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CMOS RAM \k'mos ram\ *n.* Random access memory made using complementary metal-oxide semiconductor technology. CMOS chips consume extremely little power and have high tolerance for noise from the power supply. These characteristics make CMOS chips, including CMOS RAM chips, very useful in hardware components that are powered by batteries, such as most microcomputer clocks and certain types of scratchpad RAM that are maintained by the operating system. *See also* CMOS (definition 1), parameter RAM, RAM.

CMOS setup *n.* A system configuration utility, accessible at boot time, for setting up certain system options, such as the date and time, the kind of drives installed, and port configuration. *See also* CMOS (definition 2).

CMS *n.* *See* color management system.

CMY *n.* Acronym for cyan-magenta-yellow. A model for describing colors that are produced by absorbing light, as by ink on paper, rather than by emitting light, as on a video monitor. The three kinds of cone cells in the eye respond to red, green, and blue light, which are absorbed (removed from white light) by cyan, magenta, and yellow pigments, respectively. Percentages of pigments in these subtractive primary colors can therefore be mixed to get the appearance of any desired color. Absence of any pigment leaves white unchanged; adding 100 percent of all three pigments turns white to black. *Compare* CMYK, RGB.

CMYK *n.* Acronym for cyan-magenta-yellow-black. A color model that is similar to the CMY color model but produces black with a separate black component rather than by adding 100 percent of cyan, magenta, and yellow. *See also* CMY.

coaxial cable *n.* A round, flexible, two-conductor cable consisting of—from the center outwards—a copper wire, a layer of protective insulation, a braided metal mesh sleeve, and an outer shield, or jacket of PVC or fire-resistant material. The shield prevents signals transmitted on the center wire from affecting nearby components and prevents external interference from affecting the signal carried on the center wire. Coaxial cable is widely used in networks. It is the same type of wiring as that used for cable television. *See the illustration. Compare* twisted-pair wiring, fiberoptic cable.



Coaxial cable.

COBOL \kō'bol\ *n.* Acronym for **Common Business-Oriented Language**. A verbose, English-like compiled programming language developed between 1959 and 1961 and still in widespread use today, especially in business applications typically run on mainframes. A COBOL program consists of an Identification Division, which specifies the name of the program and contains any other documentation the programmer wants to add; an Environment Division, which specifies the computer(s) being used and the files used in the program for input and output; a Data Division, which describes the format of the data structures used in the program; and a Procedure Division, which contains the procedures that dictate the actions of the program. *See also* compiled language.

cobweb site *n.* A Web site that is far out of date. *See also* Web site.

CODASYL \kō'də-sil\ *n.* Acronym for **Conference on Data Systems Languages**. An organization founded by the U.S. Department of Defense. CODASYL is dedicated to the development of data-management systems and languages, among them the widely used COBOL business language.

code¹ *n.* **1.** Program instructions. Source code consists of human-readable statements written by a programmer in a programming language. Machine code consists of numerical instructions that the computer can recognize and execute and that were converted from source code. *See also* data, program. **2.** A system of symbols used to convert information from one form to another. A code for converting information in order to conceal it is often called a *cipher*. **3.** One of a set of symbols used to represent information.

code² *vb.* To write program instructions in a programming language. *See also* program.

codec \kō'dek\ *n.* **1.** Short for **coder/decoder**. Hardware that can convert audio or video signals between analog and digital forms. **2.** Short for **compressor/decompressor**. Hardware or software that can com-

press and uncompress audio or video data. *See also* compress², uncompress. **3.** Hardware that combines the functions of definitions 1 and 2.

code conversion *n.* **1.** The process of translating program instructions from one form into another. Code may be converted at the source-language level (for example, from C to Pascal), at the hardware-platform level (for example, from working on the IBM PC to working on the Apple Macintosh), or at the language level (for example, from source code in C to machine code). *See also* code¹ (definition 1). **2.** The process of transforming data from one representation to another, such as from ASCII to EBCDIC or from two's complement to binary-coded decimal.

