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Microsoft

Computer Dictionary

Fifth Edition

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- *Easy to read, expertly illustrated*
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PUBLISHED BY

Microsoft Press

A Division of Microsoft Corporation

One Microsoft Way

Redmond, Washington 98052-6399

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Library of Congress Cataloging-in-Publication Data

Microsoft Computer Dictionary.--5th ed.

p. cm.

ISBN 0-7356-1495-4

1. Computers--Dictionaries. 2. Microcomputers--Dictionaries.

AQ76.5. M52267 2002

004'.03--dc21

200219714

Printed and bound in the United States of America.

2 3 4 5 6 7 8 9 QWT 7 6 5 4 3 2

Distributed in Canada by H.B. Fenn and Company Ltd.

A CIP catalogue record for this book is available from the British Library.

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Body Part No. X08-41929

3-D-rendered
sphere



3-D-rendered sphere
with bump mapping



Bump mapping. A 3-D-rendered sphere showing bump mapping.

bundle *vb.* To combine products for sale as a lot. Frequently, operating system software and some widely used applications are bundled with a computer system for sale.

bundled software *n.* 1. Programs sold with a computer as part of a combined hardware/software package. 2. Smaller programs sold with larger programs to increase the latter's functionality or attractiveness.

burn *vb.* 1. To write data electronically into a programmable read-only memory (PROM) chip by using a special programming device known variously as a PROM programmer, PROM blower, or PROM blaster. *Also called:* blast, blow. *See also* PROM. 2. To create read-only memory compact discs (CD-ROMs). 3. To write data electronically on a flash memory chip or a PC Card Type III. Unlike PROM chips or CD-ROM, flash memory media can be burned, or flashed, repeatedly with new information. *Also called:* flash.

burn in *vb.* 1. To keep a new system or device running continuously so that any weak elements or components will fail early and can be found and corrected before the system becomes an integral part of the user's work routine. Such a test is often performed at the factory before a device is shipped. 2. To make a permanent change in the phosphor coating on the inside of a monitor screen by leaving the monitor on and keeping a bright, unchanging image on the screen for extended periods. Such an image will remain visible after the monitor is turned off. Burning in was a danger with older PC monitors; it is no longer a concern with most new PC monitors. *Also called:* ghosting.

burst¹ *n.* Transfer of a block of data all at one time without a break. Certain microprocessors and certain buses have features that support various types of burst transfers. *See also* burst speed (definition 1).

burst² *vb.* To break fanfold continuous-feed paper apart at its perforations, resulting in a stack of separate sheets.

burster *n.* A device used to burst, or break apart at the perforations, fanfold continuous-feed paper.

burst extended-data-out RAM *n.* *See* BEDO DRAM.

burst mode *n.* A method of data transfer in which information is collected and sent as a unit in one high-speed transmission. In burst mode, an input/output device takes control of a multiplexer channel for the time required to send its data. In effect, the multiplexer, which normally merges input from several sources into a single high-speed data stream, becomes a channel dedicated to the needs of one device until the entire transmission has been sent. Burst mode is used both in communications and between devices in a computer system. *See also* burst¹.

burst rate *n.* *See* burst speed (definition 1).

burst speed *n.* 1. The fastest speed at which a device can operate without interruption. For example, various communications devices (as on networks) can send data in bursts, and the speed of such equipment is sometimes measured as the burst speed (the speed of data transfer while the burst is being executed). *Also called:* burst rate. 2. The number of characters per second that a printer can print on one line without a carriage return or linefeed. Burst speed measures the actual speed of printing, without consideration of the time taken to advance paper or to move the print head back to the left margin. Almost always, the speed claimed by the manufacturer is the burst speed. By contrast, *throughput* is the number of characters per second when one or more entire pages of text are being printed and is a more practical measurement of printer speed in real-life situations.

bursty *adj.* Transmitting data in spurts, or bursts, rather than in a continuous stream.

bus *n.* A set of hardware lines (conductors) used for data transfer among the components of a computer system. A bus is essentially a shared highway that connects different parts of the system—including the processor, disk-drive controller, memory, and input/output ports—and enables them to transfer information. The bus consists of specialized groups of lines that carry different types of information. One group of lines carries data; another carries memory addresses (locations) where data items are to be found; yet another carries control signals. Buses are characterized by the number of bits they can transfer at a single

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time, equivalent to the number of wires within the bus. A computer with a 32-bit address bus and a 16-bit data bus, for example, can transfer 16 bits of data at a time from any of 2^{32} memory locations. Most PCs contain one or more expansion slots into which additional boards can be plugged to connect them to the bus.

