data from a modulated carrier wave.

destination The endpoint of a PVC connection, comprising a designated port, DLCI, and EDLCI.

DHCP Dynamic Host Configuration Protocol. A Microsoft protocol for dynamically allocating IP addresses.

DHCP Relay Agent A system that detects and forwards DHCP discover or request messages to the appropriate DHCP server.

DHCP server A server which uses DHCP to allocate network addresses and deliver configuration parameters to dynamically configured hosts.

diagnostic network A network used for transmitting network control, monitoring, and testing information between devices in the network and the network management system. It shares the same physical transport facilities as the primary data network.

dial backup A method of restoring service for data communications during a private line failure by switching the data traffic to the public telephone network.

dial command modifiers A modifier used in the dial string that instructs the modem how to process a dialed telephone number.

dial line A communications circuit that is established by a switched circuit connection in the dial network.

dial network A public switched telephone network.

Dial Standby One of a leased line device's operational states. The Dial Standby mode allows the device to switch back to leased line operation while still maintaining the dial line.

dial string A series of characters that consists of numbers and modifiers used to dial a telephone number.

dial-up A temporary, as opposed to dedicated, connection between machines established over a standard phone line.

dialog A box or window that displays status or configuration information about an object or subject.

digital bridging Provides the ability for dial backup of a multipoint configuration by bridging the signal on the digital side of the front end panel.

Digital Loopback Test A local digital loopback test that connects the device's receiver output back to the transmitter input. This test disrupts the transmission of primary data.

digital signal A signal composed of only two discrete values, representing the binary digits 0 and 1.

digital signal processor (DSP) A microprocessor designed to perform and execute mathematically intense calculations and algorithms at high speeds, in real time, for various DSP applications. It is mostly used in DSP applications involved in the sampling of a signal, such as digital filtering, speech encoding, image processing, fast Fourier transforms, digital audio, and data transmission.

DIP switch Dual In-line Package switch.

DL Digital Loopback. A test used for manual testing of the remote end of a circuit. For example, a DL may be required to complete an external bit error rate test (BERT) from the remote DSU. The local DSU receives test data, loops it back to the transmitter, and returns it to the network.

DLB DTE LoopBack. Loopback mode that loops the information received on the DTE T1 network interface back to the network as close to the network interface as possible.

DLC Digital Loop Carrier. Equipment that multiplexes telephone traffic over a single connection between a central office and a business or residence.

DLCI Data Link Connection Identifier. The virtual circuit number corresponding to a particular connection between two destinations. This number is used as part of the frame relay header. The total number of DLCIs between endpoints make up the PVC. DLCIs are a local means of identifying a PVC.

D-lead control A control signal method which causes the associated modem to go off-hook in the Originate mode. With D-lead control signaling, a single signal lead is associated with each modem. Momentary connection of this lead to common ground actuates the signal.

DLL Dynamic Link Library. Unlike Terminate and Stay Resident applications, DLLs are automatically loaded into memory when required and unloaded when space is needed for other applications.

DMI Data Mode Idle. Refers to a sequence of ones (marks, pulses) transmitted or received on the DDS or Switched 56 Kbps network.

DMT Discrete MultiTone. DSL technology using digital signal processors to divide the signal into 256 subchannels.

DNS Domain Name System. An online distributed database that maps machine names into IP addresses.

DOC Canadian Department of Communication.

domain A named group of machines on a network. In IP, a domain consists of a block of IP addresses with similar prefixes.

doubleword A pair of contiguous words. In microcomputers, a doubleword is four bytes long and usually begins at an address evenly divisible by four.

download A process that transfers device firmware and software from a locally attached PC to a device, or allows the duplication of firmware and software from a local device to a remote device.

downstream In the direction of the customer premises.

downstream In extended networks, the direction in which diagnostic messages flow from the diagnostic control site to any intermediate links and then to the final tributary modem.

downstream device A device that is connected farther from the host computer.

DRAM Dynamic Random Access Memory. The readable and writable memory used to store data in PCs and other devices. Usually slower than SRAM, DRAM must also be regularly refreshed.

driver A software module that controls an input/output port or external device such as a keyboard or a monitor. TCP/IP uses a driver to control the network interface cards.

drop A tributary site.

drop/insert An interconnection point for terminals, multiplexers, and transmission facilities. Individual channels may be inserted into the aggregate stream or dropped out to accommodate specific applications.

DS0 Digital signal level 0 (zero). A 64 Kbps digital telecommunications signal or channel.

DS0 channel allocation Assigning specific DS0 channels in the E1 NTU to specific interfaces (HDSL Network, G.703 DTE, etc.).

DS1 Digital Signal level 1. A digital signal transmitted at the rate of 1.544 Mbps in North America.

DS1/E1 MIB Defines objects for managing E1 interfaces and supports the network and G.703 DTE interfaces on the E1 NTU.

DS3 Digital Signal level 3. A digital signal transmitted at the rate of 44.746 Mbps in North America.

DSA Digital Switched Access (see IEC).

DSD Digital sharing device.

DSL Digital Subscriber Line or Digital Subscriber Loop. The non-loaded, local-loop copper connection between the customer and the first node within the network.

DSLAM Digital Subscriber Line Access Multiplexer. A platform for DSL modems that provides high-speed data transmission over traditional twisted-pair wiring.

DSP Digital Signal Processor. The microprocessor that handles line signaling in a modem.

DSR Data Set Ready. A signal from the DCE to the DTE that indicates the DCE is turned ON and connected to the DTE.

DSU Data Service Unit. Data communications equipment that provides timing, signal regeneration, and an interface to data terminal equipment. A subrate DSU/CSU is normally referred to as a DSU.

DSU/CSU Data Service Unit/Channel Service Unit. A device that combines the functions of a DSU and a CSU. It connects Data Terminal Equipment to the digital network, protects the line from damage, and regenerates the signal.

DSX-1 Digital Signal Cross Connect level 1. An interconnection point for terminals, multiplexers and transmission facilities.

DTE Data Terminal Equipment. The equipment, such as a computer or terminal, that provides data in the form of digital signals for transmission.

DTE Loopback A test that allows you to test each port independently. This test loops the data path at the DTE interface.

DTE Password The password required by the device(s) with the security feature before access is permitted to the DTE interface.

DTE Signals The signals associated with Data Terminal Equipment (DTE) communications to a device. Examples: Clear-to-Send, Data Terminal Ready.

DTLB Data Terminal LoopBack. Loopback mode that loops the data for a particular synchronous data port back to the port just before it is combined with the rest of the T1 data stream.

DTMF Dual-Tone Multi-Frequency. A signaling method using two voice frequencies to designate the tones used for touch-tone dialing, as distinguished from pulse dialing.

DTR Data Terminal Ready. A signal from the DTE to the DCE, such as that sent via Pin 20 of the EIA-232 interface (V.24 circuit 108/1, /2), that indicates the DTE is turned ON and connected to the DCE.

DXI Data eXchange Interface. The standard for transfer of information between a DTE and an ATM DSU/CSU.

E

E1 A wideband digital interface operating at 2.048 Mbps, defined by ITU recommendations G.703 and G.704. It is used primarily outside North America.

E3 A wideband digital interface operating at 34.368 Mbps. It is used primarily outside North America.

EBS Excess Burst Size. In frame relay networks, the maximum amount of uncommitted data over the committed burst size that the network can attempt to deliver in a particular time interval. Expressed in bits.

EC Error Correction. Common error-correction protocols are V.42, MNP4, MNP 10, and ETC.

edge device A device capable of forwarding packets between an ATM interface and an unlike network, such as Ethernet, based on data-link layer and network layer information.

EDL Embedded Data Link. The 8 Kbps in-band performance channel that provides 4 Kbps of user bandwidth for the support of an SNMP management link.

EDLCI Embedded Data Link Connection Identifier. The number or frame relay address that identifies an individual logical link/connection when a multiplexed DLCI has been selected for the link. Using a proprietary method, the access unit aggregates multiple frame relay DLCIs going to the same destination access unit.

EDP Escape-based Diagnostic Protocol.

EEPROM Electrically Erasable Programmable Read-Only Memory.

EER Excessive Error Rate. An error rate that is greater than the threshold that has been configured in the device.

EFCI Explicit Forward Congestion Indication. An indicator in the ATM header set by a network entity that has detected congestion or impending congestion.

EFM Ethernet in the First Mile. The use of Ethernet starting at the customer premises in subscriber access networks. This is achieved through various technologies, including those based on the IEEE 802.3ah standard.

EFS Error-Free Seconds. EFS is a measurement of the performance of a data carrier.

EGP Exterior Gateway Protocol. Protocol that distributes routing information to the routers that connect autonomous systems.

EIA Electronic Industries Association. This organization provides standards for the data communications industry to ensure uniformity of interface between DTEs and DCEs.

EIA RS-232 An Electronic Industries Association standard defining the 25-position interface between data terminal equipment and data communications equipment.

EIA RS-366-A An Electronic Industries Association standard defining the 25-position interface between data terminal equipment and data communications automatic calling equipment.

EIA/TIA Electronics Industries Association/Telecommunications Industry Association. This organization provides standards for the data communications industry to ensure uniformity of the interface between DTEs and DCEs.

EIA/TIA-578 An Electronic Industries Association standard for fax modems.

EIA-232-D An Electronic Industries Association standard defining the 25-position interface between data terminal equipment and data communications equipment.

EIA-232-E An Electronic Industries Association standard defining the 25-position interface between data terminal equipment and data communications equipment.

EIA-530-A An Electronic Industries Association standard for a high-speed, 25-position, DCE/DTE interface.

EIR Excess Information Rate. In frame relay networks, the rate of transmission above the insured rate. Calculated as the maximum information rate less the Committed Information Rate (CIR).

elastic store A form of buffering between collocated data communications devices in complex networks; required to maintain timing synchronization for data transmission in the entire network.

E&M Ear and Mouth. A signaling protocol used in telephony. An E&M card in the AAC controls the flow of voice traffic.

EMI ElectroMagnetic Interference. Radio frequency radiation produced by or affecting high-speed data systems.

encapsulated Protocol-created control information that is added to the data or frame which has been broken into blocks or packets. The DTE constructs control packets and encapsulates user data within those packets.

End-to-End Test A pattern test run on local and remote devices simultaneously.

end station In ATM networks, computers that provide an interface between ATM end stations and other ATM or non-ATM end stations.

enterprise A company overall, as distinguished from a corporate campus or other smaller subdivision.

enterprise MIB A MIB consisting of objects unique to a specific company's devices.

enterprise-specific trap A trap unique to a specific company's devices.

EOC Embedded Operations Channel. An in-band channel between DSL devices at the physical layer, used for management data.

EON End of Number.

EPD Early Packet Discard. A packet dropping policy for ATM. In EPD, entire packets are dropped when a certain threshold of buffer usage is reached.

EPROM Erasable Programmable Read-Only Memory.

ERP Electronic Resource Planning.

error A discrepancy between a measured or computed value or condition and the true or specified value or condition.

error control An algorithm used to detect and correct data transmission errors.

errored second A performance measurement reported during a test, defined as a second in which at least one error has been detected.

