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usually delete highly controversial and obscene content or content that is on a different topic from that followed by the newsgroup. Online services have identifiable owners, who often take some share of responsibility for what reaches their users' computer screens. In some countries, censorship of certain political or cultural Web sites is a matter of national policy.

sensorware \sen'sər-wâr\ *n.* Software that imposes restrictions on what Internet sites, newsgroups, or files may be accessed by the user.

center \sen'tər\ *vb.* To align characters around a point located in the middle of a line, page, or other defined area; in effect, to place text an equal distance from each margin or border. *See also* align (definition 1).

centi- \sen'ti-, sen'tə-\ *prefix* **1.** One hundred. **2.** One hundredth, as in *centimeter*—one hundredth of a meter.

centralized processing \sen'trə-līzd pros'es-ēng\ *n.* The location of computer processing facilities and operations in a single (centralized) place. *Compare* decentralized processing, distributed processing.

central office \sen'trəl of'is\ *n.* In communications, the switching center where interconnections between customers' communications lines are made.

central processing unit \sen'trəl pros'es-ēng yōō'nit\ *n.* The computational and control unit of a computer. The central processing unit is the device that interprets and executes instructions. Mainframes and early minicomputers contained circuit boards full of integrated circuits that implemented the central processing unit. Single-chip central processing units, called *microprocessors*, made possible personal computers and workstations. Examples of single-chip central processing units are the Motorola 68000, 68020, and 68030 chips and the Intel 8080, 8086, 80286, 80386, and i486 chips. The central processing unit—or microprocessor, in the case of a microcomputer—has the ability to fetch, decode, and execute instructions and to transfer information to and from other resources over the computer's main data-transfer path, the bus. By definition, the central processing unit is the chip that functions as the "brain" of a computer. In some instances, however, the term

encompasses both the processor and the computer's memory or, even more broadly, the main computer console (as opposed to peripheral equipment). *Acronym:* CPU (C'P-U'). *See also* microprocessor.

Centronics parallel interface \sen-tron'iks pâr'ə-lēl in'tər-fās\ *n.* A de facto standard for parallel data exchange paths between computers and peripherals, originally developed by the printer manufacturer Centronics, Inc. The Centronics parallel interface provides eight parallel data lines plus additional lines for control and status information. *See also* parallel interface.

CERN \sərn, C'E-R-N\ *n.* Acronym for **Conseil Européen pour la Recherche Nucléaire** (the European Laboratory for Particle Physics). CERN, a physics research center located in Geneva, Switzerland, is where the original development of the World Wide Web took place by Tim Berners-Lee in 1989 as a method to facilitate communication among members of the scientific community. *See also* NCSA (definition 1).

CERN server \sərn' sər'vər, C'E-R-N\ *n.* One of the first Hypertext Transfer Protocol (HTTP) servers, developed at CERN by Tim Berners-Lee. The CERN server is still in wide use and is free of charge. *See also* CERN, HTTP server (definition 1).

CERT \sərt, C'E-R-T\ *n.* Acronym for **Computer Emergency Response Team**. An organization that provides a round-the-clock security consultation service for Internet users and provides advisories whenever new virus programs and other computer security threats are discovered.

certification \sər'tə-fə-kā'shən\ *n.* **1.** The act of awarding a document to demonstrate a computer professional's competence in a particular field. Some hardware and software suppliers, such as Microsoft and Novell, offer certification in the use of their products; other organizations, such as the Institute for Certification of Computer Professionals (ICCP) and the Computing Technology Industry Association (CompTIA), offer more general certification. **2.** The act of awarding a document to demonstrate that a hardware or software product meets some specification, such as being able to work with a certain other hardware or software product. **3.** The issuance of a notice that a user or site is trusted for the purpose of security and

computer authentication. Often certification is used with Web sites.

.cf \dot'C-F\ *n.* On the Internet, the major geographic domain specifying that an address is located in the Central African Republic.

.cg \dot'C-G\ *n.* On the Internet, the major geographic domain specifying that an address is located in the Congo.

CGA \C'G-A\ *n.* Acronym for **Color/Graphics Adapter**. A video adapter board introduced by IBM in 1981. The CGA is capable of several character and graphics modes, including character modes of 40 or 80 horizontal characters (columns) by 25 vertical lines with 16 colors, and graphics modes of 640 horizontal pixels by 200 vertical pixels with 2 colors, or 320 horizontal pixels by 200 vertical pixels with 4 colors. *See also* graphics adapter, video adapter.