bus enumerator *n.* A device driver that identifies devices located on a specific bus and assigns a unique identification code to each device. The bus enumerator is responsible for loading information about the devices onto the hardware tree. *See also* bus, device driver, hardware tree.

bus extender *n.* **1.** A device that expands the capacity of a bus. For example, IBM PC/AT computers used a bus extender to add onto the earlier PC bus and allow the use of 16-bit expansion boards in addition to 8-bit boards. *See also* bus. **2.** A special board used by engineers to raise an add-on board above the computer's cabinet, making it easier to work on the circuit board.

business graphics *n.* *See* presentation graphics.

business information system *n.* A combination of computers, printers, communications equipment, and other devices designed to handle data. A completely automated business information system receives, processes, and stores data; transfers information as needed; and produces reports or printouts on demand. *Acronym:* BIS. *See also* management information system.

business logic *n.* A set of rules and calculations built into a business information application. The application uses business logic to sort incoming information and respond accordingly. Business logic functions as a set of guidelines that ensure the application's actions conform to the specific needs of a business.

business software *n.* Any computer application designed primarily for use in business, as opposed to scientific use or entertainment. In addition to the well-known areas of word processing, spreadsheets, databases, and communications, business software for microcomputers also encompasses such applications as accounting, payroll, financial planning, project management, decision and support systems, personnel record maintenance, and office management.

Business Software Alliance *n.* International organization of computer software companies that promotes the interests of the software industry. This alliance focuses on educating the public on the importance of software, advancing free and open world trade, and supporting legislation opposing software piracy and Internet theft. The Business Software Alliance has offices in the United States, Europe, and Asia, with members in more than 60 nations around the world. *Acronym:* BSA.

business-to-business *n.* *See* B2B.

business-to-consumer *n.* *See* B2C.

bus mastering *n.* In modern bus architectures, the ability of a device controller card—a network adapter or a disk controller, for example—to bypass the CPU and work directly with other devices to transfer data into and out of memory. Enabling devices to take temporary control of the system bus for data transfer and bus mastering frees the CPU for other work. This in turn improves performance in tasks, such as video replay and multiple-user queries to large databases, that require simultaneous data access and intensive processing. The technology known as direct memory access (DMA) is a well-known example of bus mastering. *See also* bus, controller, direct memory access. *Compare* PIO.

bus mouse *n.* A mouse that attaches to the computer's bus through a special card or port rather than through a serial port. *See also* mouse. *Compare* serial mouse.

bus network *n.* A topology (configuration) for a LAN (local area network) in which all nodes are connected to a main communications line (bus). On a bus network, each node monitors activity on the line. Messages are detected by all nodes but are accepted only by the node(s) to which they are addressed. A malfunctioning node ceases to communicate but does not disrupt operation (as it might on a ring network, in which messages are passed from one node to the next). To avoid collisions that occur when two or more nodes try to use the line at the same time, bus networks commonly rely on collision detection or token passing to regulate traffic. *See the illustration. Also called:* bus topology, linear bus. *See also* collision detection, contention, CSMA/CD, token bus network, token passing. *Compare* ring network, star network.

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each of which ideally is attached to its own controller. With disk mirroring, any change made to the original disk is simultaneously made to the other disks so that if the original disk becomes damaged or corrupted, the mirror disks will contain a current, undamaged collection of the data from the original disk. *Also called:* disk duplexing. *See also* fault tolerance.

disk operating system *n.* *See* DOS.

disk pack *n.* A collection of disks in a protective container. Used primarily with minicomputers and mainframe computers, a disk pack is a removable medium, generally a stack of 14-inch disks in a plastic housing.

disk partition *n.* A logical compartment on a physical disk drive. A single disk might have two or more logical disk partitions, each of which would be referenced with a different disk drive name. Multiple partitions are divided into a primary (boot) partition and one or more extended partitions.

disk server *n.* A node on a local area network that acts as a remote disk drive shared by network users. Unlike a file server, which performs the more sophisticated tasks of managing network requests for files, a disk server functions as a storage medium on which users can read and write files. A disk server can be divided into sections (volumes), each of which appears to be a separate disk. *Compare* file server.

disk striping *n.* The procedure of combining a set of same-size disk partitions that reside on separate disks (from 2 to 32 disks) into a single volume, forming a virtual stripe across the disks that the operating system recognizes as a single drive. Disk striping enables multiple I/O operations in the same volume to proceed concurrently, thus offering enhanced performance. *See also* disk striping with parity, input/output.