ES Errored Seconds. A second with one or more ESF error events (one or more CRC6 error events or OOFs).

escape mode A special data pattern generated when signaling for minimum disruptive effect between control and tributary diagnostic interactions, and when the network does not support Switched mode network codes.

escape sequence A defined sequence of characters that causes a modem to switch from Data mode to Command mode.

ESD ElectroStatic Discharge. An undesirable discharge of static electricity that can damage equipment and degrade electrical circuitry.

ESF Extended SuperFrame. The T1 transmission standard that specifies 24 frames as an extended superframe to be used for frame synchronization and to locate signaling bits.

ETC Enhanced Throughput Cellular. A proprietary analog cellular transmission protocol.

EtherLoop® The trade name for a technology that provides simultaneous voice and high-speed data services over POTS using Ethernet.

Ethernet A type of network that supports high-speed communication among systems. It is a widely implemented standard for LANs. All hosts are connected to a coaxial cable where they contend for network access using a Carrier Sense, Multiple Access with Collision Detection (CSMA/CD) paradigm.

Ethernet address Another name for MAC address. The unique fixed address of a piece of hardware, normally set at the time of manufacture and used in LAN protocols.

ETSI European Telecommunications Standardization Institute. An organization that produces technical standards in the area of telecommunications.

EU European Union. Formerly known as the European Community, the EU is a confederation of countries dedicated to a united Europe.

event Within a network, an occurrence of interest that is reported via an event message.

Excess Burst Size B_e. In frame relay networks, the maximum amount of uncommitted data over the committed burst size that the network can attempt to deliver in a particular time interval. Expressed in bits.

excessive BPV An excessive bipolar violation condition results when at least one invalid bipolar violation has occurred every 20 milliseconds for 2 seconds. A Health and Status message (under the Status branch/menu) is generated when this condition is detected.

export The process that makes a file available so that other systems can access it.

extended network The extension of a circuit where the tributary DCE is connected to a downstream (extended) control DCE.

extended result codes An asynchronous message (in either numbers or words) that includes VF data rate and error control information that the modem sends to the DTE after executing or trying to execute a command.

external alarm An alert-control DSU feature in which the DSU detects a positive voltage on either Pin 23 or 19, triggering an alarm.

extranet The portion of an enterprise network that is publicly accessible from the Internet.

EXZ EXcessive Zeros. An occurrence of more consecutive zeros than is allowed for the line encoding technique.

F

facility A leased or dial transmission line.

factory defaults A predetermined set of configuration options containing the optimum settings for operation on asynchronous dial networks.

failure An uncorrected hardware error.

fallback Retraining at a lower rate or speed.

FAS Frame Alignment Signal. A loss of signal (LOS) error detection.

fast select An extended data field used on some packet types for X.25 facility.

fault An accidental condition that causes a functional unit to fail to perform its required function.

FAW Frame Alignment Word. A loss of synchronization error detection.

fax modem A modem capable of emulating some features of a fax machine. Working under the control of fax software, a fax modem can communicate with a fax machine or with another fax modem.

fax software A program or system of programs installed on a computer that allows a fax modem to send and receive facsimile images.

FCC Federal Communications Commission. The Board of Commissioners that regulates all electrical communications that originate in the United States.

FCS Frame Check Sequence. A value calculated at the sending and receiving end of a connection to determine if errors have occurred in transmission of a frame.

FDDI Fiber Distributed Data Interface. An ANSI 100 Mbps LAN standard for fiber optic cable networks.

FDI Feeder Distribution Interface. The point where cable bundles from a telephone switch are connected to distribution cables that run to customer sites.

FDL Facility Data Link. The selected framing bits in the ESF format used in a wide-area link that are used for control, monitoring, and testing.

FDM Frequency Division Multiplexing.

FDR Frame Delivery Ratio. The number of frames received by a far-end device divided by the number of frames sent to it.

FEBE Far End Block Error. An indication sent to the transmitting node by the receiving node that a received packet is in error.

FEC Forward Error Correction. A method of error control for data transmission where the receiving device can detect and correct a character or block of code containing a predetermined number of erroneous bits.

FECN Forward Explicit Congestion Notification. A bit set and forwarded by the network to notify users of data traffic congestion, sent in the same direction of the frame carrying the FECN indicator or bit. Inbound frames may encounter congestion and be dropped.

feeder node The Interworking Packet Concentrator, which concentrates traffic from multiple LANs onto a high-speed WAN interface.

FEP Front-End Processor. A communications computer associated with a host computer that manages the lines and routing of data through the network.

ferrite choke A device attached to a cable to reduce electromagnetic interference and ensure compliance with FCC Part 15 rules.

FEXT Far End CrossTalk. Crosstalk that occurs at the remote end of a link.

FFS Flash File System. Software used to manage flash memory.

FGRD Frame ground.

FIFO First In, First Out. Specifies order of priority for queued entries.

file access Allows users to work with a remote file as if the file is local.

file server A process running on a computer that provides access to files on that computer to programs running on remote machines.

filler panel Installed in all carrier slots that do not have a circuit card installed, a filler panel prevents accidental contact with the carrier backplane.

filter A rule or set of rules applied to a specific interface to indicate whether a packet can be forwarded or discarded.

filtering The act of altering the information displayed on a user interface according to available or selected options.

firmware Software that has been temporarily or permanently loaded into read-only memory.

flash memory A type of RAM that is maintained while the system it resides in is powered down, erasable in its entirety rather than byte by byte.

flow control A process in which devices stop and start the flow of data in a network to avoid losing data.

FN Feeder Node.

FPGA Field Programmable Gate Array. A digital component whose logic can be reprogrammed after manufacture.

fractional E1 Individual DS0 channels that may be sold separately or in groups to provide bandwidth that is some fraction of the total E1 capability.

FRAD Frame Relay Assembler/Disassembler. The frame relay equivalent of an X.25 PAD, a FRAD connects non-frame relay devices to the frame relay network. It also provides encapsulation and translation.

FRAG Frame Relay Aggregation. This capability statistically multiplexes data streams from independent sources onto a single frame relay connection.

frame One identifiable group of data bits that includes a sequence of bits for control and identification information.

frame relay A high-speed connection-oriented packet switching WAN protocol using variable-length frames.

Frame Relay Forum An association of vendors, carriers, users, and consultants that creates standards for the implementation of frame relay systems.

frame relay header The DLCI identifier contained within the frame.

frame relay switching The ability to route frames based on the source port and frame relay header (DLCI). The header contains a DLCI identifier that distinguishes the port for which the data is intended.

framer A program or device that assembles and disassembles frames.

FrameSaver® The trade name for a series of products providing service level management over frame relay.

framing A technique that separates bits into discrete identifiable groups.

framing A control procedure used with multiplexed digital channels where bits are inserted so the receiver can identify time slots allocated to each subchannel.

FRAW Frame Relay Aware. Said of an access unit that can read the frame relay header and route the data internally to the correct port.

FR Discovery Frame Relay Discovery. A configuration shortcut method for automatic PVC configuration within the FrameSaver access unit.

FRF.5 An implementation agreement endorsed by the Frame Relay Forum and the ATM Forum that describes frame relay and ATM PVC network interworking.

FRF.8 An implementation agreement endorsed by the Frame Relay Forum and the ATM Forum that describes frame relay and ATM PVC service interworking.

FRF.15 An implementation agreement endorsed by the Frame Relay Forum that describes protocol and procedures for DTE-to-DTE multilink frame relay.

FRF.16 An implementation agreement endorsed by the Frame Relay Forum that describes protocol and procedures for User-to-Network Interface and Network-to-Network Interface multilink frame relay.

FRoDSL Frame Relay over DSL.

front panel The portion of a device that continuously provides status information about the device's operation and allows an operator to manage its operation. A generic term used for both the standalone and carrier-mounted models.

FRS Frame Relay Service. A service providing frame relay transmission.

FT1 Fractional Timing 1. ANSI standard for DCLB tests.

FTP File Transfer Protocol. A TCP/IP standard protocol that allows a user on one host to access and transfer files to and from another host over a network, provided that the client supplies a login identifier and password to the server.

full-duplex The capability to transmit in two directions simultaneously.

FUNI Frame-based User-to-Network Interface. A protocol developed by the ATM Forum to connect ATM networks and existing frame relay equipment.

FXO Foreign Exchange Office.

G

G.703 An ITU-T recommendation for the physical and logical characteristics of hierarchical digital devices.

G.704 An ITU-T recommendation for synchronous frame structures.

G.711 An ITU-T recommendation for the pulse code modulation of voice frequencies.

G.804 An ITU-T recommendation for ATM cell mapping.

G.991.2 An ITU-T recommendation for high speed DSL using TC PAM. Also known as G.shsdl.

G.992.1 An ITU-T recommendation for a type of ADSL. Also known as G.dmt.

G.992.2 An ITU-T recommendation for a type of ADSL. Also known as G.lite.

gateway A communications device or program that passes data between networks having similar functions but dissimilar implementations.

gateway address The subnet that the end-user system is on.

GB Gigabyte or gigabytes. As a unit of memory measurement, a gigabyte is usually taken to mean 1,073,741,824 (2^{30}) bytes.

GbE Gigabit Ethernet.

Gbps Gigabits per second. In data rates a gigabit is usually taken to mean 1,000,000,000 (10^9) bits.

GCRA Generic Cell Rate Algorithm. In ATM, a formula used to determine conformance to the traffic contract of a connection.

G.dmt A name for the line modulation specified by ITU recommendation G.992.1.

generator A circuit in a DSU or in external test equipment that produces a continuous string or stream of known data patterns.

Generic-Interface Extension MIB An extension to MIB II that defines additional objects for control of generic interfaces in MIB II.

Get (SNMP) A command providing read-only access to SNMP MIB objects.

GigE Gigabit Ethernet.

G.lite A name for the line modulation specified by ITU recommendation G.992.2.

GranDSLAM™ A high-density Paradyne DSLAM supporting a variety of DSL transport types and network services.

GrandVIEW™ The trade name for an element management system that supports Paradyne products.

ground A physical connection to earth or other reference point.

ground start A supervisory signaling technique in which the CPE signals the CO that it is off-hook by creating a zero-voltage condition.

Group III A fax standard that specifies a rate of transmission of about one page per minute.

G.shdsl A name for the ITU recommendation G.991.2. SHDSL stands for Single-pair High-speed Digital Subscriber Line, and is designed as a replacement for SDSL, HDSL, and other DSL services.

G.shdsl.bis A name for a draft ITU recommendation for enhanced SHDSL. It provides for higher data rates than G.991.2, and other improvements.

H

H0 A 384 Kbps channel comprising six contiguous DS0s.

H10 A 1472 Kbps channel comprising 23 DS0s.

H11 A 1536 Kbps channel comprising an entire T1 line (24 DS0s) except for an 8 Kbps framing pattern. This is the North American primary rate.

H12 A 1920 Kbps channel comprising an entire E1 line (thirty 64 Kbps channels) except for a 64 Kbps framing and maintenance channel. This is the European primary rate.

H.320 An ITU-T recommendation regarding video conferencing over narrowband facilities such as ISDN.

half duplex The capability to transmit in two directions, but not simultaneously.

handshaking The exchange of predetermined codes and signals (tones) to establish a connection between two modems. During handshaking the modems determine the modulation, rate, and type of error control they will use.

