

WEBSTER'S NEW WORLD™

COMPUTER DICTIONARY

10TH EDITION

By Bryan Pfaffenberger, Ph.D.

Houghton Mifflin Harcourt

Boston New York

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standards bodies, the JPEG graphic format employs lossy compression. Exploiting a known property of human vision—namely that small color changes are less noticeable than changes in brightness—JPEG compression is not noticeable unless very high compression ratios are chosen. Typically, JPEG can achieve compression ratios of 10:1 or 20:1 without noticeable degradation in picture quality, a much better compression ratio than that of the Graphics Interchange Format (GIF).

JScript Originally, Microsoft's clone of JavaScript, JScript is now an implementation of the ECMAScript standard, but because it is not completely compatible with JavaScript, JScript is not widely used. See *JavaScript*.

JSS See *JavaScript Style Sheet*.

jukebox A peripheral that allows access to a group of disks. See *CD-ROM changer*.

Julian date As used in computer programming, the number of days that have elapsed since the beginning of the year.

jumper An electrical connector that enables the user to select a particular configuration on a circuit board. The jumper is

a small rectangle of plastic with two or three receptacles. One installs a jumper by pushing it down on two or more pins from a selection of many that are sticking up from the circuit board's surface. The placement of the jumper completes the circuit for the desired configuration. See *DIP switch*.

jumper settings The configuration of movable conductors on an adapter. Jumper settings dictate how an adapter interacts with the rest of a system by determining its interrupt request (IRQ) channel, for example. See *jumper*.

jump line A message at the end of part of an article in a newsletter, magazine, or newspaper indicating the page on which the article is continued. Desktop publishing programs include features that make using jump lines for newsletters easier.

justification The alignment of multiple lines of text along the left margin, the right margin, or both margins. The term justification often is used to refer to full justification, or the alignment of text along both margins.

Just in Time compiler See *JIT compiler*.

package (Kivio). KDE faces competition from a competing project called GNOME; the two projects are working toward interoperability, but progress is slow. See *GNOME*, *graphical user interface (GUI)*, *Linux*, *X Window System*.

Kerberos An authentication system for computer networks developed at the Massachusetts Institute of Technology (MIT). Unlike server-based authentication systems, which provide only a single point of authenticated entry to the network, Kerberos enables administration and management of authentication at the network level. Passwords are encrypted to prevent interception en route. Kerberos is widely implemented in Unix-based networks and is the default authentication service for Microsoft's server operating systems. See *authentication*.

Kermit An asynchronous communications protocol that makes the error-free transmission of program files via the telephone system easier. Developed by the Columbia University and placed in the public domain, Kermit is used by academic institutions because, unlike XMODEM, Kermit can be implemented on mainframe systems that transmit 7 bits per byte. See *communications protocol*.

kernel In an operating system, the core portions of the program that reside in memory and perform the most essential operating system tasks, such as handling disk input and output operations and managing the internal memory. See *Linux*, *Unix*.

keying In desktop publishing, the adjustment of space between certain pairs of characters so that the characters print in an aesthetically pleasing manner.

Kerr effect The tendency of polarized light to shift its orientation slightly when reflected from a magnetized surface. Magneto-optical discs rely on the Kerr effect to read and write data.



K Abbreviation for kilobyte (1,024 bytes). See *byte*.

K8 A 64-bit microprocessor developed by Advanced Micro Devices (AMD) to compete with Intel's line of 64-bit microprocessors, initiated by the Itanium. Unlike the Itanium, the K8 is designed to be downwardly compatible with IA-32 (32-bit Windows code) without resorting to the inefficiencies of emulation. See *Athlon*, *Duron*, *IA-64*, *Itanium*, *IA-32*.

Katmai New Instructions (KNI) A set of microprocessor instructions that implement 3-D graphics capabilities. See *streaming SIMD extensions (SSE)*.

Kb Abbreviation for kilobit (1,024 bits). See *bit*.

KB Alternative abbreviation for kilobyte (1,024 bytes). See *byte*.