disk striping with parity *n.* The technique of maintaining parity information across a disk stripe so that if one disk partition fails, the data on that disk can be re-created using the information stored across the remaining partitions in the disk stripe. *See also* disk striping, fault tolerance, parity.

disk unit *n.* A disk drive or its housing.

dispatcher *n.* In some multitasking operating systems, the set of routines responsible for allocating CPU (central processing unit) time to various applications.

dispatch table *n.* A table of identifiers and addresses for a certain class of routines such as interrupt handlers (routines carried out in response to certain signals or conditions). *Also called:* interrupt vector table, jump table, vector table. *See also* interrupt handler.

disperse *vb.* To break up and place in more than one location—for example, to disperse results among several sets of data or to disperse items (such as fields in records) so that they appear in more than one place in the output. *Compare* distribute.

dispersion *n.* The degree to which, at any given time, data in a distributed (interconnected) system of computers is stored at different locations or on different devices.

display *n.* The visual output device of a computer, which is commonly a CRT-based video display. With portable and notebook computers, the display is usually an LCD-based or a gas plasma-based flat-panel display. *See also* flat-panel display, liquid crystal display, video adapter, video display.

display adapter *n.* *See* video adapter.

display attribute *n.* A quality assigned to a character or an image displayed on the screen. Display attributes include such features as color, intensity, and blinking. Users of applications can control display attributes when programs allow them to change color and other screen elements.

display background *n.* In computer graphics, the portion of an on-screen image that remains static while other elements change; for example, window borders on a screen, or a palette of shapes or patterns in a drawing program.

display board *n.* *See* video adapter.

display card *n.* *See* video adapter.

display cycle *n.* The complete set of events that must occur in order for a computer image to be displayed on the screen, including both the software creation of an image in a computer's video memory and the hardware operations required for accurate on-screen display. *See also* refresh cycle.

Display Data Channel *n.* *See* DDC.

display device *n.* *See* display.

display element *n.* *See* graphics primitive.

display entity *n.* *See* entity, graphics primitive.

display face *n.* A typeface suitable for headings and titles in documents, distinguished by its ability to stand out from

this context, such a card consists of conventional static RAM chips powered by a small battery and is designed to provide additional RAM to the system. *See also* PC Card. *Compare* flash memory.

PCMCIA device *n.* *See* PC Card.

p-code *n.* *See* pseudocode.

PCS *n.* *See* Personal Communications Services.

PCT *n.* **1.** Acronym for **program comprehension tool**. A software engineering tool that facilitates the process of understanding the structure and/or functionality of computer programs. **2.** Acronym for **Private Communications Technology**, a protocol standard drafted by Microsoft and submitted to the IETF for consideration. PCT, like the Netscape-designed SSL (Secure Sockets Layer), supports authentication and encryption for securing privacy in Internet communications. **3.** Acronym for **Personal Communications Technology**. An enhanced version of Secure Sockets Layer (SSL).

.pcx *n.* The file extension that identifies bitmapped images in the PC Paintbrush file format.

PC/XT *n.* The second-generation of the original IBM Personal Computer. The IBM PC/XT was introduced in 1983 and was the first of the PC computers to support hard disks. *See also* IBM PC.

PC/XT keyboard *n.* The keyboard for the PC/XT. Strong, reliable, and equipped with 83 keys, the PC/XT keyboard offers a typist an audible click. *See also* IBM PC, PC/XT.

PDA *n.* Acronym for **Personal Digital Assistant**. A lightweight palmtop computer designed to provide specific functions like personal organization (calendar, note taking, database, calculator, and so on) as well as communications. More advanced models also offer multimedia features. Many PDA devices rely on a pen or other pointing device for input instead of a keyboard or mouse, although some offer a keyboard too small for touch typing to use in conjunction with a pen or pointing device. For data storage, a PDA relies on flash memory instead of

power-hungry disk drives. *See also* firmware, flash memory, handheld PC, PC Card, pen computer.

PDC *n.* *See* Primary Domain Controller.

PD-CD drive *n.* Short for **phase change rewritable disc—compact disc drive**. A storage device that combines a CD-ROM drive and a phase change rewritable disc (PD) drive, which can store up to 650 megabytes of data on cartridges of rewritable optical discs. *See also* phase-change recording.