HDB3 High-Density Bipolar Three Zeros Substitution. A line coding technique used to accommodate the ones density requirements of E1 lines.

HDLC High-Level Data Link Control. A communications protocol defined by the International Standards Organization (ISO).

HDSL High-bit-rate Digital Subscriber Line. A technique for high bandwidth, bidirectional transmission over copper wire for T1 and E1 services.

HDSL2 High-bit-rate Digital Subscriber Line, 2nd generation. An ANSI specification for high bandwidth, bidirectional transmission over a single twisted pair.

header The beginning of a frame or cell that bears management and addressing information.

HEC Header Error Control. In ATM, a CRC byte in the cell header that permits error checking and correction.

HomeLink A feature that provides peer-to-peer communications for PCs attached to different MVL modems at the customer premises.

HomePNA Home Phone Networking Alliance. A consortium of companies working for the adoption of a single standard for networking over a home phoneline.

hop One of the host-to-host links that forms the route between two hosts in a network. Two hosts with one hop between them have no intervening host.

host An addressable computer attached to a network.

host route An IP address with a subnet mask of 255.255.255.255.

Hotwire® The Paradyne registered trademark for its series of DSL and MVL products.

HSD High-Speed Digital. A leased line service.

HSSI High-Speed Serial Interface. An electrical interface supporting serial bit rates up to 52 Mbps.

HTML HyperText Markup Language. The document format most widely used on the World Wide Web.

HTTP HyperText Transfer Protocol. An application-level protocol for the transmission of information in distributed systems.

hub A device connecting several computers to a LAN.

hybrid management An endpoint management facility permitting access to the endpoint from a DSL provider's network operations center using the same management PVC used to manage the DSLAM. It is useful when the network service provider, not the DSL provider, owns the endpoint.

Hz Hertz. A unit of frequency that equals one cycle per second.

I

I.356 An ITU-T specification for ATM traffic measurement.

I.361 An ITU-T specification for the B-ISDN ATM layer.

I.362 An ITU-T functional description of the ATM Adaptation Layer (AAL).

I.363 An ITU-T specification for the ATM Adaptation Layer (AAL).

IAB Internet Architectural Board. Chartered by the Internet Society (ISOC), the IAB defines the architecture of the Internet and provides technical guidance to the ISOC and the IETF.

IAC Integrated Access Concentrator. An access gateway providing aggregation and switching for multiple DSL connections.

IAD Integrated Access Device. Customer premises equipment used for aggregrating diverse traffic types, such as voice and data.

IBF In-Band Framing. See bit robbing.

IBMC In-Band Management Channel. A facility for managing DSLAMs, line cards, and endpoints using a DS0 timeslot.

ICMP Internet Control Management Protocol. Internet protocol that allows for the generation of error messages, tests packets, and information messages related to IP.

iconification The transformation of a window into a small rectangular object on the screen caused by clicking on the iconify icon.

ICP cell IMA Control Protocol cell. Used by the receiver in an IMA arrangement to maintain protocol and link delay synchronization.

ICR Initial Cell Rate. In ATM, the number of cells per second a source should transmit initially and after an idle period. ICR is an Available Bit Rate service parameter.

IDC Insulation Displacement Connector. A type of wiring terminal requiring no stripping of wire insulation.

identity Information about a particular data communications device, including the serial number, model number and software version number.

idle state A state in which the modem's configuration options can be modified or commands can be issued to the modem using AT commands.

IDSL ISDN DSL using 2B1Q line code.

IEC InterExchange Carrier. A company that provides inter-LATA (local exchange carrier) telecommunications services, like AT&T, MCI, and US SPRINT. Access to these services can be provided through DDS dedicated channels, T1.5 dedicated access channels, or digital switched access (DSA) channels.

IEC International Electrotechnical Commission. An international organization for the promotion of standards and conformity in electrotechnology.

IEC connector A connector specified by the International Electrotechnical Commission (an organization which recommends technical standards).

IEEE Institute of Electrical and Electronic Engineers.

IEEE 802.1Q A standard that defines VLAN bridges.

IEEE 802.3 A standard for a LAN protocol suite, implemented as Ethernet.

IETF Internet Engineering Task Force. An open international organization concerned with the evolution of the Internet.

IGMP Internet Group Management Protocol. The method by which a host notifies neighboring routers of its multicast group membership.

ILEC Incumbent Local Exchange Carrier. The primary regional carrier; in the U.S., an RBOC or its descendant company.

ILM In-Line Monitor.

ILMI Integrated Local Management Interface. An ATM Forum specification for network management between public and private networks.

IMA Inverse Multiplexing for ATM. An ATM Forum specification for sending an ATM cell stream over multiple physical links.

IMC Internal Management Channel. Internal to the DSLAM, the IMC is the management interface of the MCC card.

interface A shared boundary between functional units.

interference The disturbance of a transmitted signal by an outside source, such as crosstalk, which has a frequency or harmonic frequency similar to the desired signal.

internet An internetwork.

Internet The worldwide internetwork, which predominantly uses the TCP/IP protocol suite.

Internet address An Internet Protocol address that uniquely identifies a node on an internet.

internetwork An interconnected group of networks (also called an internet).

interoperability The ability of equipment from different vendors to communicate using common protocols.

intranet A private network or internet using Internet standards and software, but protected from public access.

Inventory Code The status of the device in the network.

inverse ARP Inverse Address Resolution Protocol. Also called InARP, a protocol that permits a frame relay router at one end of a management PVC to acquire the address of the device at the other end of the PVC through the PVC's associated DLCI.

inverse multiplexer A device which divides a high speed circuit into lower speed circuits for transmission of data over a WAN.

I/O Input/Output. The act or capability of reading or writing data.

I/O Base Address Areas of memory the CPU uses to distinguish between the various peripheral devices connected to the system when transferring or receiving data.

IOC ISDN Ordering Code.

IP Internet Protocol. An open networking protocol used for internet packet delivery.

IP address Internet Protocol address. The address assigned to an internet host.

IPC Interworking Packet Concentrator. A device that concentrates traffic from multiple LANs onto a high-speed WAN interface.

IPCP Internet Protocol Control Protocol.

IPsec A protocol providing secure IP communications, used in implementing virtual private networks (VPNs).

IPX Internetwork Packet Exchange. A LAN communications protocol used to move data between server and workstation programs running on different network nodes.

IRQ Interrupt Request. An event that causes a computer to halt normal execution and start an interrupt handler routine to service an I/O request.

ISA Industry Standard Architecture. A standard for connections among a CPU, memory, and I/O devices on a single computer chassis.

ISDN Integrated Services Digital Network. Telecommunication service that uses digital transmission and switching technology to provide voice and digital data communications on a bearer channel (B-channel) while sending signaling on the data channel (D-channel).

ISO International Standards Organization.

ISOC Internet SOCiety. A worldwide organization of Internet experts that oversees such Internet-related boards and task forces as the IAB and IETF.

ISP Internet Service Provider. A vendor who provides direct access to the Internet.

ITU International Telecommunications Union. The telecommunications agency of the United Nations, established to provide standardized communications procedures and practices. Before March 1993 it was called CCITT.

ITU-T The Telecommunications Standardization Sector of the International Telecommunications Union, an advisory committee established by the United Nations to recommend communications standards and policies. Before March 1993 it was called CCITT.

ITU-TSS International Telecommunications Union Telecommunications Standardization Sector. An advisory committee established by the United Nations to recommend communications standards and policies and allocate transmission frequencies. Before March 1993 it was called CCITT.

IWF InterWorking Function. A process for protocol conversion, or the entity that performs the conversion.

IXC IntereXchange Carrier. A provider of telecommunications services between exchanges or LATAs.

J

Jetstream® The trade name for a series of integrated telephone communication devices providing voice over broadband.

JM8 A jack used for leased-line networks. Pins 1 and 2 are the transmit pair and Pins 7 and 8 are the receive pair.

K

kB Kilobyte or kilobytes. As a unit of memory measurement, a kilobyte is usually taken to mean 1,024 (2^{10}) bytes.

Kbps Kilobits per second. In data rates a kilobit is usually taken to mean 1,000 bits. Also abbreviated kbps and Kb/s.

kft Kilofeet. 1,000 feet.

kHz Kilohertz. A unit of frequency equal to 1,000 cycles per second.

L

L2TP Layer 2 Tunneling Protocol. L2TP is a standard, defined in RFC 2661, for creating Virtual Private Networks.

LADS Local Area Data Set. Used to provide a point-to-point link between two devices (also called LDM).

Lamp Test A test to verify that all status indicators and the control panel's LCD are operating.

LAN Local Area Network. A privately owned and administered data communications network limited to a small geographic area.

LAN adapter A device that allows a serial device to be connected to a LAN.

LANE LAN Emulation. A technique for the encapsulation and transmission of connectionless protocols over connection-oriented networks.

LAPB Link Access Procedure for Balanced mode (X.25). A modification of HDLC, LAPB is a layer 2 protocol defined by the ITU-T.

LAPD Link Access Procedure for the D-channel (ISDN). A layer 2 protocol defined by the ITU-T.

LAPF Link Access Procedure for Frame mode bearer services. A layer 2 protocol defined by the ITU-T.

last mile The telephone line between the local telephone company and the customer premises; also known as the local loop.

LATA Local Access Transport Area. A region served by a local exchange carrier (LEC) that consists of one or more area codes.

latching loopback A loopback that is maintained until a specific release code is detected. A latching loopback can only be initiated or terminated by the 64 Kbps clear channel network service provider.

latency The time it takes to transfer data from its source to its destination.

layer A logical level in the Open Systems Interconnection model.

LB Leaky Bucket. The Generic Cell Rate Algorithm (GCRA) in ATM.

LB LoopBack. A diagnostic test that sends data through a loop of circuitry.

LBO Line Build-Out. The amount of attenuation of the transmitted signal that is used to compensate for the length of wire between the transmitter and the receiver.

LC A small, low-cost modular connector used for fiber optic cable.

LCD Liquid Crystal Display. Thin glass plates containing liquid crystal material. When voltage is applied, the amount of light able to pass through the glass plates is altered so that messages can be displayed.

LCD Loss of Cell Delineation. An indication that the receiving equipment cannot identify the boundaries of a cell.

LCP Link Control Protocol.

LCV Line Code Violation. A bipolar violation or excessive zeros error.

LDAP Lightweight Directory Access Protocol. An IETF-defined protocol for searching and updating directories.

LDIF LDAP Data Interchange Format. A file format used to transfer information between directory servers.

LDM Limited-Distance Modem (also called a local area data set or LADS).

Leaky Bucket An analogy used by the ATM Forum to illustrate the Generic Cell Rate Algorithm (GCRA).

Leased A device operating on a private line where no dialing is necessary to make the connection. A dial device can be configured to run on a leased line. Some local leased-line devices can be switched over to dial mode while attached to a leased line.

leased line A private line connection exclusively for the user. No dialing is necessary.

LEC Local Exchange Carrier. A company that provides intra-LATA (local access transport area) telecommunications services.

