

**D channel**

1. data channel. Full-duplex, 16-kbps (BRI), or 64-kbps (PRI) ISDN channel. Compare with *B channel*, and *H channel*.

2. In SNA, a device that connects a processor and main storage with peripherals.

**D4 framing**

See *SF*.

**DAC**

1. dual-attached concentrator. FDDI or CDDI concentrator capable of attaching to both rings of a FDDI or CDDI network. It also can be dual-homed from the master ports of other FDDI or CDDI concentrators.

2. discretionary access control. An access control service that enforces a security policy based on the identity of system entities and their authorizations to access system resources.

**DACS**

Digital Access and Crossconnect System. AT&T's term for a digital crossconnect system.

**DAP**

Directory Access Protocol. Protocol used between a DUA and a DSA in an X.500 directory system. See also *LDAP*.

**dark fiber**

Unused fiber optic cable. When it is carrying a signal, it is called *lit fiber*.

**DARPA**

Defense Advanced Research Projects Agency. U.S. government agency that funded research for and experimentation with the Internet. Evolved from ARPA, and then, in 1994, back to ARPA. See also *ARPA*.

**DARPA Internet**

Obsolete term referring to the Internet. See *internet*.

**DAS**

1. dual attachment station. Device attached to both the primary and the secondary FDDI rings. Dual attachment provides redundancy for the FDDI ring: If the primary ring fails, the station can wrap the primary ring to the secondary ring, isolating the failure and retaining ring integrity. Also called a *Class A station*. Compare with *SAS*.

2. dynamically assigned socket. Socket that is assigned dynamically by DDP upon request by a client. In an AppleTalk network, the sockets numbered 128 to 254 are allocated as DASs.

**data bus connector**

See *DB connector*.

**data channel**

See *D channel*.

**data circuit-terminating equipment**

See *DCE*.

**data communications channel**

See *DCC*.

**data communications equipment**

See *DCE*.

**Data Country Code**

See *DCC*.

**data direct VCC**

In ATM, a bi-directional point-to-point VCC set up between two LECs. One of three data connections defined by Phase 1 LANE. Data direct VCCs do not offer any type of QOS guarantee, so they typically are used for UBR and ABR connections.

Compare with *control distribute VCC* and *control direct VCC*.

**Data Encryption Standard**

See *DES*.

**Data Exchange Interface**

See *DXI*.

**data flow**

Grouping of traffic, identified by a combination of source address/mask, destination address/mask, IP next protocol field, and source and destination ports, where the protocol and port fields can have the values of any. In effect, all traffic matching a specific combination of these values is grouped logically together into a data flow. A data flow can represent a single TCP connection between two hosts, or it can represent all the traffic between two subnets. IPsec protection is applied to data flows.

**data flow control layer**

Layer 5 of the SNA architectural model. This layer determines and manages interactions between session partners, particularly data flow. Corresponds to the *session layer* of the OSI model. See also *data-link control layer*, *path control layer*, *physical control layer*, *presentation services layer*, *transaction services layer*, and *transmission control layer*.

**Data Movement Processor**

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

**Data Network Identification Code**

See *DNIC*.

**data service unit**

See *DSU*.

**data set ready**

See *DSR*.

**data sink**

Network equipment that accepts data transmissions.

**data stream**

All data transmitted through a communications line in a single read or write operation.

**data terminal equipment**

See *DTE*.

**data terminal ready**

See *DTR*.

**database object**

A piece of information that is stored in a database.

**DATABASE2**

See *DB2*.

**datagram**

Logical grouping of information sent as a network layer unit over a transmission medium without prior establishment of a virtual circuit. IP datagrams are the primary information units in the Internet. The terms *cell*, *frame*, *message*, *packet*, and *segment* also are used to describe logical information groupings at various layers of the OSI reference model and in various technology circles.

**Datagram Delivery Protocol**

See *DDP*.

**Datakit**

AT&T proprietary packet switching system widely deployed by the RBOCs.

**data-link connection identifier**

See *DLCI*.

**data-link control layer**

Layer 2 in the SNA architectural model. Responsible for the transmission of data over a particular physical link. Corresponds roughly to the *data-link layer* of the OSI model. See also *data flow control layer*, *path control layer*, *physical control layer*, *presentation services layer*, *transaction services layer*, and *transmission control layer*.

**data-link layer**

Layer 2 of the OSI reference model. Provides reliable transit of data across a physical link. The data-link layer is concerned with physical addressing, network topology, line discipline, error notification, ordered delivery of frames, and flow control. The IEEE divided this layer into two sublayers: the MAC sublayer and the LLC sublayer. Sometimes simply called link layer. Roughly corresponds to the *data-link control layer* of the SNA model. See also *application layer*, *LLC*, *MAC*, *network layer*, *physical layer*, *PQ*, *session layer*, and *transport layer*.

