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Computer Dictionary

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- *Easy to read, expertly illustrated*
- *Definitive coverage of hardware, software, the Internet, and more!*



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application processor *n.* A processor dedicated to a single application.

application program *n.* *See* application.

application program interface. *n.* *See* application programming interface.

application programming Interface *n.* A set of routines used by an application program to direct the performance of procedures by the computer's operating system.

Acronym: API. *Also called:* application program interface.

application server *n.* **1.** A server program on a computer in a distributed network that handles the business logic between users and backend business applications or databases. Application servers also can provide transaction management, failover, and load balancing. An application server is often viewed as part of a three-tier application consisting of a front-end GUI server such as an HTTP server (first tier), an application server (middle tier), and a backend database and transaction server (third tier). *Also called:* appserver. *Compare* HTTP server (definition 1). **2.** Any machine on which an application-server program is running. *Also called:* appserver.

application service provider *n.* A third-party company or organization that hosts applications or services for individuals or business customers. The customer connects to a data center maintained by the application service provider (ASP) through Internet or private lines to access applications that would otherwise need to be housed on the customer's local servers or individual PCs. This arrangement allows the customer to free up disk space that would otherwise be taken by applications, as well as to access the most recent software updates. ASPs deliver solutions ranging from high-end applications to services for small and medium-sized businesses. *Acronym:* ASP.

application shortcut key *n.* A key or combination of keys that when pressed will quickly perform an action within an application that would normally require several user actions, such as menu selections. *Also called:* keyboard shortcut.

application software *n.* *See* application.

application-specific integrated circuit *n.* *See* gate array.

application suite *n.* *See* suite (definition 1).

appserver *n.* *See* application server.

Aqua *n.* The graphical user interface (GUI) of Macintosh OS X. Aqua was designed to maintain familiarity and a comfort level for users of the earlier Macintosh system while allowing access to newer Macintosh OS X capabilities. The Aqua GUI features updated versions of Macintosh staples such as the Finder alongside new features like the Dock, a new type of organizational tool. *See also* Dock, Macintosh OS X.

arbitration *n.* A set of rules for resolving competing demands for a machine resource by multiple users or processes. *See also* contention.

.arc *n.* The file extension that identifies compressed archive files encoded using the Advanced RISC Computing Specification (ARC) format. *See also* compressed file.

arcade game *n.* **1.** A coin-operated computer game for one or more players that features high-quality screen graphics, sound, and rapid action. **2.** Any computer game designed to mimic the style of a coin-operated arcade game, such as games marketed for the home computer. *See also* computer game.

Archie *n.* An Internet utility for finding files in public archives obtainable by anonymous FTP. The master Archie server at McGill University in Montreal downloads FTP indexes from participating FTP servers, merges them into a master list, and sends updated copies of the master list to other Archie servers each day. Archie is a shortened form of *archive*. *See also* anonymous FTP, FTP¹ (definition 1). *Compare* Jughead, Veronica.

Archie client *n.* *See* Archie.

Archie server *n.* On the Internet, a server that contains Archie indexes to the names and addresses of files in public FTP archives. *See also* Archie, FTP¹ (definition 1), server (definition 2).

architecture *n.* **1.** The physical construction or design of a computer system and its components. *See also* cache, CISC, closed architecture, network architecture, open architecture, pipelining, RISC. **2.** The data-handling capacity of a microprocessor. **3.** The design of application software incorporating protocols and the means for expansion and interfacing with other programs.

archive¹ *n.* **1.** A tape or disk containing files copied from another storage device and used as backup storage. **2.** A compressed file. **3.** A file directory on the Internet that is

game tree *n.* A tree structure representing contingencies in a game and used by game developers for design purposes. Each node in a game tree represents a possible position (for example, the configuration of pieces on a chessboard) in the game, and each branching represents a possible move. *See also* computer game.

gamut *n.* The complete range of colors a display or printer is capable of producing. If a color falls outside the gamut of a device, it cannot be accurately displayed or printed from that device.

gamut alarm *n.* A feature in graphics programs that alerts the user if a chosen color will fall outside the currently selected gamut. *See also* gamut.