LED Light Emitting Diode. A light or status indicator that glows in response to the presence of a certain condition (e.g., an alarm).

LES Line Errored Second. A second during which one or more Coding Violations or Loss Of Signals occurred.

link The physical connection between one location and another used for data transmission.

link configuration Provides a communication path between point-to-point or multipoint units for compatibility with network operations.

link delay The estimated roundtrip delay in a diagnostic link immediately downstream from the specific modem.

link layer protocol The protocol that regulates the communication between two network nodes.

link-level address Address for a particular device that is a concatenation of network addresses. It begins with the device immediately downstream from the starting device (control channel address), includes all intermediate devices, and ends with the destination device. Also known as sequential address.

link trap A trap that identifies the condition of the communications interface (linkDown or linkUp traps).

LIU Line Interface Unit. A physical layer data transmitter and receiver.

LL Local Loopback. A diagnostic test in which data is looped through data communications equipment from the DTE interface and back to the DTE.

LLB Line LoopBack. A test in which the received signal on the network interface is looped back to the network without change.

LMI Local Management Interface. In frame relay, the standard set of procedures and messages for link-management signaling (information exchange) between a DTE and the network.

LN Load Number. The portion of total load to be connected to a telephone loop used by the labeled equipment.

LOC Loss of Cell delineation. An indication that the receiving equipment cannot identify the boundaries of a cell.

local analog loopback A test in which the modem's transmit voice frequency (VF) signal is looped to its receiver.

local loop A twisted-pair cable that connects the subscriber's premises to the local switching office.

local loopback test An analog loopback test that connects the device's transmitter output back into the device's receiver input. The local loopback test is disruptive and will disconnect the local device from a remote device. The remote device remains disconnected from the local device after the test.

LOF Loss of Frame. Occurs when a DS1 terminal is unable to synchronize on the DS1 signal for some interval.

LOFC Loss Of Frame Count. The number of LOFs declared.

log in To perform a sequence of actions at a terminal that establishes a user's communication with the operating system and sets up default characteristics for the user's terminal session.

log out To terminate interactive communication with the operating system, and end a terminal session.

long-form addressing Addressing scheme used in networks in which the addresses of all intermediate devices, including the tributary modems, are included in the address of the downstream device.

long space disconnect A disconnect effected when the modem receives an extended space from a remote modem. When a modem is commanded to disconnect, it transmits a continuous space to the opposite modem before disconnecting.

loop start A supervisory signaling technique in which the CPE signals the CO that it is off-hook by closing a relay at the CO.

loopback A diagnostic procedure that sends a test message back to its origination point. Used to test various portions of a data link in order to isolate an equipment or data line problem.

LOP Loss of Pointer. An indication that the receiving equipment cannot identify the start of a cell.

LOS Loss of Signal. A digital line condition where there are no pulses.

LOSW Loss Of Sync Word. A detected failure of synchronization.

LPDA Link Problem Determination Aid. A series of testing procedures used in NetView that are initiated by the network control program (NCP) that provides the status of modems and attached devices, and the overall quality of the link.

LQR Link Quality Reports.

LSD Line Signal Detect. A signal between the DTE and the DCE indicating energy exists on the transmission circuit.

LT Line Termination. In ADSL, the CO line interface.

LTU Line Termination Unit. The control unit on the network end of a link. (The NTU is on the customer premises end.)

M

M1 Management interface 1. An ATM Forum term for the management of ATM end devices.

M13 A system for multiplexing DS1 circuits into a DS3 circuit.

M2 Management interface 2. An ATM Forum term for the management of private ATM networks or switches.

M3 Management interface 3. An ATM Forum term for the management of links between private and public networks.

M4 Management interface 4. An ATM Forum term for the management of public ATM networks.

M5 Management interface 5. An ATM Forum term for the management of links between two public networks.

MAC Media Access Control. The lower of the two sublayers of the data link layer, the MAC sublayer controls access to shared media.

MAC address Media Access Control address. The unique fixed address of a piece of hardware, normally set at the time of manufacture and used in LAN protocols.

manager (SNMP) The device that queries agents for management information, or receives unsolicited messages (traps) indicating the occurrence of specific events.

margin (DSL) The additional noise, measured in dB, that would need to be added to the existing noise on a given DSL loop to bring the Bit Error Rate to IE-7 (10^7).

MB Megabyte or megabytes. As a unit of memory measurement, a megabyte is usually taken to mean 1,048,576 (2^{20}) bytes.

Mbps Megabits per second. In data rates a megabit is usually taken to mean 1,000,000 (10^6) bits.

MBS Maximum Burst Size. In ATM, the number of cells that may be transmitted at the peak rate without violating the Generic Cell Rate Algorithm (GCRA).

MCC Management Communications Controller. The circuit card used to configure and monitor Paradyne Hotwire 8600 and 8800 series DSLAMs.

MCDV Maximum Cell Delay Variance. In ATM, this is the uppermost CDV objective for the service category.

MCLR Maximum Cell Loss Ratio. In ATM, the upper limit of the number of cells lost compared to the total number of cells.

MCP Management Communications Processor. The circuit card used to provide consolidated management access for DSL cards in a DSLAM.

MCR Minimum Cell Rate. In ATM, the rate expressed in cells per second that the source is always allowed to send.

MCTD Maximum Cell Transfer Delay. In ATM, the sum of the Maximum Cell Delay Variance (MCDV) and the fixed delay across the link or node.

MCU Multi-Commercial Unit. A building or complex with commercial tenants, such as an office building or shopping mall.

MDF Main Distribution Frame. The point where all local loops are terminated at a central office.

MDI Medium-Dependent Interface. A connection for twisted-pair cabling in Ethernet devices. MDI-to-MDI connections require a crossover cable; MDI to MDIX connections require a straight-through cable.

MDIX Medium-Dependent Interface Crossover. A connection for twisted-pair cabling in Ethernet devices. MDIX-to-MDIX connections require a crossover cable; MDIX to MDI connections require a straight-through cable.

MDU Multi-Dwelling Unit. A building housing multiple residences, such as an apartment building.

menu tree The structure containing the menu hierarchy starting at a Top-Level menu and extending down to various device functions.

mesh network A network configuration in which each node has a path to every other node.

MFA Multiframe Alarm. A condition in which two consecutive multiframe alignment signals are received in error.

MFR Multilink Frame Relay. A method for aggregating multiple logical or physical links into a single virtual circuit.

M-frame A cyclic set of uniquely identifiable consecutive M-subframes.

M/HDSL Multirate High-bit-rate Digital Subscriber Line. (See HDSL.)

MHU Multi-Hospitality Unit or Multi-Hotel Unit. A hotel or motel.

MIB Management Information Base. A database of managed objects used by SNMP to provide network management information and device control.

MIB II MIB Release 2. The current Internet-standard MIB, defined by RFC 1213.

MI/MIC Mode Indicate and Mode Indicate Common. A control signal method which causes the associated modem to go off-hook in the Originate mode.

MIR Maximum Information Rate. In ATM, the rate of cell transmission that the source may never exceed. Also known as Peak Cell Rate (PCR).

mixed inbound rates In a multipoint network, several different data rates from tributary modems' transmitters communicating with one control modem.

MLP MultiLink Protocol. A technique for combining B-channels to increase bandwidth for a connection.

MMF MultiMode Fiber optic cable. Fiber optic cable in which light is transmitted over multiple paths.

mnemonic addressing The identification of system components by a customer-defined, easy to remember, alphanumeric name, such as tokyo1.

MNP Microcom Networking Protocol. Levels 2–4 of this protocol, similar to ITU V.42, detect and correct data errors caused by telephone line noise and signal distortion. Level 5, similar to ITU V.42bis, includes data compression.

MNP 10 Microcom Networking Protocol 10. A Microcom proprietary error-correction protocol for cellular communications.

mobile switching center A facility that provides overall control for a wireless communication system. Cell sites are linked to the public telephone network through a mobile switching center.

mode Mode of operation for the DSU based on settings in effect and additional installed hardware features.

modem MOdulator/DEModulator. A device used to convert data from a digital signal to an analog signal so that data can be transmitted over a telephone line. Once the data is received, the analog signal is converted back into a digital signal.

modem bank An organized array of dial modems, such as the modems loaded in an individual carrier.

modem modulation A set of guidelines that determines how the modems connect and at what speed they communicate. Modulations, such as V.32bis and Bell 103, have a maximum and minimum data rate. See also data rate.

modem pool A number of modems grouped logically such that individual modems are accessible according to availability by addressing the group.

modem port The connection or interface between the modem and the telephone line.

modulation The process of varying some characteristics (usually amplitude, frequency, and/or phase) of a carrier wave to form data transmissions.

module A compact assembly functioning as a component in a larger system or unit.

MPEG Motion Picture Experts Group. An ISO committee that develops standards for digital video and audio, including MPEG Audio Layer-3 (MP3).

MPLS Multi-Protocol Label Switching. An IETF standard for using fast switching techniques like ATM and frame relay over an IP network.

MRU Maximum Request Unit.

MSA Multiservices Access. Used to refer to a single platform that supports a variety of applications, such as frame relay, synchronous data, and analog and digital voice.

M/SDSL Multirate Symmetric Digital Subscriber Line. (See SDSL.)

MSO Multiple System Operator. A TV cable company that operates more than one cable system.

M-subframe A cyclic set of uniquely identifiable consecutive time slots.

MTBF Mean Time Between Failures.

MTM Multimedia Traffic Management. A suite of features that allow providers to identify multiple services or applications, and apply intelligent service delivery and traffic steering.

MTSO Mobile Telephone Switching Office. A generic name for the main cellular switching center which supports multiple base stations.

MTU Maximum Transmission Unit. The largest unit of data that can be sent across a network.

MTU Multi-Tenant Unit. A building housing multiple tenants, such as an office building. Sometimes used as a generic term to encompass Multi-Commercial Units (MCUs), Multi-Dwelling Units (MDUs), and Multi-Hospitality Units (MHUs).

Mu-law Normally written μlaw, a mathematical function used to encode audio for transmission.

multicasting The ability of a network node to send identical data to a number of endpoints.

multiframe An ordered, functional sequence of frames on a multiplexed digital circuit.

multi-homed host A computer connected to more than one physical data link.

multilink frame relay The splitting of a high-speed stream of frame relay traffic over multiple interfaces.

multiplexer A device used to interleave or simultaneously transmit multiple independent data streams into a single high-speed data stream. Multiplexing techniques include FDM (frequency division multiplexing), TDM (time division multiplexing), and STDM (statistical time division multiplexing).

multiplexing A method for interleaving several access channels onto a single circuit for transmission over the network.

multipoint circuit A special type of circuit where one control device communicates in a broadcast mode with one or more tributary devices. Communication from a tributary device is always directly to the control device, and not to any of the other tributary devices.

multipoint line A circuit connecting one control modem with one or more tributary modems.

mux Multiplexer. A device used to interleave or simultaneously transmit multiple independent data streams into a single high-speed data stream. Multiplexing techniques include FDM (frequency division multiplexing), TDM (time division multiplexing), and STDM (statistical time division multiplexing).