**data-link switching**

See *DLSw*.

**data-link switching plus**

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

**DAVIC**

Digital Audiovisual Council. DAVIC, now defunct, was established in 1994 with the aim of promoting the success of interactive digital audio-visual applications and services by promulgating specifications of open interfaces and protocols that maximize interoperability, not only across geographical boundaries but also across diverse applications, services, and industries.

**dB**

decibels. Unit for measuring relative power ratios in terms of gain or loss. Units are expressed in terms of the logarithm to base 10 of a ratio and typically are expressed in watts. dB is not an absolute value, rather it is the measure of power lost or gained between two devices. For example, a -3dB loss indicates a 50% loss in power; a +3dB reading is a doubling of power. The rule of thumb to remember is that 10 dB indicates an increase (or a loss) by a factor of 10; 20 dB indicates an increase (or a loss) of a factor of 100; 30 dB indicates an increase (or a loss) by a factor of 1000.

Because antennas and other RF devices/systems commonly have power gains or losses on the orders of magnitude or even orders of four orders of magnitude, dB is a more easily used expression.

**DB connector**

data bus connector. Type of connector used to connect serial and parallel cables to a data bus. DB connector names are in the format DB-*x*, where *x* represents the number of wires within the connector. Each line is connected to a pin on the connector, but in many cases, not all pins are assigned a function. DB connectors are defined by various EIA/TIA standards.

**DB2**

DATABASE2. IBM relational database management system.

**dB<sub>i</sub>**

dB referenced to an isotropic antenna, which theoretically is perfect in terms of symmetric patterns of radiation. Real world antennas do not perform with even nominal amounts of symmetry, but this effect generally is used to the advantage of the system designer.

**dBm**

decibels per milliwatt. 0 dBm is defined as 1 mw at 1 kHz of frequency at 600 ohms of impedance.

**dBmV**

Decibels with respect to one millivolt in a 75-ohm system. The unit of RF power used in CATV work in North America.

**dBW**

dB referencing 1 watt.

**DCA**

Defense Communications Agency. U.S. government organization responsible for DDN networks, such as MILNET. Now called DISA. See also *DISA*.

**DCC**

1. data communications channel. Channel that carries provisioning and maintenance data/information between network elements in the SONET overhead.

2. Data Country Code. 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 *ICD*.

**DCE**

1. data communications equipment (EIA expansion).

**2.** data circuit-terminating equipment (ITU-T expansion). Devices and connections of a communications network that comprise the network end of the user-to-network interface. The DCE provides a physical connection to the network, forwards traffic, and provides a clocking signal used to synchronize data transmission between DCE and DTE devices. Modems and interface cards are examples of DCE. Compare with *DTE*.

**DCF**

dispersion compensating fiber. A fiber that has the opposite dispersion of the fiber being used in a transmission system. It is used to nullify the dispersion caused by that fiber.

**DCN**

data communications network. An out-of-band network that provides connectivity between network elements and their respective operations support systems (OSSs). Its primary function is enabling the surveillance and the status of a telco/PTT network but it also facilitates network operations and management, such as provisioning, billing, planning, and service assurance.

**DCOM**

Distributed Component Object Model. Protocol that enables software components to communicate directly over a network. Developed by Microsoft and previously called Network OLE, DCOM is designed for use across multiple network transports, including such Internet protocols as HTTP. See also *IIOP*.

**DCS**

Digital Crossconnect System. Network element providing automatic cross-connection of a digital signal or its constituent parts.

**DCT**

discrete cosine transform.

**DDIC**

DVB/DAVIC Interoperability Consortium. Founded in October 1998 by an international group of manufacturers, including Cisco, the Consortium promotes and supports product interoperability between member vendors employing the DVB-RCCL/DAVIC international standards. An independent verification process allows DDIC members to offer tested and documented interoperable products, thereby allowing cable network operators to choose reliable and highly intergratable, standards-based DVB solutions.

**DDM**

distributed data management. Software in an IBM SNA environment that provides peer-to-peer communication and file sharing. One of three SNA transaction services. See also *DIA* and *SNADS*.

**DDN**

Defense Data Network. U.S. military network composed of an unclassified network (MILNET) and various secret and top-secret networks. DDN is operated and maintained by *DISA*. See also *DISA* and *MILNET*.

**DDP**

Datagram Delivery Protocol. AppleTalk network layer protocol that is responsible for the socket-to-socket delivery of datagrams over an AppleTalk internetwork.

**DDR**

dial-on-demand routing. Technique whereby a router can automatically initiate and close a circuit-switched session as transmitting stations demand. The router spoofs keepalives so that end stations treat the session as active. DDR permits routing over ISDN or telephone lines using an external ISDN terminal adaptor or modem.

**DDSN**

Distributed Diagnostics and Service Network. Facilities that gather events within the ICM and automatically report any unexpected behavior to Cisco Customer Support. The DDSN includes the Customer Support Forwarding Service (CSFS) and the DDSN Transfer Process (DTP).

