

**I/O**

input/output.

IAB

Internet Architecture Board. Board of internetwork researchers who discuss issues pertinent to Internet architecture. Responsible for appointing a variety of Internet-related groups, such as the IANA, IESG, and IRSG. The IAB is appointed by the trustees of the ISOC. See also *IANA*, *IESG*, *IRSG*, and *ISOC*.

IAC

initial alignment control. SS7 MTP 2 function that provides the link alignment processing.

IAHC

Internet International Ad Hoc Committee. A coalition of participants from the broad Internet community that works to satisfy the requirement for enhancements to the Internet's global DNS. Organizations naming members to the committee include Internet Society (ISOC), Internet Assigned Numbers Authority (IANA), Internet Architecture Board (IAB), Federal Networking Council (FNC), International Telecommunication Union (ITU), International Trademark Association (INTA), and World Intellectual Property Organization (WIPO).

IANA

Internet Assigned Numbers Authority. Organization operated under the auspices of the ISOC as a part of the IAB. IANA delegates authority for IP address-space allocation and domain-name assignment to the InterNIC and other organizations. IANA also maintains a database of assigned protocol identifiers used in the TCP/IP stack, including autonomous system numbers. See also *ICP cell*, *ISOC*, and *InterNIC*.

IBC

In-band control. Refers to issuing MICA technologies commands on the data channel, versus OBC, on the out-of-band control channel. In-band commands are passed by setting an in-band-command bit in the data buffer.

ICANN

Internet Corporation for Assigned Names and Numbers. Non-profit, private corporation that assumed responsibility for IP address space allocation, protocol parameter assignment, domain name system management, and root server system management functions that formerly were performed under U.S. Government contract by IANA and other entities.

ICC

Interface Controller Card. A high-capacity network interface card used in the Cisco VCO/4K product. The ICC is inserted into the VCO/4K midplane, connecting with a series of I/O modules specific to different network interface requirements.

ICD

International Code Designator. One of two ATM address formats developed by the ATM Forum for use by private networks. Adapted from the subnetwork model of addressing in which the ATM layer is responsible for mapping network layer addresses to ATM addresses. Compare with *DCC*.

ICM

Intelligent Call Management. The Cisco system that implements enterprise-wide call distribution across call centers. The ICM provides pre-routing, post-routing, and performance monitoring capabilities.

ICMP

Internet Control Message Protocol. Network layer Internet protocol that reports errors and provides other information relevant to IP packet processing. Documented in RFC 792.

ICMP flood

Denial of service attack that sends a host more ICMP echo request (“ping”) packets than the protocol implementation can handle.

ICMP Router Discovery Protocol

See *IRDP*.

ICP

Intelligent Call Processing. AT&T’s name for the facility that allows third-party products, such as the ICM, to pre-route calls.

ICP cell

IMA control protocol cell used for aligning the cells in multiple links.

ICPIF

Calculated Planning Impairment Factor loss/delay busyout threshold. The ICPIF numbers represent predefined combinations of loss and delay. Packet loss and delay determine the threshold for initiating the busyout state.

ICR

initial cell rate.

ICRL

indirect certificate revocation list. In X.509, a CRL that may contain certificate revocation notifications for certificates issued by CAs other than the issuer of the ICRL.

I-D

Internet-Draft. Working documents of the IETF, from its Areas and Working Groups. They are valid for a maximum of six months and might be updated, replaced, or made obsolete by other documents at any time. Very often, I-Ds are precursors to RFCs.

IDB

interface description block. An IDB sub-block is an area of memory that is private to an application. This area stores private information and states variables that an application wants to associate with an IDB or an interface. The application uses the IDB to register a pointer to its sub-block, not to the contents of the sub-block itself.

IDEA

International Data Encryption Algorithm. Patented, symmetric block cipher that uses a 128-bit key and operates on 64-bit blocks.

IDI

initial domain identifier. Portion of an NSAP or NSAP-format ATM address that specifies the address allocation and the administration authority. See also *NSAP*.

IDN

International Data Number. See *X.121*.

IDP

initial domain part. Part of a CLNS address that contains an authority and format identifier and a domain identifier.

IDPR

Interdomain Policy Routing. Interdomain routing protocol that dynamically exchanges policies between autonomous systems. IDPR encapsulates interautonomous system traffic and routes it according to the policies of each autonomous system along the path. IDPR is currently an IETF proposal. See also *policy-based routing*.

