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# Computer Dictionary

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## B

rity techniques that rely on measurable, individual biological stamps to recognize or verify an individual's identity. For example, fingerprints, handprints, or voice-recognition might be used to enable access to a computer, to a room, or to an electronic commerce account. Security schemes are generally categorized into three levels: level 1 relies on something the person carries, such as an ID badge with a photo or a computer cardkey; level 2 relies on something the person knows, such as a password or a code number; and level 3, the highest level, relies on something that is a part of the person's biological makeup or behavior, such as a fingerprint, the pattern of blood vessels in a retina, or a signature. *See also* fingerprint reader, handwriting recognition (definition 1), voice recognition.

**bionics** *n.* The study of living organisms, their characteristics, and the ways they function, with a view toward creating hardware that can simulate or duplicate the activities of a biological system. *See also* cybernetics.

**BIOS** *n.* Acronym for **basic input/output system**. On PC-compatible computers, the set of essential software routines that tests hardware at startup, starts the operating system, and supports the transfer of data among hardware devices, including the date and time. The operating system date is initialized from the BIOS or Real Time Clock date when the machine is booted. Many older PCs, particularly those dating before 1997, have BIOSs that store only 2-digit years and thus may have suffered from Year 2000 problems. The BIOS is stored in read-only memory (ROM) so that it can be executed when the computer is turned on. Although critical to performance, the BIOS is usually invisible to computer users. *See also* AMI BIOS, CMOS setup, Phoenix BIOS, ROM BIOS. *Compare* Toolbox.

**BIOS test** *n.* A test to see if a PC will make the transition to the year 2000 and keep the correct date. The test can range from resetting the system time in the BIOS and

rebooting to running a program or software routine specially designed to uncover Year 2000 problems.

**bipartite virus** *n.* *See* multipartite virus.

**bipolar** *adj.* **1.** Having two opposite states, such as positive and negative. **2.** In information transfer and processing, pertaining to or characteristic of a signal in which opposite voltage polarities represent on and off, true and false, or some other pair of values. *See also* nonreturn to zero. *Compare* unipolar. **3.** In electronics, pertaining to or characteristic of a transistor having two types of charge carriers. *See also* transistor.

**BIS** *n.* *See* business information system.

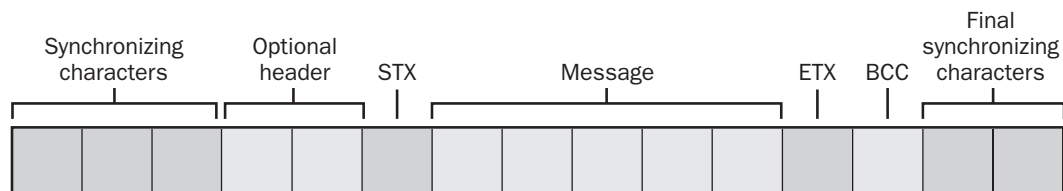
**BISDN** *n.* *See* broadband ISDN.

**bistable** *adj.* Of, pertaining to, or characteristic of a system or device that has two possible states, such as on and off. *See also* flip-flop.

**bistable circuit** *n.* Any circuit that has only two stable states. The transition between them must be initiated from outside the circuit. A bistable circuit is capable of storing 1 bit of information.

**bistable multivibrator** *n.* *See* flip-flop.

**BISYNC** *n.* Short for **binary synchronous communications protocol**. A communications standard developed by IBM. BISYNC transmissions are encoded in either ASCII or EBCDIC. Messages can be of any length and are sent in units called frames, optionally preceded by a message header. BISYNC uses synchronous transmission, in which message elements are separated by a specific time interval, so each frame is preceded and followed by special characters that enable the sending and receiving machines to synchronize their clocks. STX and ETX are control characters that mark the beginning and end of the message text; BCC is a set of characters used to verify the accuracy of transmission. *See the illustration. Also called:* BSC.



