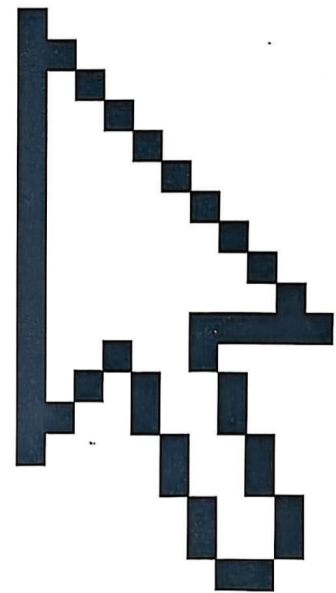


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Computer Dictionary

Fifth Edition



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Web page, including such features as providing a form that users can fill out, image maps that contain links to other Web pages or resources, and links that users can click on to send e-mail to a specified address. ActiveX controls and Java applets can provide much the same functionality as CGI scripts, through different means. *See also* CGI (definition 1), cgi-bin, image map, Perl. *Compare* ActiveX control, Java applet.

CGM *n.* *See* Computer Graphics Metafile.

chad *n.* The paper removed when a hole is punched in a card, in a tape, or at the perforated edge of continuous-form paper—the computer equivalent of a doughnut hole.

chaining *n.* **1.** In computers, the linking of two or more entities so that they are dependent upon one another for operation. **2.** In programming, the linking of two or more programs so that the first program causes the second program to begin executing. **3.** In programming, linking program statements so that each statement, except for the first, relies on the previous statement for input. **4.** With batch files, linking two or more batch files so that the completion of the first batch file causes the second batch file to begin executing. **5.** With data storage, linking two or more individual units of storage. For example, a single file on a disk may actually be stored on several different sectors of the disk, each of which points to the next sector containing a piece of that file. These sectors are said to be chained together, or, more literally, to be a chain of clusters. **6.** *See* daisy chaining.

chain printer *n.* *See* line printer.

chalkware *n.* *See* vaporware.

Challenge Handshake Authentication Protocol *n.* An authentication scheme used by PPP servers to validate the identity of the originator of a connection, upon connection or any time later. *Acronym:* CHAP. *See also* authentication, PPP.

change dlrctory *n.* *See* cd.

change file *n.* A file that records transactional changes occurring in a database, providing a basis for updating a master file and establishing an audit trail. *Also called:* transaction log. *See also* addition record.

change management *n.* **1.** The process of tracking and controlling updates, revisions, and other changes to a hardware or software product or project. **2.** The process of managing change during a company's restructuring or reengineering.

channel *n.* **1.** A path or link through which information passes between two devices. A channel can be either internal or external to a microcomputer. **2.** In communications, a medium for transferring information. Depending on its type, a communications channel can carry information (data, sound, and/or video) in either analog or digital form. A communications channel can be a physical link, such as the cable connecting two stations in a network, or it can consist of some electromagnetic transmission on one or more frequencies within a bandwidth in the electromagnetic spectrum, as in radio and television, or in optical, microwave, or voice-grade communication. *Also called:* circuit, line. *See also* analog, band, bandwidth, digital, electromagnetic spectrum, frequency. **3.** A single color within a digital color space. For example, the RGB color space contains three channels—red, green, and blue—and all colors within the RGB color space are created with a combination of one or more of those three color channels. In CMYK there are four channels—cyan, magenta, yellow, and black. Color management and graphics applications rely on control and manipulation of individual color channels. *See also* color space.

channel access *n.* **1.** A method used in networked systems to gain access to the data communication channel that links two or more computers. Common methods of channel access are contention, polling, and the token ring network. *See also* channel, contention, polling, token ring network. **2.** In wireless technology, an access method such as CDMA (Code Division Multiple Access). *See also* Code Division Multiple Access.

channel adapter *n.* A device that enables hardware using two different types of communications channels to communicate.

channel aggregator *n.* *See* content aggregator.

channel capacity *n.* The speed at which a communications channel can transfer information, measured in bits per second (bps) or in baud.

Channel Definition Format *n.* A file format based on XML that describes a channel—a collection of Web pages—on a server. The Channel Definition Format is used with the Active Channel feature in Microsoft Internet Explorer to deliver selected, often personalized, information to individuals on a subscription basis. *See also* Active Channel, webcasting.

channel hop *vb.* To switch repeatedly from one IRC channel to another. *See also* IRC.

environment (server versus workstation), and so on. Common language runtime hosts often support an extensibility model that allows the end user to dynamically add new pieces of functionality, such as a new control or a user-written function. These extensions are typically isolated from each other in the process using application domains and custom security settings. Examples of common language runtime hosts include ASP.NET, Microsoft Internet Explorer, and a host to run executables launched from the Windows Shell.

Common Language Specification *n.* See CLS.

Common LISP *n.* Short for **Common List Processing**. A formalized and standardized version of the LISP programming language. Because LISP is in the public domain, a number of different versions of the language have evolved, and Common LISP was made a standard to give programmers a definitive source for LISP. *See also* LISP, programming language, standard (definition 1).