IDRP

IS-IS Interdomain Routing Protocol. OSI protocol that specifies how routers communicate with routers in different domains.

IE

information element.

IEC

International Electrotechnical Commission. Industry group that writes and distributes standards for electrical products and components.

IEEE

Institute of Electrical and Electronics Engineers. Professional organization whose activities include the development of communications and network standards. IEEE LAN standards are the predominant LAN standards today.

IEEE 802.1

IEEE specification that describes an algorithm that prevents bridging loops by creating a spanning tree. The algorithm was invented by Digital Equipment Corporation. The Digital algorithm and the IEEE 802.1 algorithm are not exactly the same, nor are they compatible. See also *spanning tree*, *spanning-tree algorithm*, and *Spanning-Tree Protocol*.

IEEE 802.12

IEEE LAN standard that specifies the physical layer and the MAC sublayer of the data link layer. IEEE 802.12 uses the demand priority media-access scheme at 100 Mbps over a variety of physical media. See also *100VG-AnyLAN*.

IEEE 802.2

IEEE LAN protocol that specifies an implementation of the LLC sublayer of the data link layer. IEEE 802.2 handles errors, framing, flow control, and the network layer (Layer 3) service interface. Used in IEEE 802.3 and IEEE 802.5 LANs. See also *IEEE 802.3* and *IEEE 802.5*.

IEEE 802.3

IEEE LAN protocol that specifies an implementation of the physical layer and the MAC sublayer of the data link layer. IEEE 802.3 uses CSMA/CD access at a variety of speeds over a variety of physical media. Extensions to the IEEE 802.3 standard specify implementations for Fast Ethernet. Physical variations of the original IEEE 802.3 specification include *10Base2*, *10Base5*, *10BaseF*, *10BaseT*, and *10Broad36*. Physical variations for *Fast Ethernet* include *100BaseT*, *100BaseT4*, and *100BaseX*.

IEEE 802.4

IEEE LAN protocol that specifies an implementation of the physical layer and the MAC sublayer of the data link layer. IEEE 802.4 uses token-passing access over a bus topology and is based on the token bus LAN architecture. See also *token bus*.

IEEE 802.5

IEEE LAN protocol that specifies an implementation of the physical layer and MAC sublayer of the data link layer. IEEE 802.5 uses token passing access at 4 or 16 Mbps over STP cabling and is similar to IBM Token Ring. See also *Token Ring*.

IEEE 802.6

IEEE MAN specification based on DQDB technology. IEEE 802.6 supports data rates of 1.5 to 155 Mbps. See also *DQDB*.

IEPG

Internet Engineering Planning Group. A group primarily composed of Internet service operators. Its goal is to promote a globally coordinated Internet operating environment. Membership is open to all.

IESG

Internet Engineering Steering Group. An organization appointed by the IAB that manages the operation of the IETF. See also *ICP cell* and *IETF*.

IETF

Internet Engineering Task Force. Task force consisting of over 80 working groups responsible for developing Internet standards. The IETF operates under the auspices of ISOC. See also *ISOC*.

IF

intermediate frequency. Intermediate electromagnetic frequencies generated by a superheterodyne radio receiver.

IFIP

International Federation for Information Processing. Research organization that performs OSI prestandardization work. Among other accomplishments, IFIP formalized the original MHS model. See also *MHS*.

IF-MIB

Interfaces Group MIB. The current specification for the IF-MIB is found in RFC 2233. The MIB module to describe generic objects for network interface sublayers. This MIB is an updated version of the MIB-II if Table, and incorporates the extensions defined in RFC 1229.

I-frame

Information frame. One of three SDLC frame formats. See also *S-frame* and *U-frame*.

IGMP

Internet Group Management Protocol. Used by IP hosts to report their multicast group memberships to an adjacent multicast router. See also *multicast router*.

IGP

Interior Gateway Protocol. Internet protocol used to exchange routing information within an autonomous system. Examples of common Internet IGPs include IGRP, OSPF, and RIP. See also *OSPF* and *RIP*. See also *IGRP* in the “Cisco Systems Terms and Acronyms” section.

IGRP

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

IIH

IS-IS Hello. Message sent by all IS-IS systems to maintain adjacencies. See also *IS-IS*.

IINREN

Interagency Interim National Research and Education Network. Evolving operating network system. Near term research and development activities will provide for the smooth evolution of this networking infrastructure into the future gigabit NREN.

