

label swapping

Routing algorithm used by APPN in which each router that a message passes through on its way to its destination independently determines the best path to the next router.

LAN

local-area network. High-speed, low-error data network covering a relatively small geographic area (up to a few thousand meters). LANs connect workstations, peripherals, terminals, and other devices in a single building or other geographically limited area. LAN standards specify cabling and signaling at the physical and data link layers of the OSI model. Ethernet, FDDI, and Token Ring are widely used LAN technologies. Compare with *MAN* and *WAN*.

LANE

LAN emulation. Technology that allows an ATM network to function as a LAN backbone. The ATM network must provide multicast and broadcast support, address mapping (MAC-to-ATM), SVC management, and a usable packet format. LANE also defines Ethernet and Token Ring ELANs. See also *ELAN*.

LAN emulation

See *LANE*.

LAN Emulation Client

See *LEC*.

LAN Emulation Configuration Server

See *LECS*.

LAN Emulation Server

See *LES*.

LAN Extender

Any of the products in the Cisco 1000 series. Cisco LAN Extenders provide a transparent connection between a central site and a remote site, logically extending the central network to include the remote LAN. LAN Extender products support all standard network protocols and are configured and managed through a host router at the central site, requiring no technical expertise at the remote end. See also *Cisco 1000*.

LAN Manager

Distributed NOS, developed by Microsoft, that supports a variety of protocols and platforms.

LAN Manager for UNIX

See *LM/X*.

LAN Network Manager

See *LNM*.

LAN Server

Server-based NOS developed by IBM and derived from LNM. See also *LNM*.

LAN switch

High-speed switch that forwards packets between data-link segments. Most LAN switches forward traffic based on MAC addresses. This variety of LAN switch is sometimes called a *frame switch*. LAN switches are often categorized according to the method they use to forward traffic: cut-through packet switching or store-and-forward packet switching. Multilayer switches are an intelligent subset of LAN switches. An example of a LAN switch is the Cisco Catalyst 5000. Compare with *multilayer switch*. See also *cut-through packet switching* and *store and forward packet switching*.

LAPB

Link Access Procedure, Balanced. Data link layer protocol in the X.25 protocol stack. LAPB is a bit-oriented protocol derived from HDLC. See also *HDLC* and *X.25*.

LAPD

Link Access Procedure on the D channel. ISDN data link layer protocol for the D channel. LAPD was derived from the LAPB protocol and is designed primarily to satisfy the signaling requirements of ISDN basic access. Defined by ITU-T Recommendations Q.920 and Q.921.

LAPM

Link Access Procedure for Modems. ARQ used by modems implementing the V.42 protocol for error correction. See also *ARQ* and *V.42*.

laser

light amplification by stimulated emission of radiation. Analog transmission device in which a suitable active material is excited by an external stimulus to produce a narrow beam of coherent light that can be modulated into pulses to carry data. Networks based on laser technology are sometimes run over SONET.

LAT

local-area transport. A network virtual terminal protocol developed by Digital Equipment Corporation.

LATA

local access and transport area. Geographic telephone dialing area serviced by a single local telephone company. Calls within LATAs are called "local calls." There are well over 100 LATAs in the United States.

latency

1. Delay between the time a device requests access to a network and the time it is granted permission to transmit.
2. Delay between the time when a device receives a frame and the time that frame is forwarded out the destination port.

LCC

line card control. Process that runs on the NP for each CLC, LSC, and MSC of a LightStream 2020 ATM switch. LCC establishes VCCs, maintains the link management protocol for the line card, continually monitors line quality on each trunk using TUD, and performs other functions. See also *ECC*.

LCI

logical channel identifier. See *VCN*.

LCN

logical channel number. See *VCN*.

leaf internetwork

In a star topology, an internetwork whose sole access to other internetworks in the star is through a core router.

learning bridge

Bridge that performs MAC address learning to reduce traffic on the network. Learning bridges manage a database of MAC addresses and the interfaces associated with each address. See also *MAC address learning*.

leased line

Transmission line reserved by a communications carrier for the private use of a customer. A leased line is a type of dedicated line. See also *dedicated line*.