PDD *n.* Acronym for **Portable Digital Document**. A graphics file created from a document by QuickDraw GX under Mac OS. PDDs are stored in a form that is independent of printer resolution; they print at the highest resolution available on the printer used; and they can contain the original fonts used in the document. Therefore, a PDD can be printed by a computer other than the one on which it was created.

.pdf *n.* The file extension that identifies documents encoded in the Portable Document Format developed by Adobe Systems. To display or print a .pdf file, the user should obtain the freeware Adobe Acrobat Reader. *See also* Acrobat, Portable Document Format.

PDL *n.* *See* page-description language.

PDM *n.* *See* pulse duration modulation.

PDO *n.* *See* Portable Distributed Objects.

PDS *n.* **1.** Acronym for **Processor Direct Slot**. An expansion slot in Macintosh computers that is connected directly to the CPU signals. There are several kinds of PDS slots with different numbers of pins and different sets of signals, depending on which CPU is used in a particular computer. **2.** Acronym for **Parallel Data Structure**. A hidden file, located in the root directory of a disk that is shared under AppleShare, that contains access privilege information for folders.

Peachy virus *n.* A virus, first detected in 2001, that was the first to attempt to spread itself through PDF files. The Peachy virus takes advantage of an Adobe Acrobat feature that enables users to embed files in PDF documents. The embedded Peachy virus file infects the computer of a user

stream over one transmission medium. *See also* data frame, ring network. *Compare* token ring network.

SlowKeys *n.* An accessibility feature built into Macintosh computers and available for DOS and Windows that allows the user to add a delay to the keyboard so that a key must be held down for a certain amount of time before it is accepted. This feature facilitates the use of the keyboard by individuals with poor motor control who might accidentally bump keys when moving around the keyboard.

SLSI *n.* *See* super-large-scale integration.

Small Business Server *n.* A software application developed by Microsoft Corporation to increase the efficiency of Web-based services for small businesses with 50 or fewer personal computers. Small Business Server provides shared Internet access, features for building Web-based customer management and customer communications tools, and additional features that increase productivity by streamlining employee access to files and applications over the Web.

small caps *n.* A font of capital letters that are smaller than the standard capital letters in that typeface.

Small Computer System Interface *n.* *See* SCSI.

small model *n.* A memory model of the Intel 80x86 processor family that allows only 64 kilobytes (KB) for code and 64 KB for data. *See also* memory model.

Small Office/Home Office *n.* *See* SOHO.

small-scale integration *n.* A concentration of fewer than 10 components on a single chip. *Acronym:* SSI. *See also* integrated circuit.

Smalltalk *n.* An object-oriented language and development system developed at Xerox Palo Alto Research Center (PARC) in 1980. Smalltalk pioneered many language and user interface concepts that are now widely used in other environments, such as the concept of an object that contains data and routines and on-screen icons that the user can choose to make the computer perform certain tasks. *See also* object-oriented programming.

smart *adj.* A synonym for intelligent. *See* intelligence.

smart cable *n.* *See* intelligent cable.

smart card *n.* **1.** In computers and electronics, a circuit board with built-in logic or firmware that gives it some kind of independent decision-making ability. **2.** In banking and finance, a credit card that contains an integrated cir-

cuit that gives it a limited amount of intelligence and memory.

smart card reader *n.* A device that is installed in computers to enable the use of smart cards for enhanced security features. *See also* smart card (definition 2).

smart device *n.* An electronic device capable of being networked and remotely controlled in a smart home. Smart devices can include appliances, lighting, heating and cooling systems, entertainment systems, and security systems. *See also* home automation, home network (definition 1), smart home.

smart home *n.* A home or building wired for networking and home automation. In a smart home, occupants control smart devices programmatically or on command using a home-networking communications protocol. *Also called:* automated home, digital home, e-home, Internet home, networked home, smart house, wired home. *See also* home automation, home network (definition 1).

smart house *n.* *See* smart home.

smart linkage *n.* A feature of programming languages that guarantees that routines will always be called with correct parameter types. *See also* link (definition 1).

smartphone *n.* A hybrid between a wireless telephone and a personal digital assistant (PDA). Smartphones integrate wireless telephones with many of the personal organizational functions of PDAs, such as calendar, calculator, database, e-mail, wireless Web access, note taking, and other programs common to lightweight palm-style computers. Smartphones may rely on a stylus, keypad, or both for data entry or may use voice recognition technology. *See also* cell, palmtop, PDA, pen computer, wireless phone.

smart quotes *n.* In word processors, a function that automatically converts the ditto marks (") produced by most computer keyboards to the inverted commas (" and ") used in typeset text.

