

**H channel**

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

**H.225.0**

An ITU standard that governs H.225.0 session establishment and packetization. H.225.0 actually describes several different protocols: RAS, use of Q.931, and use of RTP.

**H.245**

An ITU standard that governs H.245 endpoint control.

**H.320**

Suite of ITU-T standard specifications for videoconferencing over circuit-switched media, such as ISDN, fractional T-1, and switched-56 lines. Extension of ITU-T standard H.320 that enables videoconferencing over LANs and other packet-switched networks, as well as video over the Internet.

**H.323**

H.323 allows dissimilar communication devices to communicate with each other by using a standardized communication protocol. H.323 defines a common set of CODECs, call setup and negotiating procedures, and basic data transport methods.

**H.323 RAS**

registration, admission, and status. The RAS signaling protocol performs registration, admissions, bandwidth changes, and status and disengage procedures between the VoIP gateway and the gatekeeper.

**H.450.2**

Call transfer supplementary service for H.323.

**H.450.3**

Call diversion supplementary service for H.323.

**hairpin**

Telephony term that means to send a call back in the direction that it came from. For example, if a call cannot be routed over IP to a gateway that is closer to the target telephone, the call typically is sent back out the local zone, back the way from which it came.

**hairpinning**

An incoming PSTN call is looped back out onto the PSTN. This is done if the call cannot be delivered using IP. It also can be used by a trunking gateway to deliver a modem call to a NAS.

**half duplex**

Capability for data transmission in only one direction at a time between a sending station and a receiving station. BSC is an example of a half-duplex protocol. See also *BSC*. 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*.

**HCMs**

high-performance voice compression modules. Modules that provide voice compression according to the voice compression coding algorithm (codec) specified when the Cisco MC3810 multiservice concentrator is configured.

**HDB3**

high density binary 3.

1. Zero suppression line coding used on E1 links.
2. Line code type used on E1 circuits.

**HDD unit**

Hard Disk Drive unit. This contains two hard drives for storing the database and the software.

**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*.

**HDS**

Historical Data Server. An Admin Workstation with a special database that holds ICM historical data. In a normal configuration, historical data is stored only in the central database. When you use the HDS option, the historical data also is stored on the HDS machine, which must be a real-time distributor. Other Admin Workstations at the site can read historical data from the HDS rather than accessing the central database.

**HDSL**

high-data-rate digital subscriber line. One of four DSL technologies. HDSL delivers 1.544 Mbps of bandwidth each way over two copper twisted pairs. Because HDSL provides T1 speed, telephone companies have been using HDSL to provision local access to T1 services whenever possible. The operating range of HDSL is limited to 12,000 feet (3658.5 meters), so signal repeaters are installed to extend the service. HDSL requires two twisted pairs, so it is deployed primarily for PBX network connections, digital loop carrier systems, interexchange POPs, Internet servers, and private data networks. Compare with *ADSL*, *SDSL*, and *VDSL*.

**headend**

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

**head-end**

The upstream, transmit end of a tunnel.

**header**

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

**heartbeat**

See *SQE*.

**HEC**

header error control. Algorithm for checking and correcting an error in an ATM cell. Using the fifth octet in the ATM cell header, ATM equipment checks for an error and corrects the contents of the header. The check character is calculated using a CRC algorithm allowing a single bit error in the header to be corrected or multiple errors to be detected.

**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.

**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 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.

**HFC**

hybrid fiber-coaxial. Technology being developed by the cable TV industry to provide two-way, high-speed data access to the home using a combination of fiber optics and traditional coaxial cable.

**HFE**

hardware forwarding engine.

**hierarchical addressing**

Scheme of addressing that uses a logical hierarchy to determine location. For example, IP addresses consist of network numbers, subnet numbers, and host numbers, which IP routing algorithms use to route the packet to the appropriate location. Compare with *flat addressing*.