Gantt chart *n.* A bar chart that shows individual parts of a project as bars against a horizontal time scale. Gantt charts are used as a project-planning tool for developing schedules. Most project-planning software can produce Gantt charts.

gap *n.* *See* inter-record gap.

garbage *n.* 1. Incorrect or corrupted data. 2. Gibberish displayed on screen, either due to faulty hardware or software or because a program is unable to display a file's content. For example, an executable file is not meant to be displayed by a text editor and so is indecipherable on screen.

garbage collection *n.* A process for automatic recovery of heap memory. Blocks of memory that had been allocated but are no longer in use are freed, and blocks of memory still in use may be moved to consolidate the free memory into larger blocks. Some programming languages require the programmer to handle garbage collection. Others, such as Java, perform this task for the programmer. *See also* heap (definition 1).

garbage in, garbage out *n.* A computing axiom meaning that if the data put into a process is incorrect, the data output by the process will also be incorrect. *Acronym:* GIGO.

gas-discharge display *n.* A type of flat-panel display, used on some portable computers, containing neon between a horizontal and a vertical set of electrodes. When one electrode in each set is charged, the neon glows (as in a neon lamp) where the two electrodes intersect, representing a pixel. *Also called:* gas-plasma display. *See also* flat-panel display, pixel.

gas-plasma display *n.* *See* gas-discharge display.

gate *n.* 1. An electronic switch that is the elementary component of a digital circuit. It produces an electrical output signal that represents a binary 1 or 0 and is related to the states of one or more input signals by an operation of Boolean logic, such as AND, OR, or NOT. *Also called:* logic gate. *See also* gate array. 2. The input terminal of a field-effect transistor (FET). *Also called:* gate electrode. *See also* drain (definition 1), FET, MOSFET, source (definition 2). 3. A data structure used by 80386 and higher microprocessors to control access to privileged functions, to change data segments, or to switch tasks.

gate array *n.* A special type of chip that starts out as a nonspecific collection of logic gates. Late in the manufacturing process, a layer is added to connect the gates for a specific function. By changing the pattern of connections, the manufacturer can make the chip suitable for many needs. This process is very popular because it saves both design and manufacturing time. The drawback is that much of the chip goes unused. *Also called:* application-specific integrated circuit, logic array.

gated *adj.* 1. Transmitted through a gate to a subsequent electronic logic element. 2. Transmitted through a gateway to a subsequent network or service. For example, a mailing list on BITNET may be gated to a newsgroup on the Internet.

gate electrode *n.* *See* gate (definition 2).

gateway *n.* A device that connects networks using different communications protocols so that information can be passed from one to the other. A gateway both transfers information and converts it to a form compatible with the protocols used by the receiving network. *Compare* bridge.

gateway page *n.* *See* doorway page.

gating circuit *n.* An electronic switch whose output is either on or off, depending on the state of two or more inputs. For example, a gating circuit may be used to pass or not pass an input signal, depending on the states of one or more control signals. A gating circuit can be constructed from one or more logic gates. *See also* gate (definition 1).

gated *vb.* To have been the victim of a hijackware program that seized control of an Internet shopping or surfing experience and caused the victim's browser to display ads and Web sites chosen by the program. Users may be

MFC *n.* See Microsoft Foundation Classes.

MFLOPS *n.* Acronym for million floating-point operations per second. A measure of computing speed. *Also called:* megaflops.

MFM encoding *n.* See modified frequency modulation encoding.

MFP *n.* See multifunction peripheral.

MFS *n.* See Macintosh File System.

mget *n.* Short for multiple **get**. A command in most FTP clients with which a user can request the transfer of several files at once. *See also* FTP¹ (definition 1).

MHTML *n.* Acronym for Multipurpose Internet Mail Extension Hypertext Markup Language, or MIME HTML. A standard method for sending an HTML document encapsulated with inline graphics, applets, linked documents, and other items referred to in the HTML document. *See also* HTML, MIME.

MHz *n.* See megahertz.

MI *n.* See multiple inheritance.

MIB *n.* See Management Information Base.

mickey *n.* A unit of measure for mouse movement. One mickey is typically equal to 1/200th of an inch.

MICR *n.* See magnetic-ink character recognition.

micro- *prefix* **1.** In nonexact measurements, small or compact, as in *microprocessor* or *microcomputer*. **2.** Metric prefix meaning 10⁻⁶ (one millionth).

microbrowser *n.* An application for mobile phones that allows users to access the Internet to send and receive e-mail and browse the Web. Microbrowsers don't have the full functionality of a Web browser on a PC. For instance, microbrowsers are capable of loading only stripped-down text versions of Web pages. Most microbrowser products are built to utilize the Wireless Application Protocol (WAP) standard. *See also* Wireless Application Protocol.

microcapsule *n.* In an electronic paper display, millions of tiny beads filled with dark dye and light pigment that, in response to an electrical charge, change color to create images and text. *See also* electronic paper.

Micro Channel Architecture *n.* The design of the bus in IBM PS/2 computers (except Models 25 and 30). The Micro Channel is electrically and physically incompatible with the IBM PC/AT bus. Unlike the PC/AT bus, the Micro Channel functions as either a 16-bit or a 32-bit bus.