SmartSuite *n.* A suite of business application programs sold by Lotus Development. Lotus SmartSuite includes six programs: Lotus 1-2-3 spreadsheet, Lotus WordPro word processor, Lotus Approach database, Lotus Freelance Graphics presentation software, Lotus Organizer time-management software, and Lotus FastSite Internet/intranet publishing tool. SmartSuite Millennium Edition 9.7 supports collaboration, Web publishing, use of Internet/intranet resources, and customizable document and project organizers. SmartSuite competes with Microsoft Office and WordPerfect Office.

usable *adj.* Of, pertaining to, or characteristic of the ease and adaptability with which a product can be applied to the performance of the work for which it is designed. A high degree of usability implies ease of learning, flexibility, freedom from bugs, and good design that does not involve unnecessarily complicated procedures.

usage analysis *n.* Data collected to evaluate how a Web site is being used, such as visitor user names, how often each page was visited, and the types of Web browsers used.

USB *n.* Acronym for **universal serial bus**. A serial bus with a data transfer rate of 12 megabits per second (Mbps) for connecting peripherals to a microcomputer. USB can connect up to 127 peripherals, such as external CD-ROM drives, printers, modems, mice, and keyboards, to the system through a single, general-purpose port. This is accomplished by daisy chaining peripherals together. USB is designed to support the ability to automatically add and configure new devices and the ability to add such devices without having to shut down and restart the system (hot plugging). USB was developed by Intel, Compaq, DEC, IBM, Microsoft, NEC, and Northern Telecom. It competes with DEC's ACCESS.bus for lower-speed applications. *See also* bus, daisy chain, hot plugging, input/output port, peripheral. *Compare* ACCESS.bus.

U.S. Department of Defense *n.* The military branch of the United States government. The Department of Defense developed ARPANET, the origin of today's Internet and MILNET, through its Advanced Research Projects Agency (ARPA). *See also* ARPANET, Internet, MILNET.

Usenet or **UseNet** or **USENET** *n.* A worldwide network of UNIX systems that has a decentralized administration and is used as a bulletin board system by special-interest discussion groups. Usenet, which is considered part of the Internet (although Usenet predates it), is comprised of thousands of newsgroups, each devoted to a particular topic. Users can post messages and read messages from others in these newsgroups in a manner similar to users on dial-in BBSs. Usenet was originally implemented using UUCP (UNIX-to-UNIX Copy) software and telephone connections; that method remains important, although more modern methods, such as NNTP and network connections, are more commonly used. *See also* BBS (definition 1), newsgroup, newsreader, NNTP, UUCP.

Usenet User List *n.* A list maintained by the Massachusetts Institute of Technology that contains the name and e-mail address of everyone who has posted to the Usenet. *See also* Usenet.

user account *n.* On a secure or multiuser computer system, an established means for an individual to gain access to the system and its resources. Usually created by the system's administrator, a user account consists of information about the user, such as password, rights, and permissions. *See also* group¹, login, user profile.

user agent *n.* In the terminology established by the ISO/OSI reference model for LANs (local area networks), a program that helps a client connect with a server. *Acronym:* UA. *See also* agent (definition 3), ISO/OSI reference model, LAN.

user control *n.* In ASP.NET: A server control that is authored declaratively using the same syntax as an ASP.NET page and is saved as a text file with an .aspx extension. User controls allow page functionality to be partitioned and reused. Upon first request, the page framework parses a user control into a class that derives from System.Web.UI.UserControl and compiles that class into an assembly, which it reuses on subsequent requests. User controls are easy to develop due to their page-style authoring and deployment without prior compilation. In Windows Forms: A composite control that provides consistent behavior and user interface within or across applications. The user control can be local to one application or added to a library and compiled into a DLL for use by multiple applications.

User Datagram Protocol *n.* *See* UDP.

user-defined data type *n.* A data type defined in a program. User-defined data types are usually combinations of data types defined by the programming language being used and are often used to create data structures. *See also* data structure, data type.

user-defined function key *n.* *See* keyboard enhancer, programmable function key.

user-friendly *adj.* Easy to learn and easy to use.

user group *n.* A group of people drawn together by interest in the same computer system or software. User groups, some of which are large and influential organizations, provide support for newcomers and a forum where members can exchange ideas and information.

user-initiated update *n.* An operating system update mechanism, provided by the dial-up boot loader, which is designed to be used by remote users and field technicians. The operating system image is downloaded using a modem connection. *See also* automatic update, factory update.