Glossary

Advanced Peer-to-Peer Networking-See APPN.

AIW–(APPN Implementers Workshop) The AIW is an industry-wide consortium of networking vendors that develops APPN and SNA-related standards and facilitates high-quality, fully interoperable APPN and SNA internetworking products.

ANR–(Automatic Network Routing) The mode HPR uses to route session traffic between nodes that support RTP functions for HPR. ANR provides point-to-point transport between nodes.

APPN-(Advanced Peer-to-Peer Networking) An extension to SNA that features the following: (1) greater distributed network control that avoids critical hierarchical dependencies, thereby isolating the effects of single points of failure; (2) dynamic exchange of network topology information to foster ease of connection, reconfiguration, and adaptive routing selection; (3) dynamic definition of network resources; and (4) automated resource registration and directory lookup. APPN extends LU 6.2 peer orientation for end-user services to network control and supports multiple LU types including LU 2, LU 3, and LU 6.2.

ARB-(adaptive rate-based) A rate-based congestion and flow control algorithm designed to let APPN HPR RTP connections make efficient use of network resources by providing a congestion avoidance and control mechanism. The basic approach to the algorithm is to regulate the input traffic of an RTP connection based on conditions in the network and conditions at the partner RTP endpoint. When the ARB algorithm detects that the network or the partner endpoint is approaching congestion, ARB reduces the rate at which traffic on an RTP connection is allowed to enter the network until congestion conditions go away.

basic transmission unit-See BTU.

Branch Extender-See BX.

BrNN-(Branch Network Node) See BX.

BTU-(basic transmission unit) In SNA, the unit of data and control information passed between path control components. A BTU can consist of one or more path information units.

channel-attached router-Any Cisco router that is connected to a mainframe via a channel connection using either the CIP or CPA.

BX-(Branch Extender) A function of SNASw that enhances the scalability and reliability of SNA routing nodes by appearing as a NN to downstream EN, LEN node, and PU 2.0 devices while also appearing as an EN to upstream devices. The BX function eliminates APPN topology and APPN broadcast search flows between SNASw nodes and the SNA data hosts in the network.

CBWFQ–(Class-Based Weighted Fair Queuing) An enhanced Cisco QoS functionality that allows different types of network traffic to be prioritized using different map classes.

CICS-(Customer Information Control System) An IBM application subsystem allowing transactions entered at remote terminals to be processed concurrently by user applications.

CIP-(Channel Interface Processor) A Cisco interface processor for the Cisco 7000 and 7500 Series routers that provides ESCON or bus and tag channel attachment to the mainframe.

Class of Service-See COS.

CLSI-(Cisco link services interface) An interface architecture that allows various Cisco data-link user Cisco IOS features such as DLSw+ and VDLC to interface with and access the services of data-link control protocol stacks (such as SDLC).

CMCC-(Cisco Mainframe Channel Connection) Any of the Cisco router CIP and CPA feature cards (interface processors or port adapters) that allow a user to establish a channel connection between the router and a mainframe.

CMCP+–(Cisco MultiPath Channel Plus) CMPC+ enables High Performance Data Transfer (HPDT). It allows TCP/IP connections to the host through CMCC adapters, using either the TCP/IP stack or the High Speed Access Services (HSAS) IP stack.

CN-(connection network) A representation within an APPN network of shared-access transport facilities (SATFs), such as Token Ring, that allows nodes identifying their connectivity to the SATF by a common virtual routing node (VRN) to communicate without having individually defined connections to one another.

connection network-See CN.

CNN–(composite network node) A node representing a group of nodes that appear as one APPN or LEN node to other nodes in an APPN network. For example, a subarea network consisting of a VTAM host and some NCPs is a multiple-node network, but when connected to an APPN node, it appears as *one* logical APPN or LEN node.

COS-(Class of Service) A set of characteristics such as specific transmission priority, level of route reliability, and security level used to construct a route between session partners. The COS is derived from a mode name specified by the initiator of a session.