**DE**

discard eligible. If the network is congested, DE traffic can be dropped to ensure the delivery of higher priority traffic. See *tagged traffic*.

**de facto standard**

Standard that exists by nature of its widespread use. Compare with *de jure standard*. See also *standard*.

**de jure standard**

Standard that exists because of its approval by an official standards body. Compare with *de facto standard*. See also *standard*.

**DEA**

Data Encryption Algorithm. Symmetric block cipher, defined as part of the U.S. Government's Data Encryption Standard. DEA uses a 64-bit key, of which 56 bits are independently chosen and 8 are parity bits, and maps a 64-bit block into another 64-bit block.

**de-activation**

Process of disabling network access and privileges for a subscriber device, and reclaiming device attributes for other subscriber devices; de-activation occurs as part of subscriber account deprovisioning, or as part of activation of a replacement subscriber device; some device attributes (such as IP address leases) might not be reclaimable until the leases have expired.

**deadlock**

1. Unresolved contention for the use of a resource.
2. In APPN, when two elements of a process each wait for action by or a response from the other before they resume the process.

**decibels**

Abbreviated *dB*.

**DECnet**

Group of communications products (including a protocol suite) developed and supported by Digital Equipment Corporation. DECnet/OSI (also called DECnet Phase V) is the most recent iteration and supports both OSI protocols and proprietary Digital protocols. Phase IV Prime supports inherent MAC addresses that allow DECnet nodes to coexist with systems running other protocols that have MAC address restrictions. See also *DNA*.

**DECnet routing**

Proprietary routing scheme introduced by Digital Equipment Corporation in DECnet Phase III. In DECnet Phase V, DECnet completed its transition to OSI routing protocols (ES-IS and IS-IS).

**decrypt**

Cryptographically restore ciphertext to the plaintext form it had before encryption.

**decryption**

Reverse application of an encryption algorithm to encrypted data, thereby restoring that data to its original, unencrypted state. See also *encryption*.

**dedicated LAN**

Network segment allocated to a single device. Used in LAN switched network topologies.

**dedicated line**

Communications line that is indefinitely reserved for transmissions, rather than switched as transmission is required. See also *leased line*.

**default route**

Routing table entry that is used to direct frames for which a next hop is not explicitly listed in the routing table.

**Defense Advanced Research Projects Agency**

See *DARPA*.

**Defense Communications Agency**

See *DCA*.

**Defense Data Network**

See *DDN*.

**Defense Information Systems Agency**

See *DISA*.

**Defense Intelligence Agency**

See *DIA*.

**DEK**

data encryption key. Used for the encryption of message text and for the computation of message integrity checks (signatures).

**delay**

The time between the initiation of a transaction by a sender and the first response received by the sender. Also, the time required to move a packet from source to destination over a given path.

**demand priority**

Media access method used in 100VG-AnyLAN that uses a hub that can handle multiple transmission requests and can process traffic according to priority, making it useful for servicing time-sensitive traffic, such as multimedia and video. Demand priority eliminates the overhead of packet collisions, collision recovery, and broadcast traffic typical in Ethernet networks. See also *100VG-AnyLAN*.

**demarc**

Demarcation point between carrier equipment and CPE.

**demodulation**

Process of returning a modulated signal to its original form. Modems perform demodulation by taking an analog signal and returning it to its original (digital) form. See also *modulation*.

**demodulator**

Device for assembling signals after they have been received by an antenna. A demodulator is typically the first major device downstream from an antenna receiving system and exists on the block diagram prior to various Cisco devices. The corresponding device on the transmission side of a system is a modulator.

**demultiplexer**

See *demux*.

**demultiplexing**

Separating of multiple input streams that were multiplexed into a common physical signal back into multiple output streams. See also *multiplexing*.

**demux**

demultiplexer. Device used to separate two or more signals that previously were combined by a compatible multiplexer and are transmitted over a single channel.

**dense mode PIM**

See *PIM dense mode*.

**dense wavelength division multiplexing**

See *DWDM*.

**Department of Defense**

See *DoD*.

**Dependent LU**

See *DLU*.

**Dependent LU Requester**

See *DLUR*.

**Dependent LU Server**

See *DLUS*.

**deprovisioning**

Elimination of an existing subscriber account; deprovisioning of a subscriber account includes subscriber account deregistration and device de-activation.

**DER**

Distinguished Encoding Rules. Subset of the Basic Encoding Rules, which gives exactly one way to represent any ASN.1 value as an octet string [X690].

**DES**

1. Data Encryption Standard. Standard cryptographic algorithm developed by the U.S. National Bureau of Standards.

2. destination end station.

**designated bridge**

Bridge that incurs the lowest path cost when forwarding a frame from a segment to the root bridge.