LEC

1. LAN Emulation Client. Entity in an end system that performs data forwarding, address resolution, and other control functions for a single ES within a single ELAN. A LEC also provides a standard LAN service interface to any higher-layer entity that interfaces to the LEC. Each LEC is identified by a unique ATM address, and is associated with one or more MAC addresses reachable through that ATM address. See also *ELAN* and *LES*.
2. local exchange carrier. Local or regional telephone company that owns and operates a telephone network and the customer lines that connect to it.

LECS

LAN Emulation Configuration Server. Entity that assigns individual LANE clients to particular ELANs by directing them to the LES that corresponds to the ELAN. There is logically one LECS per administrative domain, and this serves all ELANs within that domain. See also *ELAN*.

LED

light emitting diode. Semiconductor device that emits light produced by converting electrical energy. Status lights on hardware devices are typically LEDs.

LEN node

low-entry networking node. In SNA, a PU 2.1 that supports LU protocols, but whose CP cannot communicate with other nodes. Because there is no CP-to-CP session between a LEN node and its NN, the LEN node must have a statically defined image of the APPN network.

LES

LAN Emulation Server. Entity that implements the control function for a particular ELAN. There is only one logical LES per ELAN, and it is identified by a unique ATM address. See also *ELAN*.

Level 1 router

Device that routes traffic within a single DECnet or OSI area.

Level 2 router

Device that routes traffic between DECnet or OSI areas. All Level 2 routers must form a contiguous network.

light amplification by stimulated emission of radiation

See *laser*.

light emitting diode

See *LED*.

limited resource link

Resource defined by a device operator to remain active only when being used.

limited-route explorer packet

See *spanning explorer packet*.

line

1. In SNA, a connection to the network.
2. See *link*.

line card

Card on a LightStream 2020 ATM switch that, together with its access card, provides I/O services for the switch. There are four types of line cards: *CLC*, *LSC*, *MSC*, and *PLC*.

line card control

See *LCC*.

line code type

One of a number of coding schemes used on serial lines to maintain data integrity and reliability. The line code type used is determined by the carrier service provider. See also *AMI*, *B8ZS*, and *HBD3*.

line conditioning

Use of equipment on leased voice-grade channels to improve analog characteristics, thereby allowing higher transmission rates.

line driver

Inexpensive amplifier and signal converter that conditions digital signals to ensure reliable transmissions over extended distances.

Line Interface

See *LINF*.

line of sight

Characteristic of certain transmission systems such as laser, microwave, and infrared systems in which no obstructions in a direct path between transmitter and receiver can exist.

line printer daemon

See *LPD*.

line turnaround

Time required to change data transmission direction on a telephone line.

LINF

Line Interface. Interface card used on the LightStream 100 ATM switch. The LINF receives cells sent over a line, checks them for errors, and forwards them toward their destination.

link

Network communications channel consisting of a circuit or transmission path and all related equipment between a sender and a receiver. Most often used to refer to a WAN connection. Sometimes referred to as a *line* or a *transmission link*.

Link Access Procedure, Balanced

See *LAPB*.

Link Access Procedure for Modems

See *LAPM*.

Link Access Procedure on the D channel

See *LAPD*.

link layer

See *data link layer*.

link-layer address

See *MAC address*.

link-state advertisement

See *LSA*.

link-state packet

See *LSA*.

link state routing algorithm

Routing algorithm in which each router broadcasts or multicasts information regarding the cost of reaching each of its neighbors to all nodes in the internetwork. Link state algorithms create a consistent view of the network and are therefore not prone to routing loops, but they achieve this at the cost of relatively greater computational difficulty and more widespread traffic (compared with distance vector routing algorithms). Compare with *distance vector routing algorithm*. See also *Dijkstra's algorithm*.

little-endian

Method of storing or transmitting data in which the least significant bit or byte is presented first. Compare with *big-endian*.

LLC

Logical Link Control. Higher of the two data link layer sublayers defined by the IEEE. The LLC sublayer handles error control, flow control, framing, and MAC-sublayer addressing. The most prevalent LLC protocol is IEEE 802.2, which includes both connectionless and connection-oriented variants. See also *data link layer* and *MAC*.

LLC2

Logical Link Control, type 2. Connection-oriented OSI LLC-sublayer protocol. See also *LLC*.