MVIP Multi-Vendor Integration Protocol. A standard for using a variety of devices on a single computer chassis.

MVL® Multiple Virtual Lines. A Paradyne proprietary local loop access technology that permits several services to concurrently and discretely use a single copper wire loop.

MVL card A card with MVL ports used in Paradyne Hotwire 8600 Series and 8800 Series DSLAMs.

MVL modem An endpoint (customer premises) modem that provides high-speed Internet or corporate LAN access over twisted-pair copper lines using MVL technology.

N

NAM Network Access Module. It is a type of CCA that accesses or acts as an interface with the network.

NAP Network Access Provider. The provider of the physical network that permits connection of service subscribers to NSPs.

NAPT Network Address Port Translation. A type of NAT by which multiple hosts in a private network can simultaneously access hosts in a remote network using a single IP address.

NAS Network Access System.

NAT Network Address Translation or Network Address Translator. A technique or device for binding addresses in a private network with addresses in a global network to allow transparent routing between the two domains. The two main variations of NAT are called basic NAT and NAPT.

NDIS Network Driver Interface Specification. Used for all communication with network adapters. The specification was developed by Microsoft and 3Com to provide a common programming interface for MAC drivers and transport drivers. NDIS works primarily with LAN Manager and allows multiple protocol stacks to share a single network interface card.

NE Network Element. An addressable managed object.

NEBE Near End Block Error. An indication that an error has been detected in a received packet.

NEBS Network Equipment Building System. A set of requirements for the reliability and usability of equipment, established by Bellcore (now Telcordia Technologies).

network A configuration of data processing devices used for information exchange.

network address A unique number associated with a host that identifies it to other hosts during network transactions. This is the network portion of an IP address. In the Internet, assigned network addresses are globally unique.

network data The site profile data that describes the physical location of network devices and vendor profile data that describes the providers of equipment, facilities, or services for the network.

network delay The sum of all link delays downstream from a given modem.

network management address The customer-assigned diagnostic address of a modem.

NEXT Near End CrossTalk. Crosstalk in which the interfering signal is traveling in the opposite direction as the desired signal.

NFS Network File System. An application of IP developed by Sun Microsystems that permits one computer to access another computer's file system as if it were local.

NIC Network Information Center. Assigns IP addresses and network numbers per request submitted by an organization. The number assigned is appropriate to the number of host devices on the network.

NIC Network Interface Card. The circuit board or other hardware that provides the interface between a DTE and a network.

NID Network Interface Device. A device that connects the local loop to the customer premises and includes the demarcation point.

NIM Network Interface Module. The interface provided for the public switched telephone network (PSTN). There are two NIMs per carrier.

NMS Network Management System. A computer system used for monitoring and controlling network devices.

NMU Network Monitoring Unit. A front-end microprocessor providing the diagnostic interface between the modem network and the NMS processor.

NNI Network-to-Network Interface. The point of connection of two frame relay networks.

NNI Network Node Interface. The interface of ATM switches on different networks.

NOC Network Operations Center. The point at which a network is monitored and controlled.

node A connection or switching point on the network.

noise The disturbance of a transmitted signal by an outside source of unlike frequency and character, such as lightning.

nondisruptive diagnostics Diagnostics that are transmitted over the in-band secondary channel or routed through a DBM in Standby mode so that primary data is not affected.

nondisruptive session A session in which executing commands will not disrupt primary data.

nonlatching loopback A loopback that is not maintained unless network loopback codes are interspersed with the test data. A nonlatching loopback can only be initiated or terminated by the network service provider.

nonlinear distortion VF line distortion which is usually associated with pulse-code modulation (PCM) compandor noise on the phone line.

nonvolatile Memory that does not lose its contents when the device is powered down.

Nrm In ATM, a Quality of Service (QoS) parameter denoting the maximum number of cells per RM-cell that a source is allowed to send in the Available Bit Rate (ABR) service category.

nrt-VBR Non-real-time Variable Bit Rate. An ATM service category that supports average and peak traffic rate parameters, designed for applications with highly variable traffic.

NSP Network Service Provider. A local telephone company or ISP that provides network services to subscribers.

NT Network Termination. In ATM, the termination of a virtual channel or path at the User-Network Interface. In ADSL, the customer premises line interface.

NTP Network Time Protocol. A method for maintaining accurate local time with respect to radio and atomic clocks on the Internet.

NTU Network Termination Unit. The unit on the customer premises end of a link. (The LTU is on the network end.)

NT1 Network Termination 1. In ISDN, the device the terminates the network at the customer premises and provides a connection for terminal equipment.

NVRAM Non-Volatile RAM.

Nx64 Usually pronounced “N by 64,” a number (N) of DS0s in aggregate forming a high-bandwidth channel.

NxT1 Usually pronounced “N by T1,” a number (N) of T1s in aggregate forming a high-bandwidth channel.

O

OAM Operations, Administration, and Maintenance. A group of network management functions in ATM.

object (SNMP) A specific item within a Management Information Base (MIB).

OC*n* Optical Carrier level *n* signal. The fundamental transmission rate for SONET. OC3 represents a transmission rate of about 155 Mbps.

OCD Out of Cell Delineation. When operating in direct mode, an OCD event is declared if seven consecutive cells have header error control violations.

octet Eight contiguous bits. Also known as a byte.

ODI Open Data-link Interface. A standard architecture for device drivers and network interface cards jointly developed by Novell and Apple.

off-hook The state of a telephone or modem that is connected to the network.

offline The state of a modem that is not connected to another modem.

on-hook The state of a telephone or modem that is not connected to the network.

online The state of a modem that is connected to and communicating with another modem.

Online Help Assistance that is available by selecting Help from the current menu bar.

OOF Out Of Frame. An error condition in which frame synchronization bits are in error.

OOS Out Of Service. A digital network trouble signal reported by the remote unit.

OpenLane® A standards-based network management system providing diagnostics, real-time performance monitoring, historical reports, and health and status indications for Paradyne SNMP-managed devices.

OpIQ Operational Intelligence. A corporate goal that focuses on product and service enhancements that lower the ongoing operational costs of a network through solution-oriented network management, service and support, interoperability assurance, and improved network security.

OSI Open Systems Interconnection. The seven-layer architecture of data communication protocols developed by ISO and ITU.

OSP On-site Service Provider. A company that provides broadband service to an MDU or MTU.

OSS Operations Support System. Software that facilitates management, planning, repair, inventory, and provisioning in a service network.

P

packet A group of control and data characters that are switched as a unit within a communications network.

PAD Packet Assembly and Disassembly. The term PAD often is used with regard to X.25 networks; however, it can apply to any packet-switched network, such as frame relay.

PAP Password Authentication Protocol. A security technique that requires a user password for access to a system.

passband A category of transmission in which multiple signals are sent over a single medium by restricting channels to specific frequency ranges.

parity A way of checking data accuracy by counting the number of bits that have a value of one.

partial backup Partial backup on multipoint circuits is possible when not all tributaries are affected by a network failure. The tributaries that are affected by the network failure communicate with the control DSU through a backup connection.

pattern test A local test causing the device to transmit and monitor for a particular test pattern. This test disrupts the transmission of primary data.

payload The user information bits in a frame, as distinguished from control and routing information.

P-bit One of the bits carrying parity information for the preceding M-frame.

PBX Private Branch Exchange. Telephone switching equipment dedicated to one customer. A PBX connects private telephones to each other and to the public dial network.

PC Personal Computer.

PCC Pseudo Carrier Control. Used by tributaries in a multipoint environment to communicate with the control device via manipulation of the RTS Control Signal. Also known as V.13 signaling.

PCI Peripheral Component Interconnect. A standard for a local bus used in most PCs.

PCM Pulse Code Modulation. A method for encoding an analog signal onto a digital medium.

PCMCIA Personal Computer Memory Card International Association. A standard used to define the physical and operational characteristics of credit card-sized integrated circuits.

PCR Peak Cell Rate. In ATM, the rate of cell transmission that the source may never exceed. Also known as Maximum Information Rate (MIR).

PCV P-bit Coding Violations. A received P-bit code that does not match the locally calculated code.

PDP Packet Dropping Policy. A strategy, such as EPD and PPD, for eliminating congestion in ATM and IP networks.

PDH Plesiochronous Digital Hierarchy. A network architecture developed for digitized voice over twisted-pair cable.

PDU Protocol Data Unit. A message containing protocol-specific information.

PDV Pulse Density Violation. The number of ones (marks, pulses) is not adequate for the line requirement.

PEC Price Element Code. A code used when ordering parts.

peer address An IP address used to indicate directly connected systems.

peer entities Entities at the same layer.

PEM Power Entry Module. A module that provides 48V power isolation and distribution, overcurrent protection, and power filtering and monitoring for the Hotwire 8820 GranDSLAM chassis.

permissive interface A dial modem operating mode characterized by a fixed output power level of –9 dBm. It is one of two possible modes of operation for modems connected to dial lines.

PES P-bit Errored Second. A second during which a PCV, OOF, or incoming AIS was detected.

pF Picofarads.

phase jitter A rapid or repeated shifting of the relative phase of a signal resulting in unwanted distortion.

PHY PHYsical layer. The physical medium connecting ATM devices.

PHY connection An association between ATM entities established by the physical layer.

physical address The diagnostic address of a control device derived from its location in the carrier; its carrier and slot number.

ping Named for its analogy to sonar, ping is a program that sends an echo packet to a specified host, waits for a response, then reports the results of its operation. It is used for testing and debugging networks.

ping To verify the accessibility of a host or other device by sending it a message.

PLB Payload LoopBack. Loopback mode that loops the information received on the T1 network interface back to the network after it has passed through receive and transmit framing section.

PLCP Physical Layer Convergence Protocol. An IEEE-defined protocol for D3 transmission of ATM.

PLD Programmable Logic Device. A programmed integrated circuit, such as a PROM.

PLL Phase Lock Loop. A timing mechanism in which timing information is sent in the data stream.

PNNI Private Network-Network Interface. A protocol that permits ATM switches from different vendors to function on the same network.

POH Path OverHead. A maintenance channel used in SONET.

point-to-multipoint connection In ATM, Virtual Channels or Virtual Paths representing a single root link and multiple leaf nodes that can communicate with the root link but not with each other.

point-to-point circuit A data network circuit with one control and one tributary device.

point-to-point connection Any connection with only two endpoints.

point-to-point line A line or circuit connecting two stations.

poll list A list containing the network management addresses of downstream modems.

polling The continuous process by which NMS solicits network information network.

POP Point Of Presence. The Network Service Provider's access point on a Network Access Provider's network.

port An access point for data entry or exit.

port aggregation The feature that allows two ports to share a single frame relay link.

POST Power-On Self-Test. A test that checks most hardware components when power is applied to the device or a reset is initiated.

POTS Plain Old Telephone Service. Standard telephone service over the PSTN, with an analog bandwidth of less than 4 kHz.

POTS splitter A device that filters out the DSL signal and allows POTS frequencies to pass through.

power-on self-test A test that checks most hardware components when power is applied to the device or a reset is initiated.

PPD Partial Packet Discard. A packet dropping policy for ATM. In PPD, cells in a packet following a cell that must be dropped due to buffer overflow are also dropped.