**hierarchical routing**

The complex problem of routing on large networks can be simplified by reducing the size of the networks. This is accomplished by breaking a network into a hierarchy of networks, where each level is responsible for its own routing.

**High Performance Computing and Communications**

See *HPCC*.

**High Performance Computing Systems**

See *HPCS*.

**High Performance Routing**

See *HPR*.

**High Water Mark**

A counter that reports the highest number of DS0s that were in use at one time.

**High-Energy Physics Network**

See *HEPnet*.

**High-Level Data Link Control**

See *HDLC*.

**High-Performance Parallel Interface**

See *HIPPI*.

**High-Speed Communications Interface**

See *HSCI* in the “Cisco Systems Terms and Acronyms” section.

**High-Speed Serial Interface**

See *HSSI*.

**highway**

See *bus*.

**hijack attack**

Form of active wire tapping in which the attacker seizes control of a previously established communication association.

**HIP**

See *HIP* in the “Cisco Systems Terms and Acronyms” section.

**HIPPI**

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

**HLD**

high-level designator. Designator that logically identifies the peer session endpoints used if the multiplex in the circuit is set to group.

**HLR**

home location register. A database that contains information about subscribers to a mobile network. The HLR registers subscribers for a particular service provider. The HLR stores “permanent” subscriber information (rather than temporary subscriber data, which a VLR manages), including the service profile, the location information, and the activity status of the mobile user.

**HMAC**

Hash-based Message Authentication Code. HMAC is a mechanism for message authentication using cryptographic hash functions. HMAC can be used with any iterative cryptographic hash function, for example, MD5, SHA-1, in combination with a secret shared key. The cryptographic strength of HMAC depends on the properties of the underlying hash function.

**HMAC-MD5**

Hashed Message Authentication Codes with MD5 (RFC 2104). A keyed version of MD5 that enables two parties to validate transmitted information using a shared secret.

**HMM**

Hex MICA Module. Contains six discrete modems.

**holddown**

State into which a route is placed so that routers 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 typically is placed in holddown when a link in that route fails.

**home gateway**

A router or access server that terminates VPDN tunnels and PPP sessions.

**homologation**

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

**hookflash**

Short on-hook period usually generated by a telephone-like device during a call to indicate that the telephone is attempting to perform a dial-tone recall from a PBX. Hookflash often is used to perform call transfer.

**Hoot and Holler**

A broadcast audio network used extensively by the brokerage industry for market updates and trading. Similar networks are used in publishing, transportation, power plants, and manufacturing.

**hop**

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 *hookflash* and *RIP*.

**hop off**

Point at which a call transitions from H.323 to non-H.323, typically at a gateway.

**host**

Computer system on a network. Similar to 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 name**

Name given to a machine. See also *FQDN*.

**host node**

SNA subarea node that contains an SSCP. See also *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* in the “Cisco Systems Terms and Acronyms” section.

**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. See also the five components of the HPCC: *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 with *ISR*. See also *APPN*.

**HSCI**

See *HSCI* in the “Cisco Systems Terms and Acronyms” section.

**HSRP**

See *HSRP* in the “Cisco Systems Terms and Acronyms” section.

**HSSI**

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

**HSSI Interface Processor**

See *HIP* in the “Cisco Systems Terms and Acronyms” section.

**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 Web browser. See also *hypertext* and *Web browser*.

**HTTP**

Hypertext Transfer Protocol. The protocol used by Web browsers and Web servers to transfer files, such as text and graphic files.

**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 called a concentrator.

**hybrid encryption**

Application of cryptography that combines two or more encryption algorithms, particularly a combination of symmetric and asymmetric encryption.

**hybrid network**

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

**hyperlink**

Pointer within a hypertext document that points (links) to another document, which might or might not also be a hypertext document.

**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 browser. See also *HTML* and *browser*.

**Hypertext Markup Language**

See *HTML*.

**Hypertext Transfer Protocol**

See *HTTP*.

**Hz**

See *hertz*.