The Micro Channel also can be driven independently by multiple bus master processors.

microchip *n.* See integrated circuit.

microcircuit *n.* A miniaturized electronic circuit etched on a semiconductor chip. A microcircuit is made up of interconnected transistors, resistors, and other components. However, it is fabricated as a unit, rather than as a set of vacuum tubes, discrete transistors, or other elements that have to be wired together. *See also* integrated circuit.

microcode *n.* Very low-level code that defines how a processor operates. Microcode is even lower in level than machine code; it specifies what the processor does when it executes a machine-code instruction. *See also* machine code, microprogramming.

microcomputer *n.* A computer built around a single-chip microprocessor. Less powerful than minicomputers and mainframes, microcomputers have nevertheless evolved into very powerful machines capable of complex tasks. Technology has progressed so quickly that state-of-the-art microcomputers—essentially, in today's terms, a desktop PC—are as powerful as mainframe computers of only a few years ago, at a fraction of the cost. *See also* computer.

microcontent *n.* Short pieces of text on a Web page that help provide an overview of the page's contents. Microcontent introduces, summarizes, or enhances the macrocontent of a Web page, and includes headings, page titles, ALT text, links, and subheads. *Compare* macrocontent.

microcontroller *n.* A special-purpose, single-chip computer designed and built to handle a particular, narrowly defined task. In addition to the central processing unit (CPU), a microcontroller usually contains its own memory, input/output channels (ports), and timers. When part of a larger piece of equipment, such as a car or a home appliance, a microcontroller is an embedded system. *See also* embedded system.

microdisplay *n.* A tiny monitor screen that provides a full-size view when magnified. Microdisplays work by magnifying a screen as small as one-tenth of an inch to fill the user's field of vision. Microdisplays may be used with computers, DVD players, or handheld devices, in headsets and viewfinders, or anywhere a full-size monitor is impractical or undesirable.

Microdrive *n.* A 1-inch disk drive, introduced in 1998 by IBM. The Microdrive is designed for use in handheld

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computers and special-purpose devices such as digital cameras and cellular telephones.

micro-electromechanical systems *n.* See MEMS.

microelectronics *n.* The technology of constructing electronic circuits and devices in very small packages. The most significant advance in microelectronics technology has been the integrated circuit. Circuits that 40 years ago required a roomful of power-hungry vacuum tubes can now be fabricated on a silicon chip smaller than a postage stamp and require only a few milliwatts of power. *See also* integrated circuit.

microfiche *n.* A small sheet of film, about 4 by 6 inches, used for recording photographically reduced images, such as document pages, in rows and columns forming a grid pattern. The resulting images are too small to read with the naked eye, and a microfiche reader is required to view the documents. *Compare* microfilm.

microfilm *n.* A thin strip of film stored on a roll and used to record sequential data images. As with microfiche, a special device magnifies the images so that they can be read. *See also* CIM (definition 2), COM (definition 4). *Compare* microfiche.

microfloppy disk *n.* A 3.5-inch floppy disk of the type used with the Macintosh and with IBM and compatible microcomputers. A microfloppy disk is a round piece of polyester film coated with ferric oxide and encased in a rigid plastic shell equipped with a sliding metal cover. On the Macintosh, a single-sided microfloppy disk can hold 400 kilobytes (KB); a double-sided (standard) disk can hold 800 KB; and a double-sided high-density disk can hold 1.44 megabytes (MB). On IBM and compatible machines, a microfloppy can hold either 720 KB or 1.44 MB of information. *See also* floppy disk.

microfluidics *n.* Technology for control and manipulation of fluids on a microscopic scale using microscopic pumps and valves placed on a chip. Microfluidics devices have implications for a number of medical, pharmaceutical, genomics, and other biotechnology applications.

microform *n.* The medium, such as microfilm or microfiche, on which a photographically reduced image, called a *microimage*, is stored. A microimage usually represents text, such as archived documents. *See also* microfiche, microfilm, micrographics.

micrographics *n.* The techniques and methods for recording data on microfilm. *See also* microform.

microimage *n.* A photographically reduced image, usually stored on microfilm or microfiche, that is too small to be read without magnification. *See also* microform, micrographics.

microinstruction *n.* An instruction that is part of the microcode. *See also* microcode.

microjustification *n.* *See* microspace justification.

microkernel *n.* 1. In programming, the strictly hardware-dependent part of an operating system that is intended to be portable from one type of computer to another. The microkernel provides a hardware-independent interface to the rest of the operating system, so only the microkernel needs to be rewritten to port the operating system to a different platform. *See also* kernel, operating system. 2. A kernel that has been designed with only the basic features and typically in a modular fashion.