Code Division Multiple Access *n.* A form of multiplexing in which the transmitter encodes the signal, using a pseudo-random sequence that the receiver also knows and can use to decode the received signal. Each different random sequence corresponds to a different communication channel. Motorola uses Code Division Multiple Access for digital cellular phones. *Acronym:* CDMA. *Also called* spread spectrum. *See also* multiplexing, transmitter.

code page *n.* In MS-DOS versions 3.3 and later, a table that relates the binary character codes used by a program to keys on the keyboard or to the appearance of characters on the display. Code pages are a means of providing support for character sets and keyboard layouts used in different countries. Devices such as the display and the keyboard can be configured to use a specific code page and to switch from one code page (such as United States) to another (such as Portugal) at the user's request.

code profiler *n.* A tool designed to aid developers in identifying and eliminating the code inefficiencies that cause bottlenecks and degrade performance in their applications. Code profilers analyze an executing application to determine both how long functions take to execute and how often they are called. Using a code profiler is a repetitive process in that the tool must be reused after each section of inefficient code has been found and corrected.

coder *n.* *See* programmer.

code segment *n.* **1.** A memory segment containing program instructions. **2.** A named and segregated portion of a program's code typically performing a specific class of operations. Code segments in this

sense are often loaded into memory as memory segments. The main program segment is kept in memory, and auxiliary segments are loaded only when they are required.

code snippet *n.* **1.** In a graphical user interface, programming instructions embedded in a menu option or button defined by the user. The snippet—consisting of one or more lines of source code—determines what the option or button does when chosen or clicked on. **2.** A small piece of programming code that is part of a larger program. Usually the code snippet performs a specific function or task.

coding form *n.* A sheet of paper ruled with horizontal and vertical lines to aid in writing source code for older languages that have position-dependent syntax (such as FORTRAN). Most programmers now use graph paper if they use paper at all.

coercion *n.* *See* cast.

coherence *n.* **1.** In raster-scan technology, the assignment of the value of one pixel to the pixel next to it. **2.** In optics, the property of some electromagnetic waves of being in phase with one another, as in light from a laser.

cold boot *n.* A startup process that begins with turning on the computer's power. Typically, a cold boot involves some basic hardware checking by the system, after which the operating system is loaded from disk into memory. *See also* boot¹. *Compare* warm boot.

cold fault *n.* A fatal error that occurs immediately upon or shortly after startup as a result of the misalignment of components in the system. The process of running and shutting down any computer induces a series of thermal expansions and contractions in its internal components. Over time, these changes in the dimensions of components can create a microscopic crack in a chip or loosen a pin in a socket; thus, the system crashes when cold, but the problem seems to disappear after the machine is warm. For this reason some users leave the system unit (but not the monitor) of a computer running from day to day, rather than turning the machine on only when needed.

cold link *n.* A link established upon a request for data. Once the request is filled, the link is broken. The next time data is required, a link from the client to the server must be reestablished. In a client/server architecture cold links are useful when the linked item consists of a large amount of data. Dynamic

C

objects (blocks of information) that are created in their own applications. These objects can either be physically *embedded* in the destination document, or they can be *linked* to it while remaining in the originating file. Both embedded and linked objects can be edited. Linked objects, however, can be updated to reflect changes made to the source file. *See also* ActiveX, OLE, OpenDoc.

compound statement *n.* A single instruction composed of two or more individual instructions.

compress¹ *n.* A proprietary UNIX utility for reducing the size of data files. Files compressed with this utility have the extension .Z added to their names.

compress² *vb.* To reduce the size of a set of data, such as a file or a communications message, so that it can be stored in less space or transmitted with less bandwidth. Data can be compressed by removing repeated patterns of bits and replacing them with some form of summary that takes up less space; restoring the repeated patterns decompresses the data. Lossless compression methods must be used for text, code, and numeric data files; lossy compression may be used for video and sound files. *See also* lossless compression, lossy compression.

compressed digital video *n.* *See* CDV (definition 1).

compressed disk *n.* A hard disk or floppy disk whose apparent capacity to hold data has been increased through the use of a compression utility, such as Stacker or Double Space. *See also* data compression.

compressed drive *n.* A hard disk whose apparent capacity has been increased through the use of a compression utility, such as Stacker or Double Space. *See also* compressed disk, data compression.

compressed file *n.* A file whose contents have been compressed by a special utility program so that it occupies less space on a disk or other storage device than in its uncompressed (normal) state. *See also* installation program, LHARC, PKUNZIP, PKZIP, utility program.

Compressed SLIP *\kəm-presd`slip` n.* Short for **Compressed Serial Line Internet Protocol**. A version of SLIP using compressed Internet address information, thereby making the protocol faster than SLIP. *Acronym:* CSLIP. *See also* SLIP.

compression *n.* *See* data compression.

compressor *n.* A device that limits some aspect of a transmitted signal, such as volume, in order to increase efficiency.

