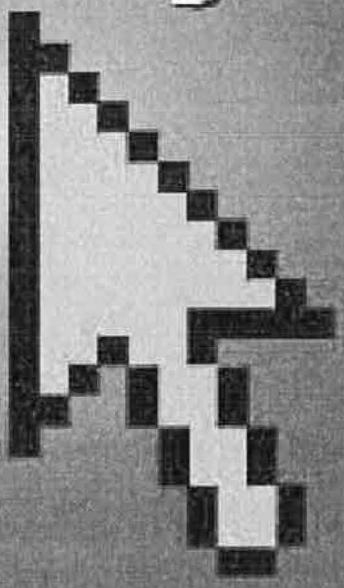
Microsoft

OVER 10,000 ENTRIES

Microsoft Computer Dictionary

Fifth Edition

- *Fully updated with the latest technologies, terms, and acronyms*
- *Easy to read, expertly illustrated*
- *Definitive coverage of hardware, software, the Internet, and more!*



PUBLISHED BY
Microsoft Press
A Division of Microsoft Corporation
One Microsoft Way
Redmond, Washington 98052-6399

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 2002219714

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.

Microsoft Press books are available through booksellers and distributors worldwide. For further information about international editions, contact your local Microsoft Corporation office or contact Microsoft Press International directly at fax (425) 936-7329. Visit our Web site at www.microsoft.com/mspress. Send comments to mspinput@microsoft.com.

Acquisitions Editor: Alex Blanton
Project Editor: Sandra Haynes

Body Part No. X08-41929

source and destination addresses and control and timing information, that is needed for successful transmission.

Packet Internet Groper *n. See* ping[2] (definition 1).

packet sniffer *n.* A hardware and/or software device that examines every packet sent across a network. To work, a packet sniffer must be installed in the same network block as the network it is intended to sniff. Designed as a problem-solving tool to isolate problems degrading network performance, packet sniffers have become security risks on some networks because crackers can use them to capture unencrypted user IDs, passwords, credit card numbers, e-mail addresses, and other confidential information. *See also* cracker, packet. *Compare* monitoring software.

packet switching *n.* A message-delivery technique in which small units of information (packets) are relayed through stations in a computer network along the best route available between the source and the destination. A packet-switching network handles information in small units, breaking long messages into multiple packets before routing. Although each packet may travel along a different path, and the packets composing a message may arrive at different times or out of sequence, the receiving computer reassembles the original message correctly. Packet-switching networks are considered to be fast and efficient. To manage the tasks of routing traffic and assembling/disassembling packets, such a network requires some intelligence from the computers and software that control delivery. The Internet is an example of a packet-switching network. Standards for packet switching on networks are documented in the International Telecommunication Union (ITU) recommendation X.25. *Compare* circuit switching.

Packet Switching Exchange *n.* An intermediary switching station in a packet-switching network.

packet trailer *n.* The portion of a data packet that follows the body (data). The trailer typically contains information related to error checking and correction. *See also* packet.

packing density *n.* The number of storage units per length or area of a storage device. Bits per inch is one measure of packing density.

PackIT *n.* A file format used on the Apple Macintosh to represent collections of Mac files, possibly Huffman compressed. *See also* Huffman coding, Macintosh.

PAD *n. See* packet assembler/disassembler.

pad character *n.* In data input and storage, an extra character inserted as filler to use up surplus space in a predefined block of a specified length, such as a fixed-length field.

padding *n.* In data storage, the addition of one or more bits, usually zeros, to a block of data to fill it, to force the actual data bits into a certain position, or to prevent the data from duplicating a bit pattern that has an established meaning, such as an embedded command.

paddle *n.* An early type of input device often used with computer games especially for side-to-side or up-and-down movements of an on-screen object. A paddle is less sophisticated than a joystick because it permits the user, by turning a dial, to specify movement along only a single axis. The paddle got its name because its most popular use was to control the on-screen paddles in the simple early video games, such as Pong. *See* the illustration.