CP-(control point) In SNA networks, an element that identifies the APPN networking components of a PU 2.1 node, manages device resources, and provides services to other devices. In APPN, CPs are able to communicate with logically adjacent CPs using CP-to-CP sessions.

CPA-(Channel Port Adapter) A Cisco port adapter for the Cisco 7200 Series routers that provides ESCON or bus and tag channel attachment to the mainframe.

CSNA–(Cisco SNA) An application that provides support for SNA protocols to the IBM mainframe from Cisco 7500 Series CIP2 and Cisco 7200 Series CPA platforms.

DLCI–(data-link connection identifier) A value that specifies a PVC or SVC in a Frame Relay network. In the basic Frame Relay specification, DLCIs are locally significant (connected devices might use different values to specify the same connection). In the LMI extended specification, DLCIs are globally significant (DLCIs specify individual end devices).

DLSw-(data-link switching) An interoperability standard, described in RFC 1795 and 2166, that provides a method for forwarding SNA and NetBIOS traffic over TCP/IP networks using data-link layer switching and encapsulation. DLSw uses SSP instead of SRB, eliminating the major limitations of SRB, including hop-count limits, broadcast and unnecessary traffic, time outs, lack of flow control, and lack of prioritization schemes.

DLSw+-(Data-Link Switching Plus) Cisco's implementation of DLSw, which includes significant scalability, availability, transport flexibility, and load-balancing enhancements over the DLSw version 1 (RFC 1795) and version 2 (RFC 2166) standards.

DLU-(dependent LU) An LU that requires assistance from an SSCP in IBM CS/390 to initiate an LU-to-LU session.

DLUR-(Dependent LU Requester) A feature of APPN that allows traditional dependent SNA subarea traffic to be routed over the APPN network.

DLUS-(Dependent LU Server) The server half of the DLUR/DLUS enhancement to APPN. The DLUS component provides SSCP services to DLUR nodes over an APPN network.

DSPU–(Downstream Physical Unit) A software feature that enables the router to function as a PU concentrator for SNA PU 2.0 nodes.

EBN–(extended border node) An APPN node type that allows the connection of NNs with different NETIDs and allows session establishment between LUs in different NETID subnetworks that need not be adjacent.

EE-(Enterprise Extender) A function of SNASw that offers SNA High Performance Routing (HPR) support directly over IP networks, utilizing connectionless UDP transport.

EN-(end node) An APPN end system that implements the PU 2.1, provides end-user services, and supports sessions between local and remote CPs. ENs are not capable of routing traffic and rely on an adjacent NN for APPN services.

Enterprise Extender-see EE.

ESCON–(Enterprise Systems Connection) A data processing environment having a channel-to-control unit input/output interface using optical cables as the transmission media.

FDDI–(Fiber Distributed Data Interface) A LAN standard, defined by ANSI X3T9.5, specifying a 100-Mbps token-passing network using fiber-optic cable, with transmission distances of up to 2 km. FDDI uses a dual-ring architecture to provide redundancy.

FEP-(front-end processor) A device or board that provides network interface capabilities for a networked device. In SNA, an FEP is typically an IBM 3745 device.

FRAS–(Frame Relay Access Support) A Cisco IOS Software feature that allows branch SNA devices to connect directly to a central site FEP over a Frame Relay network.

FST–(Fast Sequenced Transport) A high-performance DLSw+ encapsulation option used over higher-speed links (256 kbps or higher) when high throughput is required.

HDLC–(High-Level Data Link Control) A bit-oriented synchronous data link layer protocol developed by ISO. Derived from SDLC, HDLC specifies a data encapsulation method on synchronous serial links using frame characters and checksums.

High Performance Routing-See HPR.

HPR-(High Performance Routing) An addition to APPN that enhances data-routing performance and session reliability.

ICN–(interchange node) A standalone APPN CS/390 node or a CNN. The ICN routes sessions from APPN nodes into and through the subarea network using subarea routing, without exposing the subarea implementation to the APPN part of the network.

IETF–(Internet Engineering Task Force) A task force consisting of more than 80 working groups responsible for developing Internet standards.

Intermediate Session Routing-See ISR.