**designated router**

OSPF router that generates LSAs for a multiaccess network and has other special responsibilities in running OSPF. Each multiaccess OSPF network that has at least two attached routers has a designated router that is elected by the OSPF Hello protocol. The designated router enables a reduction in the number of adjacencies required on a multiaccess network, which in turn reduces the amount of routing protocol traffic and the size of the topological database.

**destination address**

Address of a network device that is receiving data. See also *source address*.

**destination MAC**

See *DMAC*.

**destination node**

Termination of an end-to-end channel or virtual wavelength path (VWP).

**destination service access point**

See *DSAP*.

**deterministic load distribution**

Technique for distributing traffic between two bridges across a circuit group. Guarantees packet ordering between source-destination pairs and always forwards traffic for a source-destination pair on the same segment in a circuit group for a given circuit-group configuration.

**Deutsche Industrie Norm**

See *DIN*.

**Deutsche Industrie Norm connector**

See *DIN connector*.

**device**

See *node*.

**D-H**

Diffie-Hellman. The Diffie-Hellman algorithm, introduced by Whitfield Diffie and Martin Hellman in 1976, was the first system to utilize “public-key” or “asymmetric” cryptographic keys. Today Diffie-Hellman is part of the IPsec standard. A protocol known as OAKLEY uses Diffie-Hellman, as described in RFC 2412. OAKLEY is used by the Internet Key Exchange (IKE) protocol (see *RFC 2401*), which is part of the overall framework called Internet Security Association and Key Management Protocol (ISAKMP; see *RFC 2408*).

**DHCP**

Dynamic Host Configuration Protocol. Provides a mechanism for allocating IP addresses dynamically so that addresses can be reused when hosts no longer need them.

**DIA**

Document Interchange Architecture. Defines the protocols and the data formats needed for the transparent interchange of documents in an SNA network. One of three SNA transaction services. See also *DDM* and *SNADS*.

**dial backup**

Feature that provides protection against WAN downtime by allowing the network administrator to configure a backup serial line through a circuit-switched connection.

**dial peer**

Addressable call endpoint. In Voice over IP, there are two kinds of dial peers: POTS and VoIP.

**dial-on-demand routing**

See *DDR*.

**dial-up line**

Communications circuit that is established by a switched-circuit connection using the telephone company network.

**DID**

direct inward dial. Allows a user outside a company to dial an internal extension number without needing to pass through an operator or an attendant. The dialed digits are passed to the PBX, which then completes the call.

**DID/DNIS**

Direct Inward Dialing/Dialed Number Identification Service. When a call arrives at an ACD or PBX, the carrier sends a digital code on the trunk line. The switch can read this code to determine how it should dispatch the call. Typically, this value is the specific number dialed by the user. By mapping each possible code with an internal extension, the switch can provide direct inward dialing (DID).

The ICM uses the DID/DNIS value to specify the service, the skill group, or the specific agent to whom the switch should route the call. The switch reads the value from the trunk line when the call arrives and dispatches the call appropriately.

**differential encoding**

Digital encoding technique whereby a binary value is denoted by a signal change rather than a particular signal level.

**differential Manchester encoding**

Digital coding scheme where a mid-bit-time transition is used for clocking, and a transition at the beginning of each bit time denotes a zero. This coding scheme is used by IEEE 802.5 and Token Ring networks.

**differentiated service**

A paradigm for providing QoS on the Internet by employing a small, well-defined set of building blocks from which a variety of services can be built.

**Diffie-Hellman key exchange**

A public key cryptography protocol that allows two parties to establish a shared secret over insecure communications channels. Diffie-Hellman is used within Internet Key Exchange (IKE) to establish session keys. Diffie-Hellman is a component of Oakley key exchange. Cisco IOS software supports 768-bit and 1024-bit Diffie-Hellman groups.

**Diffusing Update Algorithm**

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

**digital certificate**

Certificate document in the form of a digital data object (a data object used by a computer) to which is appended a computed digital signature value that depends on the data object.

**digital envelope**

Digital envelope for a recipient is a combination of (a) encrypted content data (of any kind) and (b) the content encryption key in an encrypted form that has been prepared for the use of the recipient.

**digital information signal**

T.30 Digital Information Signal that provides the capabilities of a receiving fax machine.

**Digital Network Architecture**

See *DNA*.

**digital signal level 0**

See *DS-0*.

**digital signal level 1**

See *DS-1*.

**digital signal level 3**

See *DS-3*.

**digital signature**

Value computed with a cryptographic algorithm and appended to a data object in such a way that any recipient of the data can use the signature to verify the data's origin and integrity.

**Dijkstra's algorithm**

See *SPF*.

**DIN**

Deutsche Industrie Norm. German national standards organization.

**DIN connector**

Deutsche Industrie Norm connector. Multipin connector used in some Macintosh and IBM PC-compatible computers, and on some network processor panels.