IIOP

Internet Inter-ORB Protocol. Protocol used in the CORBA framework for accessing objects across the Internet. See also *CORBA*.

IISP

Interim-Interswitch Signaling Protocol. ATM signaling protocol for inter-switch communication using manually configured prefix tables. When a signaling request is received by a switch, the switch checks the destination ATM address against the prefix table and notes the port with the longest prefix match. It then forwards the signaling request across that port using UNI procedures. IISP is an interim solution until PNNI Phase 1 is completed. Formerly known as PNNI Phase 0. Contrast with *Dynamic IISP*.

IITA

Information Infrastructure Technology and Applications. Component of the HPCC program intended to ensure U.S. leadership in the development of advanced information technologies. See also *HPCC*.

IKE

Internet Key Exchange. IKE establishes a shared security policy and authenticates keys for services (such as IPSec) that require keys. Before any IPSec traffic can be passed, each router/firewall/host must verify the identity of its peer. This can be done by manually entering pre-shared keys into both hosts or by a CA service.

ILEC

incumbent local exchange carrier. Traditional telephone company. In the U.S., the Regional Bell Operation Companies (RBOCs) that were formed after the divestiture of AT&T and the Independent Operating Companies (IOCs) that usually are located in more rural areas or single cities are ILECs. In other areas of the world, ILECs are the Post, Telephone, and Telegraphs (PTTs), government-managed monopolies.

ILMI

Interim Local Management Interface. Specification developed by the ATM Forum for incorporating network-management capabilities into the ATM UNI.

IMA

inverse multiplexing over ATM. Standard protocol defined by the ATM Forum in 1997.

IMA group

Physical links grouped to form a higher-bandwidth logical link the rate of which is approximately the sum of the individual link rates.

IMAP

Internet Message Access Protocol. Method of accessing e-mail or bulletin board messages kept on a mail server that can be shared. IMAP permits client e-mail applications to access remote message stores as if they were local without actually transferring the message.

IMAP4

Internet Message Access Protocol, version 4. Internet protocol by which a client workstation can access a mailbox dynamically on a server host to manipulate and retrieve mail messages that the server has received and is holding for the client.

IMHO

“In My Humble Opinion.” One of many short-form phrases seen in e-mail messages, newsgroups, and so on.

Immediate Start

A method of E&M signaling. When the signaling leads indicate a change to an off-hook state, the interface is immediately ready to send signaling information.

IMP

interface message processor. Old name for ARPANET packet switches. See also *ARPANET* and *packet switch*.

IMSI

international mobile system identifier. A unique identifier stored in the SIM of a mobile station. The MS sends the IMSI to a BTS for identification of the MS in the GSM network. The BTS looks for the IMSI in the HLR.

IMT

Inter-Machine Trunk.

IN/AIN

Intelligent Network/Advanced Intelligent Network.

INA

1. interactive network adapter. Central point or hub in broadband networks that receives signals on one set frequency band and retransmits them to another. Every transmission in a broadband network has to go through the INA or head-end. In CATV technology, the head-end is the control center for a cable system where video, audio, and data signals are processed and distributed along the coaxial cable network.

2. Information Networking Architecture. Bellcore object-oriented architecture for the management of ATM and SONET equipment and services in an operating company environment.

INAP

Intelligent Network Application Part. SS7 architectural protocol layer.

INASoft

Bellcore implementation of INA. See also *INA*.

INB

Install Busy. Entity has just been created but has not been commanded In-Service or Out-of-Service yet.

in-band signaling

Transmission within a frequency range normally used for information transmission. Compare with *out-of-band signaling*.

INCRP

Intelligent Network Call Routing Protocol. The communication protocol used by ICM gateways to pass a routing request and response between two ICMs. The ICM sending the request must be set up for remote network routing and the ICM receiving the request must be running an INCRP Network Interface Controller (NIC).

incumbent local exchange carrier

See *ILEC*.

Industry-Standard Architecture

See *ISA*.

INE

Intelligent Network Element. Network element that can be provisioned from a remote OSS.

information element

In ATM, the portion of a signaling packet that carries information, such as addresses, used in the UNI specification. See also *UNI*.