CGI \C'G-I\ *n.* **1.** Acronym for **Common Gateway Interface**. The specification that defines communications between information servers (such as HTTP servers) and resources on the server's host computer, such as databases and other programs. For example, when a user submits a form through a Web browser, the HTTP server executes a program (often called a CGI script) and passes the user's input information to that program via CGI. The program then returns information to the server via CGI. Use of CGI can make a Web page much more dynamic and add interactivity for the user. *See also* CGI script, HTTP server (definition 1). **2.** *See* Computer Graphics Interface.

cgi-bin \C'G-I' bin\ *n.* Short for **Common Gateway Interface-binaries**. A file directory that holds external applications to be executed by HTTP servers via CGI. *See also* CGI (definition 1).

CGI script \C'G-I' skript\ *n.* Short for **Common Gateway Interface script**. An external application that is executed by an HTTP server machine in response to a request by a client, such as a Web browser. Generally, the CGI script is invoked when the user clicks on some element in a Web page, such as a link or an image. Communication between the CGI script and the server is carried out via the CGI specification. CGI scripts can be written in many programming languages, including C, C++, and Visual Basic. However, the most commonly used language for CGI scripts is Perl,

because it is a small but robust language and it is common on UNIX, which is the platform on which the majority of Web sites run. CGI scripts don't necessarily need to be scripts; they can also be batch programs or compiled programs. CGI scripts are used to provide interactivity in a 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 controls, Java applet.

CGM \C'G-M\ *n.* *See* Computer Graphics Metafile.

.ch \dot'C-H\ *n.* On the Internet, the major geographic domain specifying that an address is located in Switzerland.

chad \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 \chā'nēng\ *n.* In computers, the linking of two or more entities so that they are dependent upon one another for operation. In programming, two or more programs are said to be chained if the first program causes the second program to begin executing. In addition, program statements are said to be chained if each statement, except for the first, relies on the previous statement for input. With batch files, two or more batch files are said to be chained if the completion of the first batch file causes the second batch file to begin executing. With data storage, the term *chained* applies to two or more individual units of storage that are linked together. 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.

chain printer \chān' prin'tər\ *n.* *See* line printer.

chalkware \chāk'wār, chōk'wār\ *n.* *See* vaporware.

Challenge Handshake Authentication Protocol \chal'ənj hand'shāk ə-then'-tə-kā'shən prō'tə-kol\ *n.* An authentication scheme used by



Numeric keypad.

the numeric keypad keys are used for cursor movement and on-screen scrolling. *See also* numeric keypad.

nybble \nib'l n. *See* nibble.

.nyc.ny.us \dot-N-Y-C' dot-N-Y' dot-U-S' n. On the Internet, the major geographic domain specifying that an address is located in New York City, New York, United States.

.ny.us \dot-N-Y' dot-U-S' n. On the Internet, the major geographic domain specifying that an address is located in New York, United States.

.nz \dot-N-Z' n. On the Internet, the major geographic domain specifying that an address is located in New Zealand.

object \ob'jekt\ n. **1.** Short for object code (machine-readable code). **2.** In object-oriented programming, a variable comprising both routines and data that is treated as a discrete entity. *See also* abstract data type, module (definition 1), object-oriented programming. **3.** In graphics, a distinct entity. For example, a bouncing ball might be an object in a graphics program.

object code \ob'jekt kōd'\ n. The code, generated by a compiler or an assembler, that was translated from the source code of a program. The term most commonly refers to machine code that can be directly executed by the system's central processing unit (CPU), but it can also be assembly language source code or a variation of machine code. *See also* central processing unit.

object computer \ob'jekt kəm-pyōō'tər\ n. The computer that is the target of a specific communications attempt.

object database \ob'jekt dā'tā-bās\ n. *See* object-oriented database.

Object Database Management Group \ob'jekt dā'tā-bās man'əj-mənt grōōp'\ n. An organization that promotes standards for object databases and defines interfaces to object databases. *Acronym:* ODMG (O'D-M-G'). *See also* Object Management Group.

object file \ob'jekt fil\ n. A file containing object code, usually the output of a compiler or an assembler and the input for a linker. *See also* assembler, compiler (definition 2), linker, object code.

Objective-C \əb-jek'tiv-C'\ n. An object-oriented version of the C language developed in 1984 by Brad Cox. It is most widely known for being the standard development language for the NeXT operating system. *See also* object-oriented programming.

object linking and embedding \ob'jekt lēnk'ēng and em-bed'ēng\ n. *See* OLE.

Object Management Architecture \ob'jekt man'əj-mənt ār'kə-tek-chur\ n. *See* OMA.