Common Object Request Broker Architecture *n.* See CORBA.

common type system *n.* The specification that determines how the runtime defines, uses, and manages types.

Common User Access *n.* A set of standards for management of user interfaces as part of IBM's Systems Application Architecture (SAA). Common User Access is designed to facilitate development of applications that are compatible and consistent across different platforms. *Acronym:* CUA. *See also* standard (definition 1), user interface.

communications *n.* The vast discipline encompassing the methods, mechanisms, and media involved in information transfer. In computer-related areas, communications involves data transfer from one computer to another through a communications medium, such as a telephone, microwave relay, satellite link, or physical cable. Two primary methods of computer communications exist: temporary connection of two computers through a switched network, such as the public telephone system, and permanent or semipermanent linking of multiple workstations or computers in a network. The line between the two is indistinct, however, because microcomputers equipped with modems are often used to access both privately owned and public-access network computers. *See also* asynchronous transmission, CCITT, channel (definition 2), communications protocol, IEEE, ISDN, ISO/OSI model, LAN,

modem, network, synchronous transmission. *Compare* data transmission, telecommunications, teleprocess.

Communications Act of 1934 *n.* See FCC.

Communication Satellite Corporation *n.* Corporation created by the U.S. government to provide international satellite services for telecommunications. *Acronym:* COMSAT.

communications channel *n.* *See* channel (definition 2).

communications controller *n.* A device used as an intermediary in transferring communications to and from the host computer to which it is connected. By relieving the host computer of the actual tasks of sending, receiving, deciphering, and checking transmissions for errors, a communications controller helps to make efficient use of the host computer's processing time—time that might be better used for noncommunications tasks. A communications controller can be either a programmable machine in its own right or a nonprogrammable device designed to follow certain communications protocols. *See also* front-end processor (definition 2).

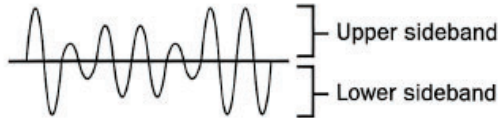
communications link *n.* The connection between computers that enables data transfer.

communications network *n.* *See* network.

communications parameter *n.* Any of several settings required in order to enable computers to communicate. In asynchronous communications, for example, modem speed, number of data bits and stop bits, and type of parity are parameters that must be set correctly to establish communication between two modems.

communications port *n.* *See* COM.

communications program *n.* A software program that enables a computer to connect with another computer and to exchange information. For initiating communications, communications programs perform such tasks as maintaining communications parameters, storing and dialing phone numbers automatically, recording and executing logon procedures, and repeatedly dialing busy lines. Once a connection is made, communications programs can also be instructed to save incoming messages on disk or to find and transmit disk files. During communication, these types of programs perform the major, and usually invisible, tasks of encoding data, coordinating transmissions to and from the distant computer, and checking incoming data for transmission errors.



Sideband.

sidebar *n.* A block of text placed to the side of the main body of text in a document, often set off by a border or other graphic element.

side-by-side execution *n.* The ability to install and use multiple versions of an assembly in isolation at the same time. This can occur on the same machine, or in the same process or application domain. Side-by-side execution can apply to applications and components as well as the components of the .NET Framework. Allowing assemblies to run side-by-side is essential to support robust versioning in the common language runtime.

side effect *n.* Any change of state caused by a subroutine, such as a routine that reads a value from a file and advances the current file position.

side head *n.* A heading placed in the margin of a printed document and top-aligned with the body text, rather than being vertically aligned with text, as is a normal head.

sieve of Eratosthenes *n.* An algorithm for finding prime numbers. It is often used as a benchmark in testing the speed of a computer or programming language. *See also* benchmark¹.

.sig *n.* A file extension for a signature file for e-mail or Internet newsgroup use. The contents of this file are automatically appended to e-mail correspondence or newsgroup articles by their respective client software. *See also* signature file (definition 1).

SIG *n.* Acronym for special interest group. An e-mail online discussion group or a group of users who meet and share information, especially one of the groups supported by the Association for Computing Machinery (ACM), such as SIGGRAPH for computer graphics.

SIGGRAPH *n.* Short for Special Interest Group on Computer Graphics, a part of the Association for Computing Machinery (ACM).

sigmoid function *n.* A kind of S-shaped mathematical function arising in many dynamical systems, including neural networks, because it is the solution to a first-order differential equation. It typically maps a real value, which may be arbitrarily large in magnitude (positive or nega-

tive), to another real value, which lies within some narrow range. The sigmoid function, in neural network computation literature, is also sometimes referred to as the logistic function. The reason for its prevalence is that it is thought to resemble the probability that a true neuron generates as an action potential in response to particular input and output. *See also* artificial intelligence, neural network.

sign *n.* The character used to indicate a positive or negative number. In assembly-level programming, the sign is indicated by the sign bit accompanying the number. *See also* sign bit.

signal *n.* 1. Any electrical quantity, such as voltage, current, or frequency, that can be used to transmit information. 2. A beep or tone from a computer's speaker or a prompt displayed on screen that tells a user that the computer is ready to receive input.