Information Infrastructure Technology and Applications

See *IITA*.

infrared

Electromagnetic waves whose frequency range is above that of microwaves, but below that of the visible spectrum. LAN systems based on this technology represent an emerging technology.

ingress noise

Over-the-air signals that are coupled inadvertently into the nominally closed coaxial cable distribution system. Ingress noise is difficult to track down and intermittent in nature.

initial domain identifier

See *IDI*.

initial domain part

See *IDP*.

INOC

Internet Network Operations Center. BBN group that in the early days of the Internet monitored and controlled the Internet core gateways (routers). INOC no longer exists in this form.

inpulse rule

A sequence of instructions that define autonomous call processing actions to be completed on incoming ports in the Cisco VCO/4K switch. See also *answer supervision template* and *outpulse rule*.

input/output

See *IN/AIN*.

Institute of Electrical and Electronics Engineers

See *IEEE*.

insured burst

In an ATM network, the largest burst of data above the insured rate that temporarily is allowed on a PVC and not tagged by the traffic policing function for dropping in the case of network congestion. The insured burst is specified in bytes or cells. Compare with *maximum burst*. See also *insured rate*.

insured rate

Long-term data throughput, in bits or cells per second, that an ATM network commits to support under normal network conditions. The insured rate is 100 percent allocated; the entire amount is deducted from the total trunk bandwidth along the path of the circuit. Compare with *excess rate* and *maximum rate*. See also *insured burst*.

insured traffic

Traffic within the insured rate specified for an ATM PVC. This traffic should not be dropped by the network under normal network conditions. See also *CLP* and *insured rate*.

INTAP

Interoperability Technology Association for Information Processing. Technical organization that has the official charter to develop Japanese OSI profiles and conformance tests.

Integrated IS-IS

Routing protocol based on the OSI routing protocol IS-IS but with support for IP and other protocols. Integrated IS-IS implementations send only one set of routing updates, making it more efficient than two separate implementations. Formerly called Dual IS-IS. Compare with *IS-IS*.

Integrated Services Digital Network

See *ISDN*.

Integrated Services Internet

IETF proposal for enhancing IP to allow it to support integrated or multimedia services, including traffic management mechanisms that closely match the traffic management mechanisms of ATM. An example is RSVP.

Intelligent QoS Management Suite

Composed of Automatic Routing Management, Advanced CoS Management, Optimized Bandwidth Management, and Dynamic Buffer Management. Formerly called Advanced Networking Features.

interarea routing

Term used to describe routing between two or more logical areas. Compare with *intra-area routing*.

Interdomain Policy Routing

See *IDPR*.

interface

1. Connection between two systems or devices.
2. In routing terminology, a network connection.
3. In telephony, a shared boundary defined by common physical interconnection characteristics, signal characteristics, and meanings of interchanged signals.
4. Boundary between adjacent layers of the OSI model.

interface message processor

See *IMP*.

interface processor

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

interference

Unwanted communication channel noise.

Interim Local Management Interface

See *ILMI*.

Interior Gateway Protocol

See *IGP*.

Interior Gateway Routing Protocol

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

intermediate routing node

See *IRN*.

Intermediate Session Routing

See *ISR*.

intermediate system

See *IS*.

Intermediate System-to-Intermediate System

See *IS-IS*.

International Code Designator

See *ICD*.

International Data Number

See *X.121*.

International Electrotechnical Commission

See *IEC*.

International Federation for Information Processing

See *IFIP*.

International Organization for Standardization

See *ISO*.

International Standards Organization

Erroneous expansion of the acronym ISO. See *ISO*.

International Telecommunication Union Telecommunication Standardization Sector

See *ITU-T*.

internet

Short for internetwork. Not to be confused with the Internet. See *internetwork*.

Internet

Largest global internetwork, connecting tens of thousands of networks worldwide and having a “culture” that focuses on research and standardization based on real-life use. Many leading-edge network technologies come from the Internet community. The Internet evolved in part from ARPANET. At one time, called the DARPA Internet. Not to be confused with the general term internet. See also *ARPANET*.

Internet address

See *IP address*.

Internet Architecture Board

See *ICP cell*.

Internet Assigned Numbers Authority

See *IANA*.

Internet Control Message Protocol

See *ICMP*.

Internet Engineering Planning Group

See *IEPG*.

Internet Engineering Steering Group

See *IESG*.

Internet Engineering Task Force

See *IETF*.

Internet Group Management Protocol

See *IGMP*.

Internet Message Access Protocol

See *IMAP*.