IPM-(Internetwork Performance Monitor) A Cisco workstation-based network management product that provides data about response times between devices.

ISDN—(Integrated Services Digital Network) A communication protocol, offered by telephone companies, that permits telephone networks to carry data, voice, and other source traffic.

ISM-(Internetwork Status Monitor) A Cisco mainframe-based network management product that allows users to manage their Cisco routers from their mainframe network management application (Tivoli NetView for OS/390). ISM enables NetView operators to have full visibility of a Cisco router network from a single NetView console regardless of whether that router network is routing SNA traffic.

ISR-(Intermediate Session Routing) A type of routing function within an APPN NN that provides session-level flow control and outage reporting for all sessions that pass through the node but whose endpoints are elsewhere.
LEN node-(low-entry networking node) A capability of nodes to attach directly to one another using basic peer-to-peer protocols without APPN to support parallel LU 6.2 sessions between LUs.
LLC2–(Logical Link Control, type 2) A connection-oriented SNA LLC-sublayer protocol.
low-entry networking node-See LEN node.
LPAR–(logical partition) A physical IBM S/390 or zSeries mainframe divided into multiple logical partitions.
LU-(logical unit) A type of addressable unit in an SNA network. The LU is the port through which the end user accesses both the SSCP-provided services and communicates with other LUs at other nodes.
MAC-(Media Access Control) The lower of the two sublayers of the data link layer defined by the IEEE. The MAC sublayer handles access to shared media, such as whether token passing or contention will be used.
maximum transfer unit-See MTU.
MIB–(Management Information Base) A database of network management information that is used and maintained by a network management protocol such as SNMP.
MSFC–(Multilayer Switch Feature Card) A card that provides Cisco IOS Software Layer 3 services on Cisco Catalyst 6500 Series switches.
MTU-(maximum transfer unit) The maximum packet size in bytes that a particular interface can support.
network node server-See NN server.
NN–(network node) An APPN node type that provides full distributed directory and routing services for all LUs that it controls. These LUs can be located on the APPN NN itself or on one of the adjacent LEN nodes or APPN ENs for which the APPN NN provides NN services. Jointly with the other active APPN NNs, an APPN NN is able to locate all destination LUs known in the network.
NN server-(network node server) An APPN NN that provides network services for its local LUs and client ENs.
OSA-Express–(Open Systems Adapter-Express) An IBM mainframe NIC used to attach a Cisco Catalyst 6500 Series Gigabit Ethernet switch to an IBM S/390 or zSeries host.
OSPF–(Open Shortest Path First) A link-state, hierarchical routing algorithm that features least-cost routing, multipath routing, and load balancing.
PBN–(peripheral border node) An APPN node type that enables the connection of NNs with different NETIDs and allows session establishment between LUs in different, adjacent subnetworks.
PPP–(Point-to-Point Protocol) A protocol that provides router-to-router and host-to-network connections over synchronous and asynchronous circuits.
PSNA-(Portable Systems Network Architecture) The first-generation Cisco APPN NN platform in the Cisco IOS Software.
PU-(physical unit) A type of addressable unit in an SNA network. Each node in the network has a PU, which provides services to control the physical configuration and the communication system resources associated with the node and to collect maintenance and operational statistics.
QLLC–(Qualified Logical Link Control) A data link layer protocol defined by IBM that allows SNA data to be transported across X.25 networks.
QoS-(quality of service) The measure of performance for a transmission system that reflects its transmission quality and service availability.
quality of service-See QoS.
Responsive Mode ARB-The second-generation enhanced HPR flow control algorithm used for SNA transport over HPR/IP (EE) networks.

RFC–(Request for Comments) A document series used as the primary means for communicating information about the Internet. Some RFCs are designated by the IAB as Internet standards. Most RFCs document protocol specifications such as Telnet and FTP, but some are humorous or historical. RFCs are available online from numerous sources.

RIF–(routing information field) A field in the IEEE 802.5 header that is used by a source-route bridge to determine the Token Ring network segments through which a packet must transit. A RIF is made up of ring and bridge numbers as well as other information.