LMI

Local Management Interface. Set of enhancements to the basic Frame Relay specification. LMI includes support for a keepalive mechanism, which verifies that data is flowing; a multicast mechanism, which provides the network server with its local DLCI and the multicast DLCI; global addressing, which gives DLCIs global rather than local significance in Frame Relay networks; and a status mechanism, which provides an on-going status report on the DLCIs known to the switch. Known as *LMT* in ANSI terminology.

LMT

See *LMI*.

LM/X

LAN Manager for UNIX. Monitors LAN devices in UNIX environments.

LMN

LAN Network Manager. SRB and Token Ring management package provided by IBM. Typically running on a PC, it monitors SRB and Token Ring devices, and can pass alerts up to NetView.

load balancing

In routing, the ability of a router to distribute traffic over all its network ports that are the same distance from the destination address. Good load-balancing algorithms use both line speed and reliability information. Load balancing increases the utilization of network segments, thus increasing effective network bandwidth.

local access and transport area

See *LATA*.

local acknowledgment

Method whereby an intermediate network node, such as a router, responds to acknowledgments for a remote end host. Use of local acknowledgments reduces network overhead and, therefore, the risk of time-outs. Also known as *local termination*.

local-area network

See *LAN*.

local-area transport

See *LAT*.

local bridge

Bridge that directly interconnects networks in the same geographic area.

local database

See *configuration database*.

local exchange carrier

See *LEC*.

local explorer packet

Generated by an end system in an SRB network to find a host connected to the local ring. If the local explorer packet fails to find a local host, the end system produces either a spanning explorer packet or an all-routes explorer packet. See also *all-routes explorer packet*, *explorer packet*, and *spanning explorer packet*.

local loop

Line from the premises of a telephone subscriber to the telephone company CO.

Local Management Interface

See *LMI*.

LocalTalk

Apple proprietary baseband protocol that operates at the data link and physical layers of the OSI reference model. LocalTalk uses CSMA/CD media access scheme and supports transmissions at speeds of 230 Kbps.

local termination

See *local acknowledgment*.

local traffic filtering

Process by which a bridge filters out (drops) frames whose source and destination MAC addresses are located on the same interface on the bridge, thus preventing unnecessary traffic from being forwarded across the bridge. Defined in the IEEE 802.1 standard. See also *IEEE 802.1*.

logical address

See *network address*.

logical channel

Nondedicated, packet-switched communications path between two or more network nodes. Packet switching allows many logical channels to exist simultaneously on a single physical channel.

logical channel identifier

See *LCI*.

logical channel number

See *LCN*.

Logical Link Control

See *LLC*.

Logical Link Control, type 2

See *LLC2*.

logical unit

See *LU*.

Logical Unit 6.2

See *LU 6.2*.

loop

Route where packets never reach their destination, but simply cycle repeatedly through a constant series of network nodes.

loopback test

Test in which signals are sent and then directed back toward their source from some point along the communications path. Loopback tests are often used to test network interface usability.

lossy

Characteristic of a network that is prone to lose packets when it becomes highly loaded.

low-entry networking node

See *LEN node*.

low-speed line card

See *LSC*.

LPD

line printer daemon. Protocol used to send print jobs between UNIX systems.

LSA

link-state advertisement. Broadcast packet used by link-state protocols that contains information about neighbors and path costs. LSAs are used by the receiving routers to maintain their routing tables. Sometimes called a *link-state packet (LSP)*.

LSC

low-speed line card. Card on the LightStream 2020 ATM switch that can be configured as an edge or a trunk card. An LSC, in conjunction with an access card, supports eight trunk or edge ports (Frame Relay or frame forwarding) at individual port speeds up to 3.584 Mbps, or an aggregate rate of 6 Mbps per line card. See also *edge card*, *MSC*, and *trunk card*.

LSP

link-state packet. See *LSA*.

LU

logical unit. Primary component of SNA, an LU is an NAU that enables end users to communicate with each other and gain access to SNA network resources.

LU 6.2

Logical Unit 6.2. IN SNA, an LU that provides peer-to-peer communication between programs in a distributed computing environment. APPC runs on LU 6.2 devices. See also *APPC*.

LynxOS

Real-time, UNIX-like operating system that runs on the NP of a LightStream 2020 ATM switch.