Paddle.

paddle switch *n.* Any switch that has a wide handle. The large on/off switch on many IBM personal computers is one type of paddle switch.

page *n.* 1. In word processing, the text and display elements to be printed on one side of a sheet of paper, subject to formatting specifications such as depth, margin size, and number of columns. 2. A fixed-size block of memory. When used in the context of a paging memory system, a page is a block of memory whose physical address can be changed via mapping hardware. *See also* EMS, memory management unit, virtual memory. 3. In computer graphics, a portion of display memory that contains one complete full-screen image; the internal representation of a screenful of information. 4. *See* Web page.

page banner *n.* A section of a Web page containing a graphic element and text, such as the page title. Page banners are usually displayed at the top of a Web page. Page banners can also be used to link to other Web sites for advertising purposes. Also called: banner.

page break *n.* The point at which the flow of text in a document moves to the top of a new page. Most word processors automatically place page breaks when the material on the page reaches a specified maximum. By contrast, a "hard" or "manual" page break is a command or a code inserted by the user to force a page break at a specific place in the text. *See also* form feed.

paged address *n.* In the 80386, i486, and Pentium paged memory architecture, an address in memory created by combining the processes of segment translation and page translation. In the paged-memory scheme, which requires that the microprocessor's paging feature be enabled, logical addresses are transformed into physical addresses in two steps: segment translation and page translation. The first step, segment translation, converts a logical to a linear address—an address that refers indirectly to a physical address. After the linear address is obtained, the microprocessor's paging hardware converts the linear address to a physical address by specifying a page table (an array of 32-bit page specifiers), a page (a 4-KB unit of contiguous addresses within physical memory) within that table, and an offset within that page. This information collectively refers to a physical address.

page-description language *n.* A programming language, such as PostScript, that is used to describe output to a printer or a display device, which then uses the instructions from the page-description language to construct text and graphics to create the required page image. Page-description languages are like other computer languages, with logical program flow allowing for sophisticated manipulation of the output. A page-description language, like a blueprint, sets out specifications (as for fonts and type sizes) but leaves the work of drawing characters and graphics to the output device itself. Because this approach delegates the detail work to the device that produces the output, a page-description language is machine-independent. These abilities come at a price, however. Page-description languages require printers with processing power and memory comparable to, and often exceeding, that of personal computers. *Acronym:* PDL. *See also* PostScript.

paged memory management unit *n.* A hardware unit that performs tasks related to accessing and managing memory used by different applications or by virtual-memory operating systems. *Acronym:* PMMU.

Page Down key *n.* A standard key (often labeled "PgDn") on most computer keyboards whose specific meaning is different in different programs. In many cases, it moves the cursor down to the top of the next page or a specific number of lines.

page fault *n.* The interrupt that occurs when software attempts to read from or write to a virtual memory location that is marked "not present." The mapping hardware of a virtual memory system maintains status information about every page in the virtual address space. A page either is mapped onto a physical address or is not present in physical memory. When a read or write to an unmapped virtual address is detected, the memory management hardware generates the page fault interrupt. The operating system must respond to the page fault by swapping in the data for the page and updating the status information in the memory management unit. *See also* page (definition 2), swap (definition 2), virtual memory.

page frame *n.* A physical address to which a page of virtual memory may be mapped. In a system with 4096-byte pages, page frame 0 corresponds to physical addresses 0 through 4095. *See also* paging, virtual memory.

page-image buffer *n.* Memory in a page printer used to hold the bit map (image) of a page as the printer's raster image processor builds the page and as the printer produces the page. *See also* page printer, raster image processor.

page-image file *n.* A file containing the necessary code for a printer or other display device to create the page or screen image. *See also* PostScript.