Internet Network Operations Center

See *INOC*.

Internet protocol

See also *IP*. See also *TCP/IP*.

Internet Protocol (IP, IPv4)

Network layer for the TCP/IP protocol suite. Internet Protocol (version 4) is a connectionless, best-effort packet switching protocol. Defined in RFC 791.

Internet Protocol (IPng, IPv6)

See *IPv6*.

Internet Registry

See *IR*.

Internet Relay Chat

See *IRC*.

Internet Research Steering Group

See *IRSG*.

Internet Research Task Force

See *IRTF*.

Internet service provider

See *ISP*.

Internet Society

See *ISOC*.

Internet telephony

Generic term used to describe various approaches to running voice telephony over IP.

Internet-Draft

See *I-D*.

internetwork

Collection of networks interconnected by routers and other devices that functions (generally) as a single network. Sometimes called an internet, which is not to be confused with the Internet.

Internetwork Packet Exchange

See *IPX*.

internetworking

General term used to refer to the industry devoted to connecting networks together. The term can refer to products, procedures, and technologies.

InterNIC

Organization that serves the Internet community by supplying user assistance, documentation, training, registration service for Internet domain names, and other services. Formerly called NIC.

interoperability

Capability of computing equipment manufactured by different vendors to communicate with one another successfully over a network.

Inter-Switch Link

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

Inter-Switching System Interface

See *ISSI*.

intra-area routing

Term used to describe routing within a logical area. Compare with *interarea routing*.

intrusion detection

Security service that monitors and analyzes system events for the purpose of finding (and providing real-time or near real-time warning of) attempts to access system resources in an unauthorized manner.

Inverse Address Resolution Protocol

See *Inverse ARP*.

Inverse ARP

Inverse Address Resolution Protocol. Method of building dynamic routes in a network. Allows an access server to discover the network address of a device associated with a virtual circuit.

inverse multiplexing

Process whereby physical links are grouped to form a higher-bandwidth logical link whose rate is approximately the sum of the individual link rates.

IOC

independent operating company. Independently owned company providing local telephone services to residential and business customers in a geographic area not served by an RBOC.

IOCC

I/O channel controller.

IONL

Internal Organization of the Network Layer. OSI standard for the detailed architecture of the network layer. Basically, it partitions the network layer into subnetworks interconnected by convergence protocols (equivalent to internet working protocols), creating what the Internet community calls a catenet or an internet.

IOS

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

IP

Internet Protocol. Network layer protocol in the TCP/IP stack offering a connectionless internetwork service. IP provides features for addressing, type-of-service specification, fragmentation and reassembly, and security. Defined in RFC 791.

IP address

32-bit address assigned to hosts using TCP/IP. An IP address belongs to one of five classes (A, B, C, D, or E) and is written as 4 octets separated by periods (dotted decimal format). Each address consists of a network number, an optional subnetwork number, and a host number. The network and subnetwork numbers together are used for routing, and the host number is used to address an individual host within the network or subnetwork. A subnet mask is used to extract network and subnetwork information from the IP address. CIDR provides a new way of representing IP addresses and subnet masks. Also called an Internet address. See also *CIDR*, *IP*, and *subnet mask*.

IP datagram

Fundamental unit of information passed across the Internet. Contains source and destination addresses along with data and a number of fields that define such things as the length of the datagram, the header checksum, and flags to indicate whether the datagram can be (or was) fragmented.

IP explicit path

A list of IP addresses, each representing a node or a link in the explicit path.

IP multicast

Routing technique that allows IP traffic to be propagated from one source to a number of destinations or from many sources to many destinations. Rather than sending one packet to each destination, one packet is sent to a multicast group identified by a single IP destination group address.

IP Multicast Heartbeat

Users of the multicast routing feature need a way to monitor the health of multicast delivery and be alerted when the delivery fails to meet certain parameters.

IP multicast Multilayer Switching (MLS)

Feature that provides high-performance, hardware-based, Layer 3 switching of IP multicast traffic for routers connected to Catalyst 5000 series LAN switches. An IP multicast flow is a unidirectional sequence of packets between a multicast source and the members of a destination multicast group. Flows are based on the IP address of the source device and the destination IP multicast group address. IP multicast MLS switches IP multicast data packet flows between IP subnets using advanced, application-specific integrated circuit (ASIC) switching hardware, thereby off-loading processor-intensive, multicast packet routing from network routers. The packet forwarding function is moved onto the connected Layer 3 switch whenever a supported path exists between a source and members of a multicast group. Packets that do not have a supported path to reach their destinations still are forwarded in software by routers. Protocol Independent Multicast (PIM) is used for route determination.