**direct memory access**

See *DMA*.

**directed search**

Search request sent to a specific node known to contain a resource. A directed search is used to determine the continued existence of the resource and to obtain routing information specific to the node. See also *broadcast search*.

**directed tree**

Logical construct used to define data streams or flows. The origin of a data stream is the root. Data streams are unidirectional branches directed away from the root and toward targets, and targets are the leaves of the directed tree.

**direct-inward-dial**

Calls in which the gateway uses the number initially dialed (DNIS) to make the call, as opposed to a prompt to dial additional digits.

**directory enabled networking**

An LDAP-based information model for networked devices.

**directory services**

Services that help network devices locate service providers.

**DISA**

Defense Information Systems Agency. Formerly DCA. U.S. military organization responsible for implementing and operating military information systems, including the DDN. See also *DDN* and *dBm*.

**discard eligible**

See *DE*.

**discovery architecture**

APPN software that enables a machine configured as an APPN EN to find primary and backup NNs automatically when the machine is brought onto an APPN network.

**discovery mode**

Method by which an AppleTalk interface acquires information about an attached network from an operational node, and then uses this information to configure itself. Also called dynamic configuration.

**Disengage Request**

Message with the Billing Information Token (which contains the duration of the call) sent by the gateway to the gatekeeper when a call ends.

**Distance Vector Multicast Routing Protocol**

See *DXI*.

**distance vector routing algorithm**

Class of routing algorithms that iterate on the number of hops in a route to find a shortest-path spanning tree. Distance vector routing algorithms call for each router to send its entire routing table in each update, but only to its neighbors. Distance vector routing algorithms can be prone to routing loops, but are computationally simpler than link state routing algorithms. Also called Bellman-Ford routing algorithm.

See also *link-state routing algorithm* and *SPF*.

**distortion delay**

Problem with a communication signal resulting from nonuniform transmission speeds of the components of a signal through a transmission medium. Also called group delay.

**distributed CEF**

One of two modes of CEF operation that enables line cards to perform the express forwarding between port adapters.

**distributed computing (processing)**

See *client/server computing*.

**Distributed Data Management**

See *DDM*.

**Distributed Queue Dual Bus**

See *DQDB*.

**Distributed Relational Database Architecture**

See *DRDA*.

**distribution point**

X.500 Directory entry or other information source that is named in a v3 X.509 public-key certificate extension as a location from which to obtain a CRL that might list the certificate.

**DIT**

Directory Information Tree. Global tree of entries corresponding to information objects in the OSI X.500 Directory.

**DLCI**

data-link connection identifier. Value that specifies a PVC or an 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). See also *LMDS*.

**DLL**

dynamic link library.

**DLSw**

data-link switching. Interoperability standard, described in RFC 1434, 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, timeouts, lack of flow control, and lack of prioritization schemes. See also *SRB* and *SSP* (Switch-to-Switch Protocol).

**DLSw+**

See *DLSw+* (*data-link switching plus*) in the “Cisco Systems Terms and Acronyms” section.

**DLU**

Dependent LU. LU that depends on the SSCP to provide services for establishing sessions with other LUs. See also *LU* and *SSCP*.

**DLUR**

Dependent LU Requester. Client half of the Dependent LU Requestor/Server enhancement to APPN. The DLUR component resides in APPN ENs and NNs that support adjacent DLUs by securing services from the DLUS. See also *APPN*, *DLU*, and *DLUS*.

**DLUR node**

In APPN networks, an EN or an NN that implements the DLUR component. See also *DLUR*.

**DLUS**

Dependent LU Server. Server half of the Dependent LU Requestor/Server enhancement to APPN. The DLUS component provides SSCP services to DLUR nodes over an APPN network. See also *APPN*, *DLU*, and *DLUR*.

**DLUS node**

In APPN networks, an NN that implements the DLUS component. See also *DLUS*.

**DMA**

direct memory access. Transfer of data from a peripheral device, such as a hard disk drive, into memory without that data passing through the microprocessor. DMA transfers data into memory at high speeds with no processor overhead.

**DMAC**

destination MAC. The MAC address specified in the Destination Address field of a packet. Compare with *SMAC*. See also *MAC address*.

**DMDP**

DNSIX Message Deliver Protocol. DMDP provides a basic message-delivery mechanism for all DNSIX elements.

**DMM**

1. dual MICA module. Contains 12 discrete modems.
2. DuoDecimal Modem Module. MICA technologies hardware packaging with 12 modems on a daughter card unit.

**DMP**

1. device management protocol. The session-layer communications protocol used within the ICM. Different application-level protocols might be running beneath DMP.
2. See *DMP* (*Data movement processor*) in the “Cisco Systems Terms and Acronyms” section.

**DN**

1. dialed number. Number that a caller dialed to initiate a call; for example, 800-555-1212.
2. Distinguished Name. Global, authoritative name of an entry in the OSI Directory (X.500).

