

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!*



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Introduction

The *Microsoft Computer Dictionary, Fifth Edition* is designed to be a comprehensive and authoritative source of definitions for computer-related terms and abbreviations. The dictionary includes terms drawn from a wide variety of topics relevant to computer users, including software, hardware, networking, data storage, graphics, games, information processing, the Internet and the World Wide Web, gaming, history, jargon and slang, organizations, programming, and standards.

Although this book covers nearly every aspect of computing, it does not include entries on most companies or on most makes and models of computers, nor does it contain entries on most application software products. The few exceptions to this rule of thumb are key companies and products that have a historical or universal importance within the computing industry.

This dictionary emphasizes terminology that the average computer user will encounter in documentation, online help, computer manuals, marketing and sales materials, the popular media, and the computer trade press. Because most computer users operate personal computers and desktop systems at home, work, or both, the majority of the entries in this dictionary cover the terminology used in describing and working with these systems. However, some specialized or highly technical language is included that pertains to areas of industry, academia, software and hardware development, and research. These terms have been included because they have a bearing on more common computer terminology or because they are of historical significance.

Changes in the Fifth Edition

The fifth edition of the *Microsoft Computer Dictionary* has been revised and expanded to include over 10,000 entries, reflecting the many advances in the computer field and

including several areas that have come into prominence in the public eye, such as networking, Web authoring, and new technologies, such as .NET. The content from the Year 2000 appendix has been integrated into the body of the dictionary and a new appendix on emoticons and instant messaging symbols has been added.

Order of Presentation

Entries are alphabetized by letter. Spaces are ignored, as are characters such as hyphens and slashes; for example, *Baud-dot code* falls between *baud* and *baud rate*, and *machine-independent* falls between *machine identification* and *machine instruction*. Numbers and symbols are located at the beginning of the book and are listed in ascending ASCII order. If an entry begins with a letter or letters but contains a number, it is listed alphabetically, according to the initial letter(s), and then according to ASCII order. Thus, V20 precedes V.2x, and both precede VAB.

Entries

Entries are of two types: main entries, which contain full definitions, and synonymous cross-references, which contain *See* references to the appropriate main entries. Synonymous cross-references are generally secondary or less common ways of referring to a main entry. The definition at the main entry can be substituted as a definition for the synonymous cross-reference.

Format

Information in each main entry is presented in a consistent format: entry name in boldface, spelling variants (if any), part of speech, definition, illustration or table reference (if any), acronym (if any), alternative names