RSRB–(remote source-route bridging) Cisco's first technique for connecting Token Ring networks over *non-Token Ring* WAN network segments.

RTP–(Rapid Transport Protocol) A connection-oriented, full-duplex protocol designed to transport data in high-speed networks. HPR uses RTP connections to transport LU-to-LU and CP-to-CP session traffic. RTP provides reliability, in-order delivery, segmentation and reassembly, and adaptive rate-based flow/congestion control. Because RTP provides these functions on an end-to-end basis, it eliminates the need for these functions on the link level along the path of a connection.

SATF–(shared access transport facility) A shared-access medium that allows for dynamic direct connectivity between any pair of link stations attaching to the facility.

SDLC–(Synchronous Data Link Control) An SNA data link layer bit-oriented, full-duplex serial communications protocol.

SNA-(Systems Network Architecture) The IBM architecture that defines the logical structure, formats, protocols, and operational sequences for transmitting information units through, and controlling the configuration and operation of, networks. The layered structure of SNA allows the ultimate origins and destinations of information (the users) to be independent of and unaffected by the specific SNA network services and facilities that are used for information exchange.

SNASw-(SNA Switching Services) A feature within the Cisco IOS Software that provides SNA routing or "session switching" for PU 2.0, PU 2.1 (LEN node), and APPN EN devices over ISR or HPR data-link controls.

SNI–(SNA network interconnection) The connection by gateways of two or more independent SNA networks to allow communication between SNA LUs in those networks.

SNMP–(Simple Network Management Protocol) A network management protocol used almost exclusively in TCP/IP networks. SNMP provides a means to monitor and control network devices and to manage configurations, statistics collection, performance, and security.

SRB–(source-route bridging) A method of bridging originated by IBM and popular in Token Ring networks. In an SRB network, the entire route to a destination is predetermined, in real time, before data is sent to the destination.

SSCP-(System Services Control Point) The SNA architectural component within a subarea network for managing the configuration, coordinating network operator and problem determination requests, and providing directory services and other session services for end users of a network. Multiple SSCPs, cooperating as peers with one another, can divide the network into domains of control, with each SSCP having a hierarchical control relationship to the PUs and LUs within its own domain.

sysplex-A set of MVS or OS/390 systems communicating and cooperating with each other through certain multisystem hardware components and software services to process customer workloads. This term is derived from "system complex."

System Services Control Point-See SSCP.

Systems Network Architecture-See SNA.

TAC–(Technical Assistance Center) Cisco's world-class technical support center.

TDU–(topology database update) A message about a new or changed link or node that is broadcast among APPN NNs to maintain the network topology database. TDUs are fully replicated in each NN in an APPN network.

TIC–(Token Ring interface coupler) An adapter that can connect an IBM FEP to a Token Ring network.

UDP–(User Datagram Protocol) A connectionless transport layer protocol in the TCP/IP protocol stack. UDP is a simple protocol that exchanges datagrams without acknowledgments or guaranteed delivery, requiring that error processing and retransmission be handled by other protocols. UDP is defined in RFC 768.

VDLC-(Virtual Data Link Control) A function within the Cisco IOS Software that provides communication between two software components that both use Cisco link services (CLS).

Virtual Data Link Control-See VDLC.

VoIP–(Voice over IP) A technology that enables a router to carry voice traffic (for example, telephone calls and faxes) over an IP network.

VRN–(virtual routing node) A representation of a node's connectivity to an APPN connection network defined on an SATF.

WFQ–(Weighted Fair Queuing) A congestion management algorithm that identifies conversations (in the form of traffic streams), separates packets that belong to each conversation, and ensures that capacity is shared fairly between these individual conversations. WFQ is an automatic way of stabilizing network behavior during congestion and results in increased performance and reduced retransmission.

XCA-(external communication adapter) A communication adapter used by the CIP and CPA to allow one host subchannel to support thousands of SNA PUs to a CS/390 host. An XCA also can define the IP port (the connection to the adjoining CS/390 host TCP/IP stack) that CS/390 will use for EE connections.