CompuServe *n.* An online information service that is a subsidiary of America Online. CompuServe provides information and communications capabilities, including Internet access. It is primarily known for its technical support forums for commercial hardware and software products and for being one of the first large commercial online services. CompuServe also operates various private network services.

computation-bound *adj.* Of, pertaining to, or characteristic of a situation in which the performance of a computer is limited by the number of arithmetic operations the microprocessor must perform. When a system is computation-bound, the microprocessor is overloaded with calculations. *Also called* CPU-bound.

compute *vb.* 1. To perform calculations. 2. To use a computer or cause it to do work.

computer *n.* Any device capable of processing information to produce a desired result. No matter how large or small they are, computers typically perform their work in three well-defined steps: (1) accepting input, (2) processing the input according to predefined rules (programs), and (3) producing output. There are several ways to categorize computers, including class (ranging from microcomputers to supercomputers), generation (first through fifth generation), and mode of processing (analog versus digital). *See the table. See also* analog, digital (definition 2), integrated circuit, large-scale integration, very-large-scale integration.

computer-aided design *n.* *See* CAD.

computer-aided design and drafting *n.* *See* CADD.

computer-aided design/computer-aided manufacturing *n.* *See* CAD/CAM.

computer-aided engineering *n.* *See* CAE.

computer-aided instruction *n.* *See* CAI.

computer-aided learning *n.* *See* CAI.

computer-aided manufacturing *n.* *See* CAM (definition 1).

computer-aided testing *n.* *See* CAT (definition 1).

Computer and Business Equipment Manufacturers Association *n.* *See* CBEMA.

Document Interchange Architecture *n.* See DIA.

document management *n.* The full spectrum of electronic document creation and distribution within an organization.

document management system *n.* A server-based network facility designed for the storage and handling of an organization's documents. A document management system, or DMS, is built around a central "library" known as a repository and typically supports controlled access, version tracking, cataloging, search capabilities, and the ability to check documents in and out electronically. The open interface specification known as ODMA (Open Document Management API) enables desktop applications that support ODMA to interface with a DMS so that users can access and manage documents from within their client applications. *Acronym:* DMS. *Also called* EDMS, electronic document management system.

Document Object Model *n.* A World Wide Web Consortium specification that describes the structure of dynamic HTML and XML documents in a way that allows them to be manipulated through a Web browser. In the Document Object Model, a document is presented as a logical structure rather than as a collection of tagged words. In essence, DOM is a means of defining a document as a tree-like hierarchy of nodes in which the document is an object containing other objects, such as images and forms. Through DOM, programs and scripts can access these objects in order to change aspects such as their appearance or behavior. DOM is a vehicle for adding depth and interactivity to what would otherwise be a static Web page. *Acronym:* DOM.

document processing *n.* The act of retrieving and manipulating a document. In terms of the way a computer works, document processing involves three main steps: creating or retrieving a data file, using a program to manipulate the data in some way, and storing the modified file.

document reader *n.* A device that scans printed text and uses character recognition to convert it to computer text files. *See also* character recognition.

document retrieval *n.* A capability built into some application programs that enables the user to search for specific documents by specifying items of information, such as date, author, or previously assigned keywords. Document retrieval depends on an indexing scheme that the program maintains and uses. Depend-

ing on the program's capabilities, document retrieval might allow the user to specify more than one condition to refine a search.

document source *n.* The plain-text HTML form of a World Wide Web document, with all tags and other markup displayed as such rather than being formatted. *Also called* source, source document. *See also* HTML.

Document Style Semantics and Specification

Language *n.* An ISO standard under preparation addressing the semantics of high-quality composition in a manner independent of particular formatting systems or processes. It is intended as a complementary standard to SGML for the specification of semantics. *Acronym:* DSSSL. *See also* ISO, SGML.

document type definition *n.* See DTD.

document window *n.* In windowing environments, such as the Apple Macintosh and Microsoft Windows, an on-screen window (enclosed work area) in which the user can create, view, or work on a document.

DoD *n.* See U.S. Department of Defense.

DO loop \doo loop/ *n.* A control statement used in programs that executes a section of code a number of times until a specified condition is met. DO loops are found in FORTRAN and Basic, among other languages. *See also* iterative statement. *Compare* FOR loop.

