Η

half duplex

Capability for data transmission in only one direction at a time between a sending station and a receiving station. Compare with *full duplex* and *simplex*.

handshake

Sequence of messages exchanged between two or more network devices to ensure transmission synchronization.

hardware address

See MAC address.

HBD3

Line code type used on E1 circuits.

H channel

high-speed channel. Full-duplex ISDN primary rate channel operating at 384 Kbps. Compare with *B channel*, *D channel*, and *E channel*.

HDLC

High-Level Data Link Control. 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. See also *SDLC*.

headend

The end point of a broadband network. All stations transmit toward the headend; the headend then transmits toward the destination stations.

header

Control information placed before data when encapsulating that data for network transmission. Compare with *trailer*. See also *PCI*.



heartbeat

See SQE.

HELLO

Interior routing protocol used principally by NSFnet nodes. HELLO allows particular packet switches to discover minimal delay routes. Not to be confused with the *Hello protocol*.

hello packet

Multicast packet that is used by routers for neighbor discovery and recovery. Hello packets also indicate that a client is still operating and network-ready.

Hello protocol

Protocol used by OSPF systems for establishing and maintaining neighbor relationships. Not to be confused with *HELLO*.

helper address

Address configured on an interface to which broadcasts received on that interface will be sent.

HEPnet

High-Energy Physics Network. Research network that originated in the United States, but that has spread to most places involved in high-energy physics. Well-known sites include Argonne National Laboratory, Brookhaven National Laboratory, Lawrence Berkeley Laboratory, and the Stanford Linear Accelerator Center (SLAC).

hertz

Measure of frequency, abbreviated *Hz*. Synonymous with *cycles per second*.

heterogeneous network

Network consisting of dissimilar devices that run dissimilar protocols and in many cases support dissimilar functions or applications.

hierarchical routing

Routing based on a hierarchical addressing system. For example, IP routing algorithms use IP addresses, which contain network numbers, subnet numbers, and host numbers.

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High-Energy Physics Network See *HEPnet*.

High-Level Data Link Control See *HDLC*.

High Performance Computing and Communications See *HPCC*.

High Performance Computing Systems See *HPCS*.

High-Performance Parallel Interface See *HIPPI*.

High Performance Routing See *HPR*.

High-Speed Communications Interface See *HSCI*.

High-Speed Serial Interface See *HSSI*.

highway

See bus.

HIP

HSSI Interface Processor. Interface processor on the Cisco 7000 series routers. The HIP provides one HSSI port that supports connections to ATM, SMDS, Frame Relay, or private lines at speeds up to T3 or E3.

HIPPI

High-Performance Parallel Interface. High-performance interface standard defined by ANSI. HIPPI is typically used to connect supercomputers to peripherals and other devices.

holddown

State into which a route is placed so that routers will neither advertise the route nor accept advertisements about the route for a specific length of time (the holddown period). Holddown is used to flush bad information about a route from all routers in the network. A route is typically placed in holddown when a link in that route fails.

homologation

Conformity of a product or specification to international standards, such as ITU-T, CSA, TUV, UL, or VCCI. Enables portability across company and international boundaries.

hop

Term describing the passage of a data packet between two network nodes (for example, between two routers). See also *hop count*.

hop count

Routing metric used to measure the distance between a source and a destination. RIP uses hop count as its sole metric. See also *hop* and *RIP*.

host

Computer system on a network. Similar to the term *node* except that *host* usually implies a computer system, whereas node generally applies to any networked system, including access servers and routers. See also *node*.

host address

See host number.

host node

SNA subarea node that contains an SSCP.

host number

Part of an IP address that designates which node on the subnetwork is being addressed. Also called a *host address*.

Hot Standby Router Protocol

See HSRP.

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hot swapping

See OIR and power-on servicing.

HPCC

High Performance Computing and Communications. U.S. government funded program advocating advances in computing, communications, and related fields. The HPCC is designed to ensure U.S. leadership in these fields through education, research and development, industry collaboration, and implementation of high-performance technology. The five components of the HPCC are *ASTA*, *BRHR*, *HPCS*, *IITA*, and *NREN*.

HPCS

High Performance Computing Systems. Component of the HPCC program designed to ensure U.S. technological leadership in high-performance computing through research and development of computing systems and related software. See also *HPCC*.

HPR

High Performance Routing. Second-generation routing algorithm for APPN. HPR provides a connectionless layer with nondisruptive routing of sessions around link failures, and a connection-oriented layer with end-to-end flow control, error control, and sequencing. Compare to *ISR*. See also *APPN*.

HSCI

High-Speed Communications Interface. Single-port interface, developed by Cisco, providing full-duplex synchronous serial communications capability at speeds up to 52 Mbps.

HSRP

Hot Standby Router Protocol. Provides high network availability and transparent network topology changes. HSRP creates a Hot Standby router group with a lead router that services all packets sent to the Hot Standby address. The lead router is monitored by other routers in the group, and if it fails, one of these standby routers inherits the lead position and the Hot Standby group address.

HSSI

High-Speed Serial Interface. Network standard for high-speed (up to 52 Mbps) serial connections over WAN links.



HSSI Interface Processor

See HIP.

HTML

hypertext markup language. Simple hypertext document formatting language that uses tags to indicate how a given part of a document should be interpreted by a viewing application, such as a WWW browser. See also *hypertext* and *WWW browser*.

hub

1. Generally, a term used to describe a device that serves as the center of a star-topology network.

2. Hardware or software device that contains multiple independent but connected modules of network and internetwork equipment. Hubs can be active (where they repeat signals sent through them) or passive (where they do not repeat, but merely split, signals sent through them).

3. In Ethernet and IEEE 802.3, an Ethernet multiport repeater, sometimes referred to as a *concentrator*.

hybrid network

Internetwork made up of more than one type of network technology, including LANs and WANs.

hypertext

Electronically-stored text that allows direct access to other texts by way of encoded links. Hypertext documents can be created using HTML, and often integrate images, sound, and other media that are commonly viewed using a WWW browser. See also *HTML* and *WWW browser*.

hypertext markup language

See HTML.

Hz

See hertz.