PPP Point-to-Point Protocol. A protocol for packet transmission over serial links, specified by RFC 1661.

PPPoE Point-to-Point Protocol over Ethernet. A method for establishing sessions and encapsulating PPP packets over an Ethernet, specified by RFC 2516.

PPTP Point-to-Point Tunneling Protocol. An extension of PPP used to create virtual private networks of PCs running Windows NT.

PRBS Pseudo-Random Bit Sequence. A test pattern containing any possible combination of digital ones and zeros for a given string length.

PRI Primary Rate Interface. An ISDN service rate of 1.544 Mbps (T1) or 2.048 Mbps (E1) consisting of 23 (T1) or 30 (E1) B-channels and one signaling D-channel.

primary data network A network used to transport data from terminal to computer or from computer to computer. It shares the same physical transmission facilities with the diagnostic network.

primary destination A designated port, DLCI, and EDLCI for the primary data path from the data source so a PVC connection can be established.

PRM Performance Report Messages. Messages indicating the current state of a T1 line as specified by ANSI-T1-403.

probe Specialized agent software designed to gather a wide variety of statistical information about network operation. The probe gathers the information, and the agent (the FrameSaver 9x24 unit) stores the statistical information locally.

programmable interface A dial modem operating mode characterized by an output power level (–12 to 0 dBm) set by a programming resistor in the jack. It is one of two possible modes of operation for modems connected to dial lines.

PROM Programmable Read-Only Memory.

protocol A set of rules that determines the behavior of devices in achieving and maintaining communication.

protocol stack The rules for timing, format, error control, and flow control during data transmission.

proxy ARP Proxy Address Resolution Protocol. A technique for using a single network IP address for multiple networks. A device responds to ARP requests with its own physical address, then routes packets to the proper recipients.

PSC Public Service Commission. State-level regulators of the local phone company in the United States.

PSD Power Spectral Density. The power in a specified bandwidth divided by the bandwidth. To avoid crosstalk, DSL standards use a PSD mask to define by frequency what PSD may be used.

PSES P-bit Severely Errored Second. A second during which 44 or more PCVs were detected, or an OOF or an incoming AIS was detected.

PSTN Public Switched Telephone Network. A network shared among many users who can use telephones to establish connections between two points. Also known as dial network.

PTA Postal and Telecommunications Administration. In The People's Republic of China, a local or provincial government-controlled communications authority.

PTT Post, Telegraph, and Telephone. A national communications authority, sometimes government-controlled and monopolistic, which acts as a common carrier.

pulse density A measure of the number of ones (marks, pulses) in relation to the total number of bits transmitted.

pulse dialing One of two dialing methods in which telephone numbers are sent as pulses (brief changes in voltage or current intensity) across the telephone line. Rotary telephones use pulse dialing.

punchdown block Used for connecting cable circuits of a network interface.

PVC Permanent Virtual Circuit. A connection established administratively. Used in networks supporting frame relay, X.25, and ATM.

PVC Permanent Virtual Circuit. The DSU's in-band management channel that supports remote management via a Telnet connection. It is the logical link, identified by a DLCI, used for routing frames over the network from their source to their destination.

PVC multiplexing A patented method for multiplexing the data of multiple DLCIs onto a single DLCI to share a single PVC connection.

Q

QAM Quadrature Amplitude Modulation. A line code using phase and amplitude changes to send digital data over an analog carrier.

QoS Quality of Service. In ATM, a level of service dependent on Cell Loss Ratio (CLR), Cell Transfer Delay (CTD), and Cell Delay Variation (CDV).

QRSS Quasi-Random Signal Source. A test pattern simulating a random pattern of digital ones and zeros used to simulate normal transmission.

R

RADIUS Remote Authentication Dial-In User Service. A user authentication protocol defined by RFC 2058.

RADSL Rate Adaptive Digital Subscriber Line. A technique for the use of an existing twisted-pair line that permits simultaneous POTS and high-speed data communication at adaptive symmetric and asymmetric rates.

RADSL card A card with RADSL ports used in Paradyne Hotwire 8600 Series and 8800 Series DSLAMs.

RADSL modem An endpoint (customer premises) modem that provides high-speed Internet or corporate LAN access over twisted-pair copper lines using RADSL technology.

RAI Remote Alarm Indication. A failure message sent by the remote unit in a link.

RAM Random-Access Memory. Read/write memory that is volatile and loses its contents when power is removed.

RAS Remote Access Service. A Windows NT feature that permits the remote connection to a server using ISDN, X.25, or standard telephone lines.

rate adaption The ability to automatically adapt when the port speed is lower than the line speed.

RBOC Regional Bell Operating Company. A Bell Operating Company in a particular geographic area.

RBS Robbed Bit Signaling. A type of signaling in which the state of the circuit is denoted by status bits appropriated from information packets. Also called Channel Associated Signaling.

RD Receive Data.

RDI Remote Defect Indication. An LOS, LOF, or AIS defect detected on the far-end receiver.

ReachDSL® A Paradyne proprietary subscriber line technology providing up to 1 Mbps throughput. Compliant with ANSI T1.417, ReachDSL guarantees a minimum rate of 256 Kbps at 18 kft.

ReachDSL+ The trade name for a technology that allows a line card to provide both ADSL and ReachDSL service.

receiver A circuit that accepts data signals from a transmitter.

register A part of the device's memory that holds stored values.

Registry In Microsoft Windows, the repository of information about users, applications, and computers.

remote Files, devices, and users not attached to your local DTE.

remote digital loopback test A request from the local device to the remote device to perform a remote digital loopback. This test connects the remote digital receiver output back into the transmitter input. This test disrupts the transmission of primary data.

remote host The computer receiving the network command.

REN Ringer Equivalence Number. A guide to help determine the number of devices that can be connected to a telephone line.

reset An initialization of the device that occurs at power-on or in response to a reset command.

response time The elapsed time between a device receiving the first character of a message and the receipt of the first character of the reply.

result code An asynchronous message (in either numbers or words) that the device sends to the DTE after executing or trying to execute a command.

RFC Request for Comments. One of the documents published by the Internet Engineering Task Force that describe Internet protocols and policies.

RFC 1490-compliant Standard of multiprotocol interconnect over frame relay. The encapsulation method for carrying network interconnect traffic over a frame relay backbone; it also covers both bridging and routing.

RFC 1695 An RFC self-described as definitions of managed objects for ATM management.

RFI Radio Frequency Interference. Electromagnetic radiation generated by equipment during normal operation that can interfere with neighboring equipment.

RIP Routing Information Protocol. A protocol for exchanging routing information.

RISC Reduced Instruction Set Computing. A computer architecture designed to achieve high speed through use of a small number of simple machine instructions.

RJ11 A type of 6-position jack normally used with permissive dial networks and telephone sets.

RJ11C A type of 6-position jack normally used with permissive dial networks and telephone sets.

RJ21 A type of 50-position jack normally used with permissive dial networks providing the appropriate conductors for up to eight telephone lines.

RJ21X A type of 50-position jack normally used with permissive dial networks providing the appropriate conductors for up to eight telephone lines.

RJ27 A type of 50-position jack normally used with programmable dial networks providing the appropriate conductors for up to eight telephone lines.

RJ45 A type of 8-position jack normally used with programmable dial networks.

RJ48C An 8-position modular connector.

RL Remote digital Loopback. A test typically used when testing an external device. A test message from the external device is looped back from the receiver to the transmitter in the remote device and then returned to the local device. An RL puts the remote device into Digital Loopback.

RLB Repeater LoopBack. Loops the signal being sent to the network back to the DTE Drop/Insert and data ports after it has passed through the framing circuitry of the device.

RLSD Received Line Signal Detect. A signal passed from a local DCE to a local DTE when the DCE has received an acceptable carrier signal over the line. Also known as Data Carrier Detect (DCD).

RM Resource Management. The management of critical resources such as buffer space and bandwidth in an ATM network.

RM-cell Resource Management cell. In ATM, special cells sent to the source to convey information about the state of the network.

RMA Return Material Authorization. Provided by customer assistance center for equipment return.

RMON Remote MONitoring. A management standard that was developed to provide traffic statistics and analysis for comprehensive network fault diagnosis, planning, and performance tuning.

RMON1 Remote MONitoring, Version 1. A management standard that was developed to provide traffic statistics and analysis for comprehensive network fault diagnosis, planning, and performance tuning.

RMON2 Remote MONitoring, Version 2. An industry standard used to remotely and proactively monitor and troubleshoot switched networks at layers higher than the data link. RMON2 can identify the server that sent a packet, the user the packet is going to, and the application that the packet represents.

RO Read-Only.

ROM Read-Only Memory. This is nonvolatile memory which cannot be written to. The modem's operational firmware is stored in this type of memory.

rotary A telephone company service whereby multiple lines to a customer site share a common telephone number.

router A device that connects LANs by dynamically routing data according to destination and available routes.

routing table A table used by a node to route traffic to another node in the multiplexer network.

RS-232 An Electronic Industries Association's standard for a low-speed, 25-position, DCE/DTE interface.

RS-232-D An Electronic Industries Association's standard defining the 25-position interface between data terminal equipment and data communications equipment.

RS-232-like MIB RFC 1659, which defines objects for managing RS-232-type interfaces (e.g., RS-422, RS-423, etc.) and supports synchronous data ports and management communication ports on the device.

RS-449 An Electronic Industries Association's standard for a general-purpose, 37-position, DCE/DTE interface.

RT Remote Terminal.

RTS Request To Send. A signal from the DTE to the DCE, indicating that the DTE has data to send. V.24 circuit 105.

RTT Round Trip Time. A measurement of the delay between two hosts.

RTU Remote Termination Unit. A DSL device installed at the customer premises.

rt-VBR Real-time Variable Bit Rate. An ATM service category that supports average and peak traffic rate parameters, designed for applications with a low tolerance for delay and delay variation.

RW Read-Write.

RX Receive. To obtain transmitted signals.

RXC Receive Clock. V.24 circuit 115.

RXD Receive Data.

S

SA Source Address. In ATM, the originator's address.

SAR Segmentation And Reassembly. The function of breaking apart or reassembling packets of arbitrary size, or the entity that provides this function.

scheduling The ability to mark a transaction or command for execution at a specific time and/or for repeated execution.

SCR Sustainable Cell Rate. The upper limit of the average rate of an ATM connection.

SCSI Small Computer Serial Interface. A standard for electrical interfaces between a computer and peripheral devices.

SCM Shelf Concentration Module. A circuit card that provides connectivity between DSL devices and an ATM uplink.

SDC Synchronous Data Compression. A proprietary compression and error correction protocol.

SDCP Shared Diagnostic Control Panel. A feature that allows carrier-mounted devices to share the same diagnostic control panel.

SDH Synchronous Digital Hierarchy. Based in part on SONET, SDH is an ITU standard for the interworking of ANSI and ITU transmission techniques.

SDL Supervisory Data Link. The connection between multiplexer nodes, used to pass network control data.

SDLC Synchronous Data Link Control. An IBM standard data link protocol.

SDSL Symmetric Digital Subscriber Line. A technique for the use of an existing twisted-pair line that permits high bandwidth, bidirectional transmission.