**DNA**

1. DoNotAge. Most significant bit of the LS Age field. LSAs having the DoNotAge bit set are not aged as they are in the link-state database of the OSPF router, which means that these LSAs need not be refreshed every 30 minutes.
2. Digital Network Architecture. Network architecture developed by Digital Equipment Corporation. The products that embody DNA (including communications protocols) are referred to collectively as DECnet. See also *DECnet*.

**DNIC**

Data Network Identification Code. Part of an X.121 address. DNICs are divided into two parts: the first specifying the country in which the addressed PSN is located and the second specifying the PSN itself. See also *X.121*.

**DNIS**

dialed number identification service (the called number). Feature of trunk lines where the called number is identified; this called number information is used to route the call to the appropriate service. DNIS is a service used with toll-free dedicated services whereby calls placed to specific toll-free numbers are routed to the appropriate area within a company to be answered.

**DNS**

Domain Name System. System used on the Internet for translating names of network nodes into addresses. See also *authority zone*.

**DNS zone**

domain name server zone. Point of delegation in the DNS tree. It contains all names from a certain point downward except those for which other zones are authoritative. Authoritative name servers can be asked by other DNSs for name-to-address translation. Many name servers can exist within an organization, but only those known by the root name servers can be queried by the clients across the Internet. The other name servers answer only internal queries.

**DNSIX**

Department of Defense Intelligence Information System Network Security for Information Exchange. Collection of security requirements for networking defined by the U.S. Defense Intelligence Agency.

**DOCSIS**

Data-over-Cable Service Interface Specifications. Defines technical specifications for equipment at both subscriber locations and cable operators' headends. Adoption of DOCSIS will accelerate the deployment of data-over-cable services and will ensure interoperability of equipment throughout system operators' infrastructures.

**DOCSIS CM**

DOCSIS cable modem. DOCSIS CMs obtain boot configuration using DHCP, TFTP, and TFTP client implementations.

**DOCSIS CMTS**

DOCSIS cable modem termination system. The Cisco 7246 or 7223 router is a leading router implementation of a DOCSIS CMTS.

**DOCSIS configuration file**

*File* containing configuration parameters for a DOCSIS cable modem. The cable modem obtains this *file* at boot time using the TFTP protocol.

**Document Interchange Architecture**

See *DIA*.

**DoD**

Department of Defense. U.S. government organization that is responsible for national defense. The DoD frequently has funded communication protocol development.

**DoD Intelligence Information System Network Security for Information**

See *DNSIX*.

**DOI**

domain of interpretation. In IPsec, an ISAKMP/IKE DOI defines payload formats, exchange types, and conventions for naming security-relevant information such as security policies or cryptographic algorithms and modes.

**domain**

1. On the Internet, a portion of the naming hierarchy tree that refers to general groupings of networks based on organization type or geography.
2. In SNA, an SSCP and the resources it controls.
3. In IS-IS, a logical set of networks.
4. In security, an environment or context that is defined by a security policy, a security model, or a security architecture to include a set of system resources and the set of system entities that have the right to access the resources.

**Domain**

Networking system developed by Apollo Computer (now part of Hewlett-Packard) for use in its engineering workstations.

**domain name**

The style of identifier—a sequence of case-insensitive ASCII labels separated by dots (“*bbn.com.*”)—defined for subtrees in the Internet Domain Name System [R1034] and used in other Internet identifiers, such as host names, mailbox names, and URLs.

**Domain Name System**

See *DNS*.

**domain specific part**

See *DSP*.

**dot address**

Refers to the common notation for IP addresses in the form *n.n.n.n* where each number *n* represents, in decimal, 1 byte of the 4-byte IP address. Also called dotted notation and four-part dotted notation.

**dotted decimal notation**

Syntactic representation for a 32-bit integer that consists of four 8-bit numbers written in base 10 with periods (dots) separating them. Used to represent IP addresses on the Internet, as in 192.67.67.20. Also called dotted quad notation.

**dotted notation**

See *dot address*.

**downlink station**

See *ground station*.

**downstream**

Frequency multiplexed band in a CATV channel that distributes signals from a headend facility to subscribers.

**downstream physical unit**

See *DSPU*.

**DPM**

call defect per million. Lost stable (connected call) or non-stable (call being setup) call due to any hardware or software failure, procedural error, or other causes. Note that a Call Defect does not include misrouted calls or loss of call features.

**DQDB**

Distributed Queue Dual Bus. Data-link layer communication protocol, specified in the IEEE 802.6 standard, designed for use in MANs. DQDB, which permits multiple systems to interconnect using two unidirectional logical buses, is an open standard that is designed for compatibility with carrier transmission standards, and is aligned with emerging standards for BISDN. SIP is based on DQDB. See also *MAN*.