**BISYNC.** *The structure of a BISYNC frame.*

**elevator seeking** *n.* A method of limiting hard disk access time in which multiple requests for data are prioritized based on the location of the data relative to the read/write head. This serves to minimize head movement. *See also* access time (definition 2), hard disk, read/write head.

## E

**elite** *n.* **1.** A size of fixed-width type that prints 12 characters to the inch. **2.** A fixed-width font that may be available in various type sizes. *See also* monospace font.

**ELIZA** *n.* A program, modeled on Rogerian psychotherapy, that conducts simulated conversations with humans by echoing responses and posing questions based on key words in earlier comments. It was created by Dr. Joseph Weizenbaum, who considered it a bit of a joke and was alarmed that people took it seriously. *See also* artificial intelligence, Turing test.

**ellipsis** *n.* A set of three dots (...) used to convey incompleteness. In many windowing applications, selection of a command that is followed by an ellipsis will produce a submenu or a dialog box. In programming and software manuals, an ellipsis in a syntax line indicates the repetition of certain elements. *See also* dialog box, syntax.

**elm** *n.* Short for **electronic mail**. A program for reading and composing e-mail on UNIX systems. The elm program has a full-screen editor, making it easier to use than the original mail program, but elm has largely been superseded by pine. *See also* e-mail<sup>1</sup>. *Compare* Eudora, pine.

**e-mail<sup>1</sup>** or **email** or **E-mail** *n.* **1.** Short for **electronic mail**. The exchange of text messages and computer files over a communications network, such as a local area network or the Internet, usually between computers or terminals. **2.** An electronic text message.

**e-mail<sup>2</sup>** or **email** or **E-mail** *vb.* To send an e-mail message.

**e-mail address** *n.* A string that identifies a user so that the user can receive Internet e-mail. An e-mail address typically consists of a name that identifies the user to the mail server, followed by an at sign (@) and the host name and domain name of the mail server. For example, if Anne E. Oldhacker has an account on the machine called baz at Foo Enterprises, she might have an e-mail address aeo@baz.foo.com, which would be pronounced “A E O at baz dot foo dot com.”

**e-mail filter** *n.* A feature in e-mail-reading software that automatically sorts incoming mail into different folders or mailboxes based on information contained in the message.

For example, all incoming mail from a user’s Uncle Joe might be placed in a folder labeled “Uncle Joe.” Filters may also be used either to block or accept e-mail from designated sources.

**e-mail management system** *n.* An automated e-mail response system used by an Internet-based business to sort incoming e-mail messages into predetermined categories and either reply to the sender with an appropriate response or direct the e-mail to a customer service representative. *Acronym:* EMS.

**embed** *vb.* To insert information created in one program, such as a chart or an equation, into another program. After the object is embedded, the information becomes part of the document. Any changes made to the object are reflected in the document.

**embedded** *adj.* In software, pertaining to code or a command that is built into its carrier. For example, application programs insert embedded printing commands into a document to control printing and formatting. Low-level assembly language is embedded in higher-level languages, such as C, to provide more capabilities or better efficiency.

**embedded chip** *n.* *See* embedded system.

**embedded command** *n.* A command placed in a text, graphics, or other document file, often used for printing or page-layout instructions. Such commands often do not appear on screen but can be displayed if needed. In transferring documents from one program to another, embedded commands can cause problems if the programs are incompatible.

**embedded controller** *n.* A processor-based controller circuit board that is built into the computer machinery. *See also* controller.

**embedded hyperlink** *n.* A link to a resource that is embedded within text or is associated with an image or an image map. *See also* hyperlink, image map.

**embedded interface** *n.* An interface built into a hardware device’s drive and controller board so that the device can be directly connected to the computer’s system bus. *See also* controller, interface (definition 3). *Compare* ESDI, SCSI, ST506 interface.

**embedded system** *n.* Microprocessors used to control devices such as appliances, automobiles, and machines used in business and manufacturing. An embedded system is created to manage a limited number of specific tasks

within a larger device or system. An embedded system is often built onto a single chip or board and is used to control or monitor the host device—usually with little or no human intervention and often in real time. *See also* microprocessor.