IP over ATM

Suite used to send IP datagram packets between nodes on the Internet.

IP Precedence

A 3-bit value in the type of service (TOS) byte used for assigning precedence to IP packets.

IP Security Option

See *IPSO*.

IP spoofing

IP spoofing attack occurs when an attacker outside your network pretends to be a trusted user either by using an IP address that is within the range of IP addresses for your network or by using an authorized external IP address that you trust and to which you want to provide access to specified resources on your network. Should an attacker get access to your IPSec security parameters, that attacker can masquerade as the remote user authorized to connect to the corporate network.

IP telephony

The transmission of voice and fax *phone calls* over data networks that uses the Internet Protocol (IP). IP telephony is the result of the transformation of the *circuit-switched* telephone network to a packet-based network that deploys voice-compression algorithms and flexible and sophisticated transmission techniques, and delivers richer services using only a fraction of traditional digital telephony's usual bandwidth. Compare with *VoIP*.

With Layer 2 switching, frames are switched based on Media Access Control (MAC) address information. Layer 2 switching does not look inside a packet for network-layer information as does Layer 3 switching. Layer 2 switching is performed by looking at a destination MAC address within a frame. It looks at the frame destination address and sends it to the appropriate interface if it knows the destination address location. Layer 2 switching builds and maintains a switching table that keeps track of the MAC addresses that belong to each port or interface. Compare with *Layer 3 switching*.

IPC

interprocess communications. This mechanism makes it possible to create large systems that are complex in function, yet simple and streamlined in design.

IPCP

IP Control Protocol. Protocol that establishes and configures IP over PPP. See also *IP* and *PPP*.

IPng

See *IPv6*.

IPSec

IP Security. A framework of open standards that provides data confidentiality, data integrity, and data authentication between participating peers. IPSec provides these security services at the IP layer. IPSec uses IKE to handle the negotiation of protocols and algorithms based on local policy and to generate the encryption and authentication keys to be used by IPSec. IPSec can protect one or more data flows between a pair of hosts, between a pair of security gateways, or between a security gateway and a host.

IPSO

IP Security Option. U.S. government specification that defines an optional field in the IP packet header that defines hierarchical packet security levels on a per interface basis.

IPv6

IP version 6. Replacement for the current version of IP (version 4). IPv6 includes support for flow ID in the packet header, which can be used to identify flows. Formerly called IPng (next generation).

IPX

Internetwork Packet Exchange. NetWare network layer (Layer 3) protocol used for transferring data from servers to workstations. IPX is similar to IP and XNS.

IPXCP

IPX Control Protocol. Protocol that establishes and configures IPX over PPP. See also *IPX* and *PPP*.

IPXWAN

IPX wide-area network. Protocol that negotiates end-to-end options for new links. When a link comes up, the first IPX packets sent across are IPXWAN packets negotiating the options for the link. When the IPXWAN options are determined successfully, normal IPX transmission begins. Defined by RFC 1362.

IR

1. intermediate reach. The distance specification for optical systems that operate effectively from 3 to 20 km (1.8 to 12.5 mi).
2. Internet Registry. IR was delegated the responsibility of network address and autonomous system identifiers from the IANA, which has the discretionary authority to delegate portions of its responsibility.

IRB

integrated routing and bridging. Integrated Services Digital Network (ISDN) User Part. An upper-layer application supported by SS7 for connection set up and tear down.

IRC

Internet Relay Chat. World-wide “party line” protocol that allows one to converse with others in real time. IRC is structured as a network of servers, each of which accepts connections from client programs, one per user.

IRDp

ICMP Router Discovery Protocol. Protocol that enables a host to determine the address of a router that it can use as a default gateway. Similar to ES-IS but used with IP. See also *ES-IS*.

IRN

intermediate routing node. In SNA, a subarea node with intermediate routing capability.

IRR

A RAS message sent as an information request.

IRSG

Internet Research Steering Group. Group that is part of the IAB and oversees the activities of the IRTF. See also *ICP cell* and *IRTF*.