Kbps Abbreviation for kilobit per second. See *bits per second (bps)*.

KDE Acronym for the K Desktop Environment. A desktop environment for Linux and other Unix-like operating systems created by a group of largely European volunteers. Designed to remedy the shortcomings of the X Window System, KDE brings a well-designed graphical user interface (GUI) to Unix-like systems, which have not been noted for ease of use. KDE combines the best concepts of the Microsoft Windows and Mac OS interfaces and is designed to transform Linux into a serious contender for desktop applications. Hundreds of KDE-compatible applications are available, including the KDE Office suite, which includes a word processing program (KWord), a spreadsheet (KSpread), a PowerPoint-like presentation graphics program (KPresenter), a vector-graphics-based illustration program (Karbon 14), an image-editing program (Krita), and a flowcharting application similar to Microsoft's Visio



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key **1.** In cryptography, a complex cipher (such as a mathematical formula) that is paired with an encryption algorithm to encipher the message so that it is unreadable by anyone except the intended recipient (who has the appropriate key to decrypt the message). In symmetric key cryptography, the same key is used to decipher the encrypted text, called ciphertext. Public key cryptography uses two keys: a private key and a public key. A user makes the public key known to others, who use it to encrypt messages; these messages can be decrypted only by the intended recipient of a message, who uses the private key to do so. See *cipher*, *ciphertext*, *cryptography*, *encryption*, *encryption algorithm*, *public key cryptography*. **2.** In databases, a unique value that is used to identify a data record. Synonymous with primary key. **3.** A button on a computer keyboard.

key assignments The functions given to specific keys by a computer program. Most of the keys on a personal computer keyboard are fully programmable, meaning that a programmer can use them in different ways. The best programs, however, stick to industry standards when assigning keys to program functions that duplicate functions found in other programs, such as copying and pasting text.

keyboard The most frequently used input device. The keyboard provides a set of alphabetic, numeric, punctuation, symbol, and control keys. When a character key is pressed, a coded input signal is sent to the computer, which echoes the signal by displaying a character onscreen. The 104-key keyboard is standard for PCs, and the 108-key Apple Pro keyboard is standard for the Macintosh. See *104-key keyboard*, *Apple Pro keyboard*, *autorepeat key*, *keyboard layout*, *toggle key*.

keyboard buffer See *keystroke buffer*.

keyboard layout The arrangement of keys on the computer's keyboard. The standard computer keyboard uses the QWERTY layout that typewriters have used for a century. Because the keyboard's

output is fully programmable, other layouts (such as the Dvorak keyboard layout, which is claimed to enable faster typing) are possible. Keyboards can also be designed to suit the needs of users who work in languages other than English. See *Dvorak keyboard*.

key escrow A scheme strongly promoted by U.S. government security agencies that would enable investigators to obtain valid court authorization to obtain the stored decryption key for scrambled messages sent or received by a person who is under investigation. For this scheme to work, an independent agency would have to be established to store every computer user's decryption key so that agents can obtain the key when a judge authorizes them to do so. Critics charge that such an agency would be under strong pressure from government investigators to release keys without a properly executed warrant, and warn that the key escrow agency could become the target of criminals who hope to obtain keys enabling them to intercept financial transactions. See *Clipper Chip*, *encryption*, *key recovery*.

key exchange In symmetric key encryption, the confidential exchange of keys via a network connection. To ensure that the key exchange is not monitored by intruders, a secure communication channel is first established by means of public key cryptography. However, public key cryptography is seldom used for the entire confidential session because it is significantly less efficient than symmetric encryption algorithms. See *encryption*, *encryption algorithm*, *key*, *public key cryptography*, *symmetric key encryption algorithm*.

key frame interpolation Also called keyframing or tweening. In three-dimensional graphics adapters, a combination of hardware and software support that enables an object to appear to move smoothly from one frame (the starting point) to another (the ending point); in fact, only the starting and ending frames are provided. The key frame interpolation technology automatically generates the