**DRAM**

dynamic random-access memory. RAM that stores information in capacitors that must be refreshed periodically. Delays can occur because DRAMs are inaccessible to the processor when refreshing their contents. However, DRAMs are less complex and have greater capacity than SRAMs. See also *SRAM*.

**DRDA**

Distributed Relational Database Architecture. IBM proprietary architecture.

**drop**

Point on a multipoint channel where a connection to a networked device is made.

**drop and insert**

Allows DS0 channels from one T1 or E1 facility to be cross-connected digitally to DS0 channels on another T1 or E1. By using this method, channel traffic is sent between a PBX and a CO PSTN switch or other telephony device, so that some PBX channels are directed for long-distance service through the PSTN while the router compresses others for interoffice VoIP calls. In addition, Drop and Insert can cross-connect a telephony switch (from the CO or PSTN) to a channel bank for external analog connectivity. Also called *TDM Cross-Connect*.

**drop cable**

Cable that connects a network device (such as a computer) to a physical medium. A type of AUI. See also *AU*.

**DRP**

See *DRP* (Director Response Protocol) in the “Cisco Systems Terms and Acronyms” section.

**DS0**

digital service zero (0). Single timeslot on a DS1 (also known as T1) digital interface—that is, a 64-kbps, synchronous, full-duplex data channel, typically used for a single voice connection on a PBX. See also *DS1* and *PBX*.

**DS-0**

digital signal level 0. Framing specification used in transmitting digital signals over a single channel at 64-kbps on a T1 facility. Compare with *DS-1* and *DS-3*.

**DS1**

digital service 1. Interface with a 1.544-Mbps data rate that often carries voice interface connections on a PBX. Each DS1 (also known as T1) has 24 DS0 channels framed together so that each DS0 timeslot can be assigned to a different type of trunk group, if desired.

**DS-1**

digital signal level 1. Framing specification used in transmitting digital signals at 1.544-Mbps on a T1 facility (in the United States) or at 2.108-Mbps on an E1 facility (in Europe). Compare with *DS-0* and *DS-3*. See also *E1* and *T1*.

**DS-1 domestic trunk interface**

See *DS-1/DTI*.

**DS-1/DTI**

DS-1 domestic trunk interface. Interface circuit used for DS-1 applications with 24 trunks.

**DS-3**

digital signal level 3. Framing specification used for transmitting digital signals at 44.736 Mbps on a T3 facility. Compare with *DS-0* and *DS-1*. See also *E3* and *T.120*.

**DSA**

Directory System Agent. Software that provides the X.500 Directory Service for a portion of the directory information base. Generally, each DSA is responsible for the directory information for a single organization or organizational unit.

**DSAP**

destination service access point. SAP of the network node designated in the Destination field of a packet. Compare with *SSAP*. See also *SAP (service access point)*.

**DSF**

dispersion-shifted fiber. A type of single-mode fiber designed to have zero dispersion near 1550 nm.

**DSL**

digital subscriber line. Public network technology that delivers high bandwidth over conventional copper wiring at limited distances. There are four types of DSL: ADSL, HDSL, SDSL, and VDSL. All are provisioned via modem pairs, with one modem located at a central office and the other at the customer site. Because most DSL technologies do not use the whole bandwidth of the twisted pair, there is room remaining for a voice channel. See also *ADSL*, *HDSL*, and *VDSL*.

**DSLAM**

digital subscriber line access multiplexer. A device that connects many digital subscriber lines to a network by multiplexing the DSL traffic onto one or more network trunk lines.

**DSn**

digital signal level n. A classification of digital circuits. The DS technically refers to the rate and the format of the signal, whereas the T designation refers to the equipment providing the signals. In practice, DS and T are used synonymously; for example, DS1 and T1, DS3 and T3.

**DSN**

delivery status notification. Message returned to the originator indicating the delivery status of an e-mail message. A sender can request three types of delivery status notifications: delay, success, and failure. RFC 1891, RFC 1892, RFC 1893, and RFC 1894 describe specifications for DSN.

**DSP**

1. domain specific part. Part of an NSAP-format ATM address that contains an area identifier, a station identifier, and a selector byte. See also *NSAP*.
2. digital signal processor. A DSP segments the voice signal into frames and stores them in voice packets.

**DSPU**

downstream physical unit. In SNA, a PU that is located downstream from the host. See also *DSPU concentration* in the “Cisco Systems Terms and Acronyms” section.

**DSPU concentration**

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

**DSPWare**

Firmware running on the DSP coprocessor.

**DSR**

data set ready. EIA/TIA-232 interface circuit that is activated when DCE is powered up and ready for use.

**DSU**

data service unit. Device used in digital transmission that adapts the physical interface on a DTE device to a transmission facility, such as T1 or E1. The DSU also is responsible for such functions as signal timing. Often referred to together with CSU, as *CSU/DSU*.