SDU Service Data Unit. In ATM, interface information preserved from end to end in a layer connection.

SDU Shared Diagnostic Unit. A circuit card installed in Slot 0 of the COMSPHERE 3000 Series Carrier that provides an interface between an optional SDCP or network management system and the devices in the carrier.

secondary clock The secondary clock source used to provide timing to the device when the primary clock fails.

SEEP Serial (interface) Electrically Erasable PROM. Also known as serial EEPROM.

SEFS Severely Errored Frame Second. A second during which an OOF or an incoming AIS was detected.

self-test A test that checks most hardware components when power is applied to the device or a reset is initiated.

SELT Single-Ended Loop Testing. A measure for obtaining diagnostic information about an ADSL2 loop with equipment connected only at one end.

sequential address The concatenation of the network addresses of all nodes between two nodes, beginning with the control channel address and ending with the node itself.

server A device that offers a specific service, such as database management, to a client.

Service Level Agreement A contract between a frame relay service provider and a customer in which the service provider guarantees a certain level or quality of service to the customer. Level of service is defined by a set of measurable parameters, each having thresholds that are negotiated by the service provider and customer.

Service Level Management — Managing and monitoring of network parameters to ensure Quality of Service as defined in a Service Level Agreement between a network service provider and an end user. Includes monitoring, diagnostics, and reporting of critical network parameters such as availability, latency and throughput.

service network — A logical grouping of users regardless of their physical location on a network.

SES — Severely Errored Seconds. Usually defined as a second during which a specific number of CRC errors was exceeded, or an OOF or other critical error occurred.

Set (SNMP) — A command providing write access to SNMP MIB objects.

SF — Superframe. Also known as D4 framing, the T1 transmission standard that specifies 12 frames to be used for frame synchronization and to locate signaling bits.

SFP — Small Form-factor Pluggable. A specification for modular optical transceivers.

SGML — Standard Generalized Markup Language. An ISO standard language for the representation of documents and the interrelationship of information in them.

SGRD — Signal Ground. Pin 7 of an EIA RS-232 interface.

Shared Diagnostic Unit (SDU) — A circuit card that plugs into the control slot of a carrier to provide the shared diagnostic control panel and network management interfaces to the devices in the carrier. It translates the network management protocol to the devices in the carrier and routes incoming messages to the appropriate slots.

SHDSL — A name for the ITU recommendation G.991.2. SHDSL stands for Single-pair High-speed Digital Subscriber Loop, and is designed as a replacement for SDSL, HDSL, and other DSL services.

short packet — A packet containing fewer than 80 bytes of data.

signal ground — Pin 7 of an EIA RS-232 interface.

SIM — System Interface Module. A module that provides user interface connections on the front of the Hotwire 8820 GranDSLAM chassis.

SIP — SMDS Interface Protocol. A three-layer protocol implemented in SMDS networks.

SLA — Service Level Agreement. A contract between a frame relay service provider and a customer in which the service provider guarantees a certain level or quality of service to the customer. Level of service is defined by a set of measurable parameters, each having thresholds that are negotiated by the service provider and customer.

SLIP — Serial Line Internet Protocol. Protocol for serial operation on an internet.

SLM — Service Level Management. Managing and monitoring of network parameters to ensure Quality Of Service as defined in a Service Level Agreement between a network service provider and an end user. Includes monitoring, diagnostics, and reporting of critical network parameters such as availability, latency and throughput.

slot — A bay in the carrier into which a circuit card can be installed.

SLV — Service Level Verifier. A feature that monitors and ensures frame relay network service levels.

SMDS — Switched Multimegabit Digital Services. A packet switching service connecting LANs.

SMF — Single Mode Fiber. Optical fiber in which light is transmitted over one path.

SMI — Structure of Management Information. SMI presents a prefix tree with defined object identifiers.

SN — Service Node. The endpoint modem at the customer premises, also known as a Remote Termination Unit (RTU).

SN Sequence Number. A 4-byte field in an ATM Resource Management cell (RM-cell) representing the ITU-T I.371-defined sequence.

SNA Systems Network Architecture. An IBM specification of layered protocols for communication between programs, and between terminals and applications.

SNAP SubNetwork Access Protocol. An IEEE-defined frame format used for TCP/IP and other protocols.

SNAP SubNetwork Attachment Point. The unique address of a host attached to a subnetwork.

SNMP Simple Network Management Protocol. Protocol for open networking management.

SNMP agent An application program that facilitates communication between an SNMP management system and a device.

SNMP trap A message sent to an SNMP manager to notify it of an event, such as a device being reset.

SNR Signal-to-Noise Ratio. The ratio of the amplitude of a desired signal to the amplitude of noise on the same carrier.

SOHO Small Office/Home Office. Used to denote a single-building computing or networking environment, as distinguished from a campus or enterprise environment.

SONET Synchronous Optical NETwork. An ANSI standard for the transmission of digital data over optical networks.

source-based routing A security feature that ensures that all upstream traffic within a service domain is sent to the Network Service Provider and not to another end-user system.

Spanning-Tree Protocol A link management protocol that provides path redundancy while preventing undesirable loops in the network.

SPID Service Profile Identification. A unique number assigned to an ISDN terminal that identifies the ISDN services that have been configured for the terminal.

SRAM Static Random Access Memory. The readable and writable memory used to store data in PCs and other devices. Usually faster than DRAM, SRAM maintains its contents as long as power is applied to it.

SRU Signal Regenerator Unit. A repeater in an SHDSL span.

SSCS Service Specific Convergence Sublayer. A component of the ATM Adaptation Layer's Convergence Sublayer (CS) that differs according to traffic type.

static route A user-specified permanent entry in a routing table that takes precedence over routes chosen by dynamic routing protocols.

status enquiry Message sent by the customer's frame relay equipment to maintain its user-network keep alive process, and requesting a status from the network. Network responds to each status enquiry frame.

STD A subseries of RFCs that specify Internet standards. The official list of Internet standards is in STD 1.

STM Synchronous Transfer Mode. Transport and switching of digital data in a regular and fixed pattern.

STM-1 Synchronous Transmission Module 1. The fundamental SDH transmission frame and payload rate (155.52 Mbps).

StormTracker™ The trade name for an element management system that supports Paradyne products.

STP Shielded Twisted Pair. A cable consisting of one or more pairs of wires twisted together and wrapped with foil.

STP	Spanning-Tree Protocol.
STS-1	Synchronous Transport Signal 1. The fundamental SONET transmission frame and payload rate (51.84 Mbps).
STU-C	SHDSL Transceiver Unit, Central site.
STU-R	SHDSL Transceiver Unit, Remote terminal site.
SU	Service User. The end user at the customer premises.
subnet	A portion of a network, which may be a physically independent network segment, that shares a network address with other portions of the network and is distinguished by a subnet number. A subnet is to a network what a network is to an internet.
subnet address	The subnet portion of an IP address. In a subnetted network, the host portion of an IP address is split into a subnet portion and a host portion using an address (subnet) mask. This allows a site to use a single IP network address for multiple physical networks.
subnet mask	A number that identifies the subnet portion of a network address. The subnet mask is a 32-bit Internet address written in dotted-decimal notation with all the 1s in the network and subnet portions of the address.
subtend	To aggregate and service data from several sources.
SVC	Switched Virtual Circuit. In ATM, a connection established through signaling.
SWC	Service Wire Center. The location of the CO designated to provide service to a particular customer premises.
switched 56 Kbps digital service	A service provided by local exchange and interexchange carriers (LECs and IECs) that allow customers to use high-speed switched digital data capability without having to subscribe to private network services.
synchronous	Concurrent, such as a data transmission synchronized by a time signal that accompanies the data.
synchronous data	Data transmission that is synchronized by timing signals. Characters are sent at a fixed rate.
synchronous transmission	Transmission in which the data characters and bits are transmitted at a fixed rate with transmitter and receiver synchronized. This eliminates the need for start and stop bits as used in asynchronous transmission, and is thus faster and more efficient.

T

T1 A term for a digital carrier facility used to transmit a DS1 formatted digital signal at 1.544 Mbps. It is used primarily in North America.

T1-PRI T1 Primary Rate Interface. A DS1 configured for 23 bearer channels and one control channel. Usually associated with ISDN, its bearer DS0s are suitable for audio, ITU-T V.xx-series modulations, and clear channel synchronous data.

T1-RBS T1 Robbed Bit Signaling. A DS1 configured for 24 bearer channels using robbed bit signaling. Its DS0s are suitable for µlaw transport of audio, and ITU-T V.xx-series modulations. Called DS1 service by some RBOCs.

T3 A term for a digital carrier facility used to transmit a DS3 formatted digital signal at 44.746 Mbps. It is used primarily in North America.

TACACS Terminal Access Controller Access Control System. A user authentication protocol defined by RFC 927.

T_c Committed Rate Measurement Interval. In frame relay networks, the variable time interval during which only the Committed Burst Size (B_c) plus the Excess Burst Size (B_e) can be sent.

TC Transmission Convergence. The sublayer of the ATM layer that converts cells into a steady flow of bits for transmission, and delineates cells received as a bit stream.

TCP Transmission Control Protocol. An Internet standard transport layer protocol defined in STD 7, RFC 793. It is connection-oriented and stream-oriented.

TC PAM Trellis-Coded Pulse Amplitude Modulation. The modulation technique used for G.shdsl, TC PAM produces little crosstalk when implemented in the same binder group with other services, and is well suited for voice traffic.

TCP/IP Transmission Control Protocol/Internet Protocol. The dominant protocol suite in the worldwide Internet, TCP allows a process on one machine to send data to a process on another machine using the IP. TCP can be used as a full-duplex or one-way simplex connection.

TCS Transmission Convergence Sublayer. The sublayer of the ATM layer that converts cells into a steady flow of bits for transmission, and delineates cells received as a bit stream.

TD Transmit Data.

TDM Time Division Multiplexer. A device that enables the simultaneous transmission of multiple independent data streams into a single high-speed data stream by simultaneously sampling the independent data streams and combining these samples to form the high-speed stream.

TE Terminal Equipment. The endpoint of an ATM connection.

Telnet Virtual terminal protocol in the Internet suite of protocols. Allows the user of one host computer to log into a remote host computer and interact as a normal terminal user of the remote host.

ter Latin for thrice. Used to denote the third version of a standard or recommendation, as in V.27ter.

terabit A terabit is usually taken to mean one million megabits, or 1,000,000,000,000 (10^{12}) bits.

terabyte As a unit of memory measurement, a terabyte is usually taken to mean 1,099,511,627,776 (2^{40}) bytes.

terminal emulation Software that allows a PC to mimic the signals of a specific type of terminal, such as a VT100 or 3270, to communicate with a device requiring that terminal interface.

TFTP Trivial File Transfer Protocol. A standard TCP/IP protocol that allows simple file transfer to and from a remote system without directory or file listing.

throughput Amount of data, or the number of data units per units of time, that pass through the network when it is operating a peak capacity.

TID Target IDentifier. In TL1, the network entity to which a command is directed.

time slot One of the ways in which bandwidth can be specified for multiplexer channel groups. Time slots are specified by any number from one to twenty-four, with each time slot equal to 64 Kbps.