Object Management Group \ob'jekt man'əj-mənt grōōp'\ n. An international organization that endorses open standards for object-oriented applications. It also defines the Object Management Architecture (OMA), a standard object model for distributed environments. The Object Management Group was founded in 1989. *Acronym:* OMG (O'M-G'). *See also* object model (definition 3), OMA, open standard.

object model \ob'jekt mod'əl\ n. **1.** The structural foundation for an object-oriented language, such as C++. This foundation includes such principles as abstraction, concurrency, encapsulation, hierarchy, persistence, polymorphism, and typing. *See also* abstract data type, object (definition 2), object-oriented programming, polymorphism. **2.** The structural foundation for an object-oriented design. *See also* object-oriented design. **3.** The structural foundation for an object-oriented application.

object module \ob'jekt moj'ōl, mod'yōl\ n. In programming, the object-code (compiled) version of a source-code file that is usually a collection of routines and is ready to be linked with other object modules. *See also* linker, module (definition 1), object code.

object-oriented \ob'jekt-ōr'ē-en-təd\ *adj.* Of, pertaining to, or being a system or language that supports the use of objects. *See also* object (definition 2).

object-oriented analysis \ob'jekt-ōr'ē-ent-əd ə-nal'ə-sis\ n. A procedure that identifies the component objects and system requirements of a system or process that involves computers and describes how they interact to perform specific tasks. The reuse of existing solutions is an objective of this sort of analysis. Object-oriented analysis generally precedes object-oriented design or object-oriented programming when a new object-oriented computer

modem-to-modem communications over telephone lines, rather than signals transmitted over special wires. *See also* handshake.

software house \soft'wâr hous'\ *n.* An organization that develops and supports software for its customers.

software IC \soft'wâr I-C'\ *n.* *See* software integrated circuit.

software integrated circuit \soft'wâr in'tə-grā-təd sər'kət\ *n.* Abbreviated software IC. An existing software module that can be designed into a program, much as an integrated circuit can be designed into a logic board. *See also* abstract data type, module (definition 1), object-oriented programming.

software interrupt \soft'wâr in'tər-upt\ *n.* A program-generated interrupt that stops current processing in order to request a service provided by an interrupt handler (a separate set of instructions designed to perform the task required). *Also called* trap.

software package \soft'wâr pak'əj\ *n.* A program sold to the public, ready to run and containing all necessary components and documentation.

software piracy \soft'wâr pī'rə-sē\ *n.* *See* piracy.

software portability \soft'wâr pōr-tə-bil'ə-tē\ *n.* *See* portable (definition 1).

software program \soft'wâr prō'gram\ *n.* *See* application.

software protection \soft'wâr prə-tek'shən\ *n.* *See* copy protection.

software publisher \soft'wâr pu'bli-shər\ *n.* A business engaged in the development and distribution of computer software.

software publishing \soft'wâr pub'li-shēng\ *n.* The design, development, and distribution of non-custom software packages.

software stack \soft'wâr stak'\ *n.* *See* stack.

software suite \soft'wâr swēt'\ *n.* *See* suite (definition 1).

software tools \soft'wâr tōlz'\ *n.* Programs, utilities, libraries, and other aids, such as editors, compilers, and debuggers, that can be used to develop programs.

solar cell \sō'lər sel'\ *n.* A photoelectric device that produces electrical power when exposed to light. *Also called* photovoltaic cell.

Solaris \sō'lār'əs\ *n.* A distributed UNIX-based computing environment created by Sun Microsystems, Inc., widely used as a server operating system. Versions of Solaris exist for SPARC computers, 386 and higher Intel platforms, and the PowerPC.

solenoid \sō'lə-noid'\ *n.* An electromagnetic device that converts electrical energy to mechanical movement, typically consisting of an electromagnet with a movable rod through the center. *See* the illustration.



Solenoid.

solid ink \sol'id ēnk'\ *n.* Ink manufactured in the form of solid sticks resembling crayons, for use in solid-ink printers. *See also* solid-ink printer.

solid-ink printer \sol'id-ēnk prin'tər\ *n.* A computer printer using solid ink sticks. The ink sticks are heated until they melt, and the molten ink is sprayed onto the page, where it cools and solidifies. *See also* solid ink.

solid model \sol'id mod'əl\ *n.* A geometric shape or construction that has continuity in length, width, and depth and is treated by a program as if it had both surface and internal substance. *Compare* surface modeling, wire-frame model.

solid-state device \sol'id-stāt də-vīs'\ *n.* A circuit component whose properties depend on the electrical or magnetic characteristics of a solid substance (as opposed to a gas or vacuum). Transistors, diodes, and integrated circuits are solid-state devices.

solid-state disk drive \sol'id-stāt disk' drīv\ *n.* A mass storage device that holds data in RAM rather than in magnetic storage. *See also* magnetic storage, RAM.

solid-state memory \sol'id-stāt mem'ər-ē\ *n.* Computer memory that stores information in solid-state devices.

solid-state relay \sol'id-stāt rē'lā\ *n.* A relay that depends on solid-state components, rather than mechanical components, to open and close a circuit.