page-jacking *n.* A deceptive practice that detours Web visitors from legitimate sites generated as search engine results to copycat Web pages, from which they will be redirected to pornographic or other unwanted sites. Page-jacking is accomplished by copying the contents and metatags of a Web page, altering its title and content so that, on search results, it displays before the original, and then submitting the copied page to search engines. When clicking on the link to the copied site, the visitor will instead be redirected to an unwanted and unrelated site. *See also* metatag. *Compare* mousetrapping.

page layout *n.* In desktop publishing, the process of arranging text and graphics on the pages of a document. Page-layout programs excel in text placement and management of special effects applied to text. Although page-layout programs are generally slower than word-processing programs, they can perform such advanced tasks as flowing text into complex multicolumn page designs, printing documents in signatures, managing color separations, and supporting sophisticated kerning and hyphenation.

page makeup *n.* The assembling of graphics and text on a page in preparation for printing.

page mode RAM *n.* A specially designed dynamic RAM that supports access to sequential memory locations with a reduced cycle time. This is especially attractive in video RAM, in which each location is accessed in ascending order to create the screen image. Page mode RAM can also improve the execution speed of code because code tends to execute sequentially through memory. *See also* cycle time, dynamic RAM.

page orientation *n.* *See* landscape mode, portrait mode.

page printer *n.* Any printer, such as a laser printer, that prints an entire page at once. Because page printers must store the entire page in memory before printing, they require relatively large amounts of memory. *Compare* line printer.

pager *n.* Pocket-sized wireless electronic device that uses radio signals to record incoming phone numbers or short text messages. Some pagers allow users to send messages as well. *Also called:* beeper.

page reader *n.* *See* document reader.

page setup *n.* A set of choices that affect how a file is printed on the page. Page setup might reflect the size of paper going into the printer, the page margins, the specific pages in the document to be printed, whether the image is to be reduced or enlarged when printed, and whether another file is to be printed immediately after the first file is printed.

pages per minute *n.* *See* PPM.

Page Up key *n.* A standard key (often labeled "PgUp") on most computer keyboards whose specific meaning is different in different programs. In many cases, it moves the cursor up to the top of the previous page or a specific number of lines.

pagination *n.* 1. The process of dividing a document into pages for printing. 2. The process of adding page numbers, as in a running head.

paging *n.* A technique for implementing virtual memory. The virtual address space is divided into a number of fixed-size blocks called pages, each of which can be mapped onto any of the physical addresses available on the system. Special memory management hardware (MMU or PMMU) performs the address translation from virtual addresses to physical addresses. *See also* memory management unit, paged memory management unit, virtual memory.

paging file *n.* A hidden file on the hard disk that operating systems (such as Windows, Mac OS X, and UNIX) use to hold parts of programs and data files that do not fit in memory. The paging file and physical memory, or RAM, make up virtual memory. Data is moved from the paging file to memory as needed and moved from memory to the paging file to make room for new data in memory. *Also called:* swap file. *See also* virtual memory.

paint[1] *n.* A color and pattern used with graphics programs to fill areas of a drawing, applied with tools such as a paintbrush or a spraycan.

paint[2] *vb.* To fill a portion of a drawing with paint (color or a pattern).

paintbrush *n.* An artist's tool in a paint program or another graphics application for applying a streak of solid color to an image. The user can usually select the width of the streak. *See also* paint program. *Compare* spraycan.

paint program *n.* An application program that creates graphics as bit maps. A paint program, because it treats a drawing as a group of dots, is particularly appropriate for freehand drawing. Such a program commonly provides tools for images requiring lines, curves, and geometric shapes but does not treat any shape as an entity that can be moved or modified as a discrete object without losing its identity. *Compare* drawing program.

palette *n.* 1. In paint programs, a collection of drawing tools, such as patterns, colors, brush shapes, and different line widths, from which the user can choose. 2. A subset of the color look-up table that establishes the colors that can be displayed on the screen at a particular time. The number of colors in a palette is determined by the number of bits used to represent a pixel. *See also* color bits, color look-up table, pixel.