IRTF

Internet Research Task Force. Community of network experts that considers Internet-related research topics. The IRTF is governed by the IRSG and is considered a subsidiary of the IAB. See also *ICP cell* and *IRSG*.

IS

1. intermediate system. Routing node in an OSI network.

2. Telecommunications: In-Service. Entity is fully operational and capable of providing service to a requesting entity.

ISA

Industry-Standard Architecture. 16-bit bus used for Intel-based personal computers. See also *EISA*.

ISAKMP

Internet Security Association and Key Management Protocol. Internet IPsec protocol [RFC 2408] that negotiates, establishes, modifies, and deletes security associations. It also exchanges key generation and authentication data (independent of the details of any specific key generation technique), key establishment protocol, encryption algorithm, or authentication mechanism.

isarithmic flow control

Flow control technique that permits travel through the network. Isarithmic flow control is not commonly implemented.

ISDN

Integrated Services Digital Network. Communication protocol offered by telephone companies that permits telephone networks to carry data, voice, and other source traffic. See also *BISDN*, *BRI*, *N-ISDN*, and *PRI*.

IS-IS

Intermediate System-to-Intermediate System. OSI link-state hierarchical routing protocol based on DECnet Phase V routing, whereby ISs (routers) exchange routing information based on a single metric to determine network topology. Compare with *Integrated IS-IS*. See also *ES-IS* and *OSPF*.

IS-IS Hello

See *IIH*.

IS-IS Interdomain Routing Protocol

See *IDRP*.

ISL

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

ISM

internetwork status monitor.

ISO

International Organization for Standardization. International organization that is responsible for a wide range of standards, including those relevant to networking. ISO developed the OSI reference model, a popular networking reference model.

ISO 3309

HDLC procedures developed by ISO. ISO 3309:1979 specifies the HDLC frame structure for use in synchronous environments. ISO 3309:1984 specifies proposed modifications to allow the use of HDLC in asynchronous environments as well.

ISO 9000

Set of international quality-management standards defined by ISO. The standards, which are not specific to any country, industry, or product, allow companies to demonstrate that they have specific processes in place to maintain an efficient quality system.

ISO development environment

See *ISODE*.

ISOC

Internet Society. International nonprofit organization, founded in 1992, that coordinates the evolution and use of the Internet. In addition, ISOC delegates authority to other groups related to the Internet, such as the IAB. ISOC is headquartered in Reston, Virginia (United States). See also *ICP cell*.

isochronous transmission

Asynchronous transmission over a synchronous data link. Isochronous signals require a constant bit rate for reliable transport. Compare with *asynchronous transmission*, *plesiochronous transmission*, and *synchronous transmission*.

ISODE

ISO development environment. Large set of libraries and utilities used to develop upper-layer OSI protocols and applications.

ISP

Internet service provider. Company that provides Internet access to other companies and individuals.

ISR

Intermediate Session Routing. Initial routing algorithm used in APPN. ISR provides node-to-node connection-oriented routing. Network outages cause sessions to fail because ISR cannot provide nondisruptive rerouting around a failure. ISR was replaced by HPR. Compare with *HPR*. See also *APPN*.

ISSI

Inter-Switching System Interface. Standard interface between SMDS switches.

ISUP

ISDN User Part. SS7 protocol layer that defines the protocol used to prepare, manage, and release trunks that carry voice and data between calling and called parties.

isup_console

When the cktint module is running, this process provides management functions for circuits and circuit groups for the SS7 application software in the Cisco VCO/4K.

ITCM

Integrated Telephony Cable Modem. A DOCSIS CM that enables subscriber VoIP services.

ITU

International Telecommunication Union. An organization established by the United Nations to set international telecommunications standards and to allocate frequencies for specific uses.

ITU-T

International Telecommunication Union Telecommunication Standardization Sector. International body that develops worldwide standards for telecommunications technologies. The ITU-T carries out the functions of the former CCITT. See also *CCITT*.

IV

initialization value. Input parameter that sets the starting state of a cryptographic algorithm or mode.

IVR

interactive voice response. Term used to describe systems that provide information in the form of recorded messages over telephone lines in response to user input in the form of spoken words or, more commonly, DTMF signaling. Examples include banks that allow you to check your balance from any telephone and automated stock quote systems.

IXC

inter-exchange carrier. Common carrier providing long distance connectivity between LATAs. The three major IXCs are AT&T, MCI, and Sprint, but several hundred IXCs offer long distance service in the United States.