micrologic *n.* A set of instructions, stored in binary form, or a set of electronic logic circuits that defines and governs the operation within a microprocessor.

microminiature *n.* An extremely small circuit or other electronic component, especially one that is a refinement of an already miniaturized element.

microphone *n.* 1. A device that converts sound waves into analog electrical signals. Additional hardware can convert the microphone's output into digital data that a computer can process; for example, to record multimedia documents or analyze the sound signal. 2. A communications program that runs on the Macintosh computer.

microphotonics *n.* Technology for directing light on a microscopic scale. Microphotonics employs tiny mirrors or photonic crystals to reflect and transmit specific wavelengths of light, which can carry digital signals. Microphotonics technology has implications for optical networks under development for the telecommunications industry. *See also* MEMS, optical switching.

microprocessor *n.* A central processing unit (CPU) on a single chip. A modern microprocessor can have several million transistors in an integrated-circuit package that can easily fit into the palm of one's hand. Microprocessors are at the heart of all personal computers. When memory and power are added to a microprocessor, all the pieces, excluding peripherals, required for a computer are present.

The most popular lines of microprocessors today are the 680x0 family from Motorola, which powers the Apple Macintosh line, and the 80x86 family from Intel, which is at the core of all IBM PC-compatible computers. *See also* 6502, 65816, 6800, 68000, 68020, 68030, 68040, 80286, 80386DX, 80386SX, 8080, 8086

microprogramming *n.* The writing of microcode for a processor. Some systems, chiefly minicomputers and mainframes, allow modification of microcode for an installed processor. *See also* microcode.

microsecond *n.* One millionth (10^{-6}) of a second.
Abbreviation: μ s.

microsite *n.* 1. A small Web site targeted to a single message or topic and nested within a larger site. Microsites geared to promotional and sales of specific products and services may be integrated into popular Web sites by advertisers. 2. A small Web site with a single focus. *Also called:* minisite.

Microsoft Access *n.* *See* Access.

Microsoft Active Accessibility *n.* *See* Active Accessibility.

Microsoft DOS *n.* *See* MS-DOS.

Microsoft Excel *n.* *See* Excel.

Microsoft Foundation Classes *n.* A C++ class library developed by Microsoft. The Microsoft Foundation Class library, or MFC, provides the framework and classes that make it easier and faster for programmers to build Windows applications. MFC supports ActiveX and is bundled with several C++ compilers, including Microsoft Visual C++, Borland C++, and Symantec C++. *Acronym:* MFC. *See also* ActiveX, C++. *Compare* Application Foundation Classes.

Microsoft FrontPage *n.* A program you can use to create and manage Internet and intranet sites without programming; FrontPage is available as part of one of the Microsoft Office suites or as a stand-alone product.

Microsoft Intermediate language *n.* The CPU-independent instruction set into which .NET Framework programs are compiled. It contains instructions for loading, storing, initializing, and calling methods on objects.

Combined with metadata and the common type system, Microsoft intermediate language allows for true cross-language integration. Prior to execution, MSIL is converted to machine code. It is not interpreted. *Acronym:* MSIL.

Microsoft Internet Explorer *n.* *See* Internet Explorer.

Microsoft Knowledge Base *n.* *See* KB (definition 2).

Microsoft Management Console *n.* *See* MMC.

Microsoft MapPoint *n.* *See* MapPoint.

Microsoft Money *n.* *See* Money.

Microsoft MSN Explorer *n.* *See* MSN Explorer.

Microsoft MSN Messenger Service *n.* *See* .NET Messenger Service.

Microsoft .NET Messenger Service *n.* *See* .NET Messenger Service.

Microsoft Network *n.* *See* MSN.

Microsoft Office *n.* *See* Office.

Microsoft Operations Manager *n.* A server and application management solution developed by Microsoft Corporation to deliver event and performance management for the Windows 2000-based environment and .NET Enterprise Server applications. Operations management features include enterprise event log reports from across the corporate network, proactive monitoring and alert messaging, and reporting and trend analysis for problem tracking. Microsoft Operations Manager provides flexibility through sophisticated management rules, which can be customized to meet the needs of individual businesses. Microsoft Operations Manager support for management technology standards permits easy integration with other enterprise management systems.

Microsoft Outlook *n.* *See* Outlook.

Microsoft PowerPoint *n.* *See* PowerPoint.

Microsoft Project *n.* A software application developed by Microsoft Corporation to simplify the planning and management of projects. Microsoft Project includes features that help you build and manage projects, set schedules and milestones, and communicate and share ideas with team members.