signal converter *n.* A device or circuit that converts a signal from one form to another, such as analog to digital, or pulse code modulation to frequency modulation.

signal-to-noise ratio *n.* The amount of power, measured in decibels, by which the signal exceeds the amount of channel noise at the same point in transmission. *Abbreviation:* S/N. *See also* noise (definition 2).

signature *n.* 1. A sequence of data used for identification, such as text appended to an e-mail message or a fax. 2. A unique number built into hardware or software for authentication purposes.

signature block *n.* A block of text that an e-mail client or a newsreader automatically places at the end of every message or article before the message or article is transmitted. Signature blocks typically contain the name, e-mail address, and affiliation of the person who created the message or article.

signature file *n.* 1. A file that contains information inserted by a user and automatically appended to e-mail correspondence or newsgroup articles by client software. A signature file typically contains the name or nickname of the user and might include such information as the user's e-mail address, Web page, company, or job title. 2. A file that updates an antivirus program so that the program recognizes signatures of new viruses and removes the viruses from the user's computer. *See also* antivirus program, virus signature.

sign bit *n.* The most significant, or leftmost, bit of a number field, usually set to 1 if the number is negative.

necessary to run the Windows operating environment. The win.ini file has been supplanted by the registry database in Windows 95 and later and Windows NT and later. *See also* configuration file, ini file, registry.

Winipcfg *n.* Short for **Windows IP Configuration**. A Windows 9x utility that enables users to access information about their TCP/IP (Transmission Control Protocol/Internet Protocol) and network adapter card settings. Running the Winipcfg program (winipcfg.exe) opens the IP Configuration window, which reveals the physical address, IP address, subnet mask, and default gateway settings of the primary TCP/IP adapter (or settings of multiple adapters if more than one is installed). This information is also helpful for troubleshooting. *See also* TCP/IP.

WINS *n.* Acronym for **Windows Internet Naming Service**. A Windows NT Server method for associating a computer's host name with its address. *Also called:* INS, Internet Naming Service. *Compare* DNS (definition 1).

Winsock *n.* Short for **Windows Sockets**. An application programming interface standard for software that provides a TCP/IP interface under Windows. The Winsock standard developed out of a Birds of a Feather (BOF) discussion that arose among software vendors at a UNIX conference in 1991; it has gained the general support of software developers, including Microsoft. *See also* application programming interface, BOF, socket (definition 1), sockets API, TCP/IP.

Wintel *adj.* Of, pertaining to, or characteristic of a computer that uses the Microsoft Windows operating system and an Intel central processing unit (CPU). *See also* Windows.

wired *adj.* 1. Of, pertaining to, or characteristic of an electronic circuit or hardware grouping in which the configuration is determined by the physical interconnection of the components (as opposed to being programmable in software or alterable by a switch). *See also* hardwired (definition 1). 2. Knowledgeable about Internet resources, systems, and culture. 3. Having access to the Internet.

Wired Equivalent Privacy *n.* *See* WEP.

wired home *n.* *See* smart home.

wire-frame model *n.* In computer graphics applications such as CAD programs, a representation of a three-dimensional object using separate lines that resemble strands of wire joined to create a model. *Compare* solid model, surface modeling.

wireless *adj.* Of, pertaining to, or characteristic of communications that take place without the use of interconnecting wires or cables, such as by radio, microwave, or infrared light.

Wireless Application Protocol *n.* A specification for a global standard for enabling digital cellular phones and other wireless devices to access Internet and other information services. The Wireless Application Protocol, or WAP, is supported by an organization known as WAP Forum, which includes such members as Motorola, Nokia, L. M. Ericsson, and Unwired Planet. The goal of the forum is to create an open standard that works with different wireless technologies. *Acronym:* WAP.

wireless communication *n.* Communication between a computer and another computer or device without wires. The form of wireless communication provided as part of the Windows operating system uses infrared light to transmit files. Radio frequencies, as used by cellular and cordless telephones, are another form of wireless communication. *See also* infrared, infrared device, infrared port.

Wireless Information Device *n.* *See* WID.

wireless Internet *n.* Version of the Internet designed for use on wireless phones and handheld devices with small display screens, limited memory, and slower data transmission speeds than a personal computer. Most wireless Internet sites offer content as basic text with limited graphics.

wireless LAN *n.* A LAN (local area network) that sends and receives data via radio, infrared optical signaling, or some other technology that does not require a physical connection between individual nodes and the hub. Wireless LANs are often used in office or factory settings where a user must carry a portable computer from place to place. *Also called:* WLAN.

Wireless Markup Language *n.* *See* WML.

Wireless Multimedia Forum *n.* *See* WMF (definition 2).

wireless phone *n.* Telephone that operates by means of radio waves without a wire connection. A base station (cell tower) relays the phone's signal to a wireless carrier's network, where it is transmitted to another wireless phone or to a wired telephone network.

Wireless Services server component *n.* A component that allows a content provider or carrier to configure and schedule any number of information acquisition/encoding/transmission components to create a data stream to be transmitted by a carrier to a device. The server component builds