DOM \dom/ *n.* See Document Object Model.

domain *n.* 1. In database design and management, the set of valid values for a given attribute. For example, the domain for the attribute AREA-CODE might be the list of all valid three-digit numeric telephone area codes in the United States. *See also* attribute (definition 1). 2. For Windows NT Advanced Server, a collection of computers that share a common domain database and security policy. Each domain has a unique name. 3. In the Internet and other networks, the highest subdivision of a domain name in a network address, which identifies the type of entity owning the address (for example, .com for commercial users or .edu for educational institutions) or the geographical location of the address (for example, .fr for France or .sg for Singapore). The domain is the last part of the address (for example, www.acm.org). *See also* domain name.

domain controller *n.* In Windows NT, the master server that holds the directory services database that identifies all network users and resources.

UltraSCSI \ul'trə-skuz'ē\ *n.* An extension of the SCSI-2 standard that doubles the transfer speed of Fast-SCSI to allow a transfer rate of 20 megabytes per second (MBps) on an 8-bit connection and 40 MBps on a 16-bit connection. *See also* SCSI, SCSI-2.

Ultra Wide SCSI \ul'trə wīd skuz'ē\ *n.* *See* UltraSCSI.

UMA *n.* Acronym for **upper memory area**. The portion of DOS memory between the first 640K and 1 megabyte. *Compare* high memory area.

UMB *n.* Acronym for **upper memory block**. A block of memory in the UMA (upper memory area) that can be used for device drivers or TSRs. A UMB is allocated and managed by special memory manager programs such as EMM386.EXE. *See also* device driver, TSR, UMA.

UML *n.* *See* Unified Modeling Language.

unary *adj.* Of, pertaining to, or characteristic of a mathematical operation with a single operand (object); monadic. *Compare* dyadic.

unary operator *n.* An operator that takes only one operand—for example, unary minus (as in -2.5). *See also* operator (definition 1). *Compare* binary operator.

unbuffered *adj.* Of, pertaining to, or characteristic of something that does not store data characters in memory but instead processes them as they are received. *See also* buffer².

unbundle *vb.* To separate the items of a composite sales package; for example, to sell components of a software package separately rather than as a package. *Compare* bundle.

unbundled *adj.* Not included as part of a complete hardware/software package; the term particularly applies to a product that was previously bundled, as opposed to one that has always been sold separately.

UNC *n.* Acronym for **Universal Naming Convention** or, sometimes, **Uniform Naming Convention**. The system of naming files among computers on a network so that a file on a given computer will have the same pathname when accessed from any of the other computers on the network. For example, if the directory `c:\path1\path2\...pathn` on computer *servern* is shared under the name *pathdirs*, a user on another computer would open `\\servern\pathdirs\filename.ext` to access the file `c:\path1\path2\...pathn\filename.ext` on *servern*. *See also* URL, virtual path.

uncompress *vb.* To restore the contents of a compressed file to its original form. *Also called* decompress. *Compare* compress².

unconditional branch *n.* A transfer of execution to another line of code in a program without a check for some condition being true or false. The transfer always takes place whenever such an instruction is encountered. *See also* branch (definition 2). *Compare* conditional branch.

undelete¹ *n.* The act of restoring deleted information. An undelete is comparable to (and usually included as part of) an "undo" command; it is more restricted, however, in that *undo* reverses any previous act, but *undelete* reverses only a deletion. *Undelete* generally refers only to excised text or deleted files. *See also* undo.

undelete² *vb.* 1. To restore deleted information, usually the last item deleted. 2. In file storage, to restore a file's storage information so that a deleted file becomes available for access again. *Also called* unerase. *See also* file recovery.

undeliverable *adj.* Not able to be delivered to an intended recipient. If an e-mail message is undeliverable, it is returned to the sender with information added by the mail server explaining the problem; for example, the e-mail address may be incorrect, or the recipient's mailbox may be full.

undercolor separation *n.* In the CMYK color model, the process of converting equal quantities of cyan, magenta, and yellow to equivalent gray levels, which are then printed in black ink. This produces grays that are clearer and sharper than those produced by mixing colored inks. *See also* CMY, CMYK, color model.

underflow *n.* A condition in which a mathematical calculation produces a result too near to zero to be represented by the range of binary digits available to the computer for holding that value in the specified precision. *See also* precision (definition 2), single-precision.

underline *vb.* To format a selection of text so that the text is printed with a line slightly below it.

Undernet *n.* An international network of Internet Relay Chat (IRC) servers, created in 1992 as an alternative to the larger and more chaotic main IRC network. For information about connecting to Undernet, see <http://www.undernet.org>. *See also* IRC.