**em dash** *n.* A punctuation mark (—) used to indicate a break or interruption in a sentence. It is named for the em, a typographical unit of measure that in some fonts equals the width of a capital M. *Compare* en dash, hyphen.

**EMF** *n.* *See* electromotive force.

**emitter** *n.* In transistors, the region that serves as a source of charge carriers. *Compare* base (definition 3), collector.

**emitter-coupled logic** *n.* A circuit design in which the emitters of two transistors are connected to a resistor so that only one of the transistors switches at a time. The advantage of this design is very high switching speed. Its drawbacks are the high number of components required and susceptibility to noise. *Acronym:* ECL.

**EMM** *n.* *See* Expanded Memory Manager.

**e-money** or **emoney** *n.* Short for electronic **money**. A generic name for the exchange of money through the Internet. *Also called:* cybercash, digicash, digital cash, e-cash, e-currency.

**emotag** *n.* In an e-mail message or newsgroup article, a letter, word, or phrase that is encased in angle brackets and that, like an emoticon, indicates the attitude the writer takes toward what he or she has written. Often emotags have opening and closing tags, similar to HTML tags, that enclose a phrase or one or more sentences. For example: <joke>You didn't think there would really be a joke here, did you?</joke>. Some emotags consist of a single tag, such as <grin>. *See also* emoticon, HTML.

**emoticon** *n.* A string of text characters that, when viewed sideways, form a face expressing a particular emotion. An emoticon is often used in an e-mail message or newsgroup post as a comment on the text that precedes it. Common emoticons include :- ) or :) (meaning "I'm smiling at the joke here"), ;- ) ("I'm winking and grinning at the joke here"), :-( ("I'm sad about this"), :-7 ("I'm speaking with tongue in cheek"), :D or :-D (big smile; "I'm overjoyed"), and :-O (either a yawn of boredom or a mouth open in amazement). *Compare* emotag.

**EMS** *n.* Acronym for **Expanded Memory Specification**. A technique for adding memory to PCs that allows for increasing memory beyond the Intel 80x86 microproces-

sor real-mode limit of 1 megabyte (MB). In earlier versions of microprocessors, EMS bypassed this memory board limit with a number of 16-kilobyte banks of RAM that could be accessed by software. In later versions of Intel microprocessors, including the 80386 and 80486 models, EMS is converted from extended memory by software memory managers, such as EMM386 in MS-DOS 5. Now EMS is used mainly for older MS-DOS applications because Windows and other applications running in protected mode on 80386 and higher microprocessors are free of the 1-MB limit. *Also called:* LIM EMS. *See also* expanded memory, protected mode. *Compare* conventional memory, extended memory.

**em space** *n.* A typographical unit of measure that is equal in width to the point size of a particular font. For many fonts, this is equal to the width of a capital M, from which the em space takes its name. *Compare* en space, fixed space, thin space.

**emulate** *vb.* For a hardware or software system to behave in the same manner as another hardware or software system. In a network, for example, microcomputers might emulate terminals in order to communicate with mainframes.

**emulation** *n.* The process of a computer, device, or program imitating the function of another computer, device, or program.

**emulator** *n.* Hardware or software designed to make one type of computer or component act as if it were another. By means of an emulator, a computer can run software written for another machine. In a network, microcomputers might emulate terminals in order to communicate with mainframes.

**emulsion laser storage** *n.* A method for recording data in film by selective heating with a laser beam.

**enable** *vb.* To activate or turn on. *Compare* disable.

**encapsulate** *vb.* **1.** To treat a collection of structured information as a whole without affecting or taking notice of its internal structure. In communications, a message or packet constructed according to one protocol, such as a TCP/IP packet, may be taken with its formatting data as an undifferentiated stream of bits that is then broken up and packaged according to a lower-level protocol (for example, as ATM packets) to be sent over a particular network; at the destination, the lower-level packets are assembled, re-creating the message as formatted for the encapsulated protocol. *See also* ATM (definition 1). **2.** In object-oriented

E

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