SOM \S'O-M'\ *n.* **1.** Acronym for System Object Model. A language-independent architecture from IBM that implements the CORBA standard. *See*

also CORBA, OMA. **2.** Acronym for self-organizing map. A form of neural network in which neurons and their connections are added automatically as needed to develop the desired mapping from input to output.

SONET \son'ət, S'O-N-E-T'\ *n.* Acronym for Synchronous Optical Network. A category of fiber-optic communication standards that permits extremely high-speed transmission (51.84 Mbps to 2.48 Gbps).

sort \sōrt\ *vb.* To organize data, typically a set of records, in a particular order. Programs and programming algorithms for sorting vary in performance and application. *See also* bubble sort, distributive sort, insertion sort, merge sort, quicksort.

sort algorithm \sōrt' al'gər-idh-əm\ *n.* An algorithm that puts a collection of data elements into some sequenced order, sometimes based on one or more key values in each element. *See also* algorithm, bubble sort, distributive sort, insertion sort, merge sort, quicksort.

sorter \sōr'tər\ *n.* A program or routine that sorts data. *See also* sort.

sort field \sōrt' fēld\ *n.* *See* sort key.

sort key \sōrt' kē\ *n.* A field (commonly called a key) whose entries are sorted to produce a desired arrangement of the records containing the field. *See also* field (definition 1), primary key, secondary key.

SOS \S'O-S'\ *n.* *See* silicon-on-sapphire.

sound board \saund' bōrd\ *n.* *See* sound card.

sound buffer \saund' buf'ər\ *n.* A region of memory used to store the bit image of a sequence of sounds to be sent to a computer's speaker(s).

sound card \saund' kărd\ *n.* A type of expansion board on PC-compatible computers that allows the playback and recording of sound, such as from a WAV or MIDI file or a music CD-ROM. Most PCs sold at retail include a sound card. *Also called* sound board. *See also* expansion board, MIDI, WAV.

sound clip \saund' klip\ *n.* A file that contains a short audio item, usually an excerpt from a longer recording.

sound editor \saund' ed'i-tər\ *n.* A program that allows the user to create and manipulate sound files.

sound generator \saund' jen'ər-ā-tər\ *n.* A chip or chip-level circuit that can produce electronic signals that can drive a speaker and synthesize sound.

sound hood \saund'hōd\ *n.* A five-sided box, lined with soundproofing material, that is placed over a loud printer to muffle its noise.

SoundSentry \saund'sen'trē\ *n.* An optional Windows 95 feature for users with hearing impairments or users who operate a computer in a noisy environment that instructs Windows to produce a visual cue such as a screen flash or a blinking title bar whenever a system beep occurs.

source \sōrs\ *n.* **1.** In information processing, a disk, file, document, or other collection of information from which data is taken or moved. *Compare* destination. **2.** In a FET, the electrode toward which charge carriers (electrons or holes) move from the source under control of the gate. *See also* CMOS (definition 1), drain (definition 1), FET, gate (definition 2), MOSFET, NMOS, PMOS.

source code \sōrs' kōd\ *n.* Human-readable program statements written in a high-level or assembly language that are not directly readable by a computer. *Compare* object code.

source computer \sōrs' kəm-pyōtər\ *n.* **1.** A computer on which a program is compiled. *Compare* object computer. **2.** A computer from which data is transferred to another computer.

source data \sōrs' dā'tə, dat'ə\ *n.* The original data on which a computer application is based.

source data acquisition \sōrs' dā-tə a-kwə-zish'ən, dat'ə\ *n.* The process of sensing, as with a bar code reader or other scanning device, or receiving source data. *See also* source data.

source data capture \sōrs' dā-tə kap'chur, dat'ə\ *n.* *See* source data acquisition.

source directory \sōrs' də-rek'tə-rē\ *n.* During a file copy operation, the directory in which the original versions of the files are located.

source disk \sōrs' disk\ *n.* Any disk from which data will be read, as during a copy operation or when an application is loaded from a disk into memory. *Compare* target disk.

source document \sōrs' do'kyə-mənt\ *n.* The original document from which data is taken.

source drive \sōrs' drīv\ *n.* The disk drive from which files are being copied during a copy operation.