**DSX-1**

Crossconnection point for DS-1 signals.

**DTE**

data terminal equipment. Device at the user end of a user-network interface that serves as a data source, destination, or both. DTE connects to a data network through a DCE device (for example, a modem) and typically uses clocking signals generated by the DCE. DTE includes such devices as computers, protocol translators, and multiplexers. Compare with *DCE*.

**DTL**

designated transit list. List of nodes and optional link IDs that completely specify a path across a single PNNI peer group.

**DTMF**

dual tone multifrequency. Tones generated when a button is pressed on a telephone, primarily used in the U.S. and Canada.

**DTMF relay**

dual-tone multifrequency relay. Mechanism whereby a local Voice over IP gateway listens for DTMF digits (during a call), and then sends them uncompressed as either RTP or H.245 packets to the remote Voice over IP gateway, which regenerates DTMF digits and prevents digit loss due to compression.

**DTP**

DDSN Transfer Protocol. Process on the ICM Logger that connects to Cisco Customer Support and delivers any messages saved by the Customer Support Forwarding Service (CSFS). The DTP is part of the Distributed Diagnostics and Service Network (DDSN), which ensures that Cisco Customer Support is informed promptly of any unexpected behavior within the ICM.

**DTR**

data terminal ready. EIA/TIA-232 circuit that is activated to let the DCE know when the DTE is ready to send and receive data.

**DUA**

Directory User Agent. Software that accesses the X.500 Directory Service on behalf of the directory user. The directory user can be a person or another software element.

**DUAL**

See *DUAL (Diffusing update algorithm)* in the “Cisco Systems Terms and Acronyms” section.

**dual attachment station**

See *DAS*.

**dual counter-rotating rings**

Network topology in which two signal paths, whose directions are opposite each other, exist in a token-passing network. FDDI and CDDI are based on this concept.

**dual homing**

Network topology in which a device is connected to the network by way of two independent access points (points of attachment). One access point is the primary connection, and the other is a standby connection that is activated in the event of a failure of the primary connection.

**Dual IS-IS**

See *Integrated IS-IS*.

**dual tone multifrequency**

See *DTMF*.

**dual-attached concentrator**

See *DAC*.

**dual-homed station**

Device attached to multiple FDDI rings to provide redundancy.

**DVB**

Digital Video Broadcasting. Consortium of around 300 companies in the fields of broadcasting, manufacturing, network operation, and regulatory matters working to establish common international standards for the move from analog to digital broadcasting. The DVB Project Office and its 3.5 staff are based in Geneva, Switzerland.

**DVB-C**

DVB digital cable delivery system. Digital cable system that is compatible with DVB-S.

**DVMRP**

Distance Vector Multicast Routing Protocol. Internetwork gateway protocol, largely based on RIP, that implements a typical dense mode IP multicast scheme. DVMRP uses IGMP to exchange routing datagrams with its neighbors. See also *IGMP*.

**DVVI**

data, voice, video integration.

**DWDM**

dense wavelength division multiplexing. Optical transmission of multiple signals over closely spaced wavelengths in the 1550 nm region. (Wavelength spacings are usually 100 GHz or 200 GHz, which corresponds to 0.8 nm or 1.6 nm.)

**DXI**

Data Exchange Interface. ATM Forum specification, described in RFC 1483, that defines how a network device, such as a bridge, a router, or a hub, effectively can act as an FEP to an ATM network by interfacing with a special DSU that performs packet segmentation and reassembly.

**dynamic adaptive routing**

Automatic rerouting of traffic based on a sensing and analysis of current actual network conditions, not including cases of routing decisions taken on predefined information.

**dynamic address resolution**

Use of an address resolution protocol to determine and store address information on demand.

**Dynamic Buffer Management**

Frame Relay and ATM service modules are equipped with large buffers and the patented Dynamic Buffer Management scheme for allocating and scaling traffic entering or leaving a node on a per-VC basis. The WAN switch dynamically assigns buffers to individual virtual circuits based upon the amount of traffic present and service-level agreements. This deep pool of available buffers readily accommodates large bursts of traffic into the node.

**dynamic configuration**

See *discovery mode*.

**Dynamic IISP**

Dynamic Interim-Interswitch Signaling Protocol. Basic call routing protocol that automatically reroutes ATM connections in the event of link failures. Dynamic IISP is an interim solution until PNNI Phase 1 is completed. Contrast with *IISP*.

**dynamic random-access memory**

See *DRAM*.

**dynamic routing**

Routing that adjusts automatically to network topology or traffic changes. Also called adaptive routing.

**dynamic switched call**

Telephone call dynamically established across a packet data network based on a dialed telephone number. In the case of VoFR, a Cisco proprietary session protocol similar to Q.931 is used to achieve call switching and negotiation between calling endpoints. The proprietary session protocol runs over FRF.11-compliant subchannels.