TL1 Transaction Language 1. A language developed by Bellcore (now Telcordia Technologies, Inc.) as a user interface for telecommunications equipment.

TM Test Mode. An EIA lead standard for V.24 circuit TM, ITU 142; an output signal (DCE-to-DTE).

TM Traffic Management. The actions taken by the ATM layer to deter network congestion.

TMp Trellis Multipoint. A proprietary high speed, fast poll multipoint modulation scheme.

token ring A type of network that supports high-speed communications between computers.

tone dialing A dialing method in which telephone numbers are sent as tones across the telephone lines.

top talkers Network users generating the most traffic.

TOS Terms Of Service. A body of rules established by a service provider for its subscribers.

TR 54016 AT&T Technical Reference 54016, Requirements for Interfacing Digital Terminal Equipment to Services Employing the Extended Superframe Format. An AT&T specification that defines T1 operation.

TR 62310 AT&T Technical Reference 62310, DS0 Digital Local Channel: Description & Interface Specification.

TraceRoute A program that lists the hosts in the path to a specified destination.

traffic descriptor A generic description consisting of a list of traffic parameters, a cell delay variation tolerance, and a conformance definition, used to negotiate a connection.

training A process where two modems try to establish a connection over the telephone (voice frequency) line.

transceiver A circuit capable of acting as both a transmitter and a receiver.

transmitter A circuit capable of generating, modulating, and sending a signal for communication, control, and other purposes.

trap (SNMP) A notification message to the SNMP manager when an unusual event occurs on a network device, such as a reinitialization.

trellis-coded modulation Advanced error correction coding technique for primary data typically used on higher speed modems. This modulation scheme uses Forward Error Correction for multipoint and high-speed point-to-point applications.

tributary unit A unit that is under the control of another unit.

Triple Play A term used to describe a device or system that supports concurrent transmission of data, voice, and video.

TTL Time To Live. A hop counter in a datagram used to protect a best-effort delivery system from routing loops.

TX Transmit. To send signals from a device.

TXC Transmit Clock. V.24 circuit 114.

TXD Transmit Data.

U

UAS Unavailable Seconds. A count of one-second intervals when service is unavailable.

UAWG Universal ADSL Working Group. An organization consisting of representatives from Compaq, Intel, Microsoft, RBOCs, and other companies, that is formulating a standard for the implementation of ADSL.

UBR Unspecified Bit Rate. An ATM service category with no commitment of bandwidth.

UDP User Datagram Protocol. A TCP/IP protocol describing how messages reach application programs within a destination computer.

U-Interface Marks the demarcation line between the customer-provided equipment and the local telephone company. Interface provides basic rate access.

UL Underwriter's Laboratories, Inc. An organization which promotes product safety.

unassigned cell An ATM cell that contains a Virtual Path Identifier (VPI) and a Virtual Channel Identifier (VCI) but no application data.

UNI User-Network Interface. The interface of an ATM end user and an ATM switch, or an ATM switch and a public carrier.

UNI User-to-Network Interface. The interface of frame relay user equipment and a frame relay network.

unicasting In ATM, the sending of a Protocol Data Unit (PDU) to a single destination.

UNIX An operating system developed at AT&T Bell Laboratories and since used as the basis of similar operating systems.

UPC Usage Parameter Control. In ATM, the set of actions taken by the network to control traffic.

upload A file transfer in which you send a file to another computer.

upstream In the direction of the telephone network.

upstream modem A device connected logically closer to the host computer.

URL Uniform Resource Locator. An Internet standard addressing protocol for location and access of resources.

USB Universal Serial Bus. A standard for a low-cost external peripheral device interface that operates at 12 Mbps.

USOC Universal Service Ordering Codes. Generic telephone company service ordering codes.

UTOPIA Universal Test and OPerations Interface for ATM. The electrical interface of sublayers of the ATM physical layer.

UTC Coordinated Universal Time. An international time used in navigation and networking, supplanting Greenwich Mean Time. It is also known as Zulu time.

UTP Unshielded Twisted Pair.

V

V.17 An ITU-T fax communications standard for devices operating half-duplex with synchronous data at 14,400 bps.

V.21 An ITU-T standard for devices operating full-duplex with asynchronous or synchronous data at 300 bps over dial telephone lines.

V.22 An ITU-T standard for modems operating full-duplex with asynchronous or synchronous data at 1200 bps over the dial network (PSTN).

V.22bis An ITU-T standard for modems operating full-duplex with asynchronous or synchronous data at 1200 or 2400 bps over the dial network (PSTN).

V.23 An ITU-T standard for modems operating full-duplex with asynchronous or synchronous data at 1200 or 600 bps over dial or leased telephone lines.

V.24 An ITU-T standard for a low-speed, 25-position, DCE/DTE interface.

V.25bis An ITU-T standard dialing protocol that permits direct and stored-number dialing in asynchronous, bisynchronous, or HDLC modes.

V.27bis An ITU-T communications standard for modems operating in synchronous mode at 4800 or 2400 bps.

V.27ter An ITU-T fax communications standard for modems operating half-duplex with synchronous data at 2400 and 4800 bps.

V.29 An ITU-T communications standard for modems operating half-duplex with synchronous data at 7200 and 9600 bps.

V.32 An ITU-T standard for modems operating full-duplex with asynchronous or synchronous data at 4800 or 9600 bps on switched (dial) or leased telephone lines.

V.32bis An ITU-T standard for modems operating full-duplex with asynchronous or synchronous data over dial networks (PSTN) or leased lines at 14,400, 12,000, 9600, 7200, or 4800 bps.

V.32*terbo* A modulation that adds the 19,200 bps and 16,800 bps data rates to the V.32bis data rates. It is a proprietary modulation, not an ITU-T standard.

V.33 An ITU-T standard for devices operating half-duplex with synchronous data at 14,400 and 12,000 bps.

V.34 An ITU-T standard for modems operating full-duplex with asynchronous or synchronous data over leased lines or dial networks at 33,600, 31,200, 28,800, 26,400, 24,000, 21,600, 19,200, 16,800, 14,400, 12,000, 9600, 7200, 4800, 2400 bps.

V.35 An ITU-T standard for a high-speed, 34-position, DCE/DTE interface.

V.42 An ITU-T standard for error control protocol.

V.42bis An ITU-T standard for data compression.

V.42t A proprietary Synchronous Data Compression and error correction technique.

V.54 An ITU-T standard for local and remote diagnostic loopback tests.

V.54 Loop 2 An ITU-T standard for a data channel loopback (DCLB).

V.54 Loop 3 An ITU-T standard for a data terminal loopback (DTLB).

variable binding The pairing of the name of a variable with a stored value. A list of variable bindings is used in SNMP Get and Set requests.

VBR Variable Bit Rate. An ATM service category that supports average and peak traffic rate parameters.

VC Virtual Circuit. A logical connection or packet-switching mechanism established between two devices at the start of transmission.

VCC Virtual Channel Connection. A concatenation of Virtual Circuit Links (VCLs) that joins users of the ATM layer.

VCI Virtual Channel Identifier. The 16-bit field in an ATM cell header that specifies the virtual channel over which the cell is to be transmitted.

VCID Virtual Circuit IDentifier. A non-unique local endpoint circuit identifier used by a switch to look up a path for data packets presented to it.

VDSL Very-high-speed DSL. A developing recommendation for a DSL protocol running at up to 52 Mbps over short distances.

VF Voice Frequency. The part of the audio frequency range used to transmit voice sound (usually 300 Hz to 3400 Hz). This band is used by the modem for its modulated signal.

VF Impairments A type of voice frequency line distortion, such as receive level or frequency offset.

VF Threshold Voice Frequency Threshold. The set of programmable parameters used to define acceptable ranges (thresholds) of voice frequency channel characteristics. An alarm generates when a measured voice frequency channel characteristic is outside the acceptable range defined by the threshold(s).

VF Threshold Alarm A notification that a measured voice frequency channel characteristic is outside the acceptable range defined by the threshold(s).

VGA Video Graphics Adapter.

virtual circuit A logical link/connection or packet-switching mechanism established between two devices at the start of transmission.

VLAN Virtual Local Area Network. A logical grouping of users regardless of their physical location on a network.

VLAN switch A layer 2 networking device used for implementing a VLAN.

VNID Virtual Network IDentifier. In IEEE 802.1Q, a tag that identifies the connection between the user and the ISP.

VOD Video On Demand. A service that provides video to subscribers upon request.

VoDSL Voice over DSL.

volatile A term used to describe memory which loses its contents when the device is powered down.

VPC Virtual Path Connection. In ATM, a unidirectional concatenation of Virtual Path Links (VPLs) between Virtual Path Terminators (VPTs).

VPI Virtual Path Identifier. The 8-bit field in an ATM cell header that specifies the virtual path over which the cell should be routed.

VPL Virtual Path Link. The medium between the point where a Virtual Path Identifier (VPI) is set and the point where it is interpreted or removed.

VPN Virtual Private Network. A network implemented over a public network and rendered private by use of encryption.

VPT Virtual Path Terminator. In ATM, the system that separates for processing the individual Virtual Circuits (VCs) of a Virtual Path Connection (VPC).

VSAT Very Small Aperture Terminal. A ground station for satellite-based telecommunications.

VT100 A Digital Equipment Corporation terminal, and a common terminal emulation mode used for asynchronous communications.

W

W3C World Wide Web Consortium. The international organization that develops standards for the World Wide Web.

WAN Wide Area Network. A network that spans a large geographic area.

WAN-C Wide Area Network Concentrator. A router or VLAN switch that concentrates data traffic onto facilities providing access to the WAN.

WFQ Weighted Fair Queueing. A congestion management algorithm in which a traffic class is assigned a relative amount of bandwidth.

wink start A supervisory signaling technique in which the CPE signals the CO that it is off-hook by sending a momentary pulse to the CO.

winkback detection In telephone switching systems, a momentary signal state change from control mode idle (CMI) to data mode idle (DMI), and back to CMI (sometimes referred to as a wink start).

WIPO World Intellectual Property Organization. An international organization dedicated to the protection of intellectual property.

wire center A point of access to the physical wires of a telecommunications network.

word In microcomputers, two contiguous bytes treated as a datum, usually beginning at an address evenly divisible by two.

workstation A user terminal.

X, Y, Z

X.21 An ITU-T standard for a high-speed, 15-position, DCE/DTE interface.

xDSL A generic term for all varieties of DSL taken as a whole.

XML EXtensible Markup Language. A simplified dialect of SGML proposed by the W3C for use on the World Wide Web.

XOFF A character that tells the DTE or modem to stop transmitting data.

XON A character that tells the DTE or modem to start or resume transmitting data.

XSL EXtensible Stylesheet Language. A language used for formatting XML documents.

XSLT XSL Transformations. A language for describing how one XML document is transformed into another.

XTACACS EXtended Terminal Access Controller Access Control System. A user authentication protocol, it is a Cisco extension of RFC 927.

XTXC External Transmit Clock. V.24 circuit 113.

Yellow Alarm An outgoing signal transmitted when a DS1 or DS3 terminal has determined that it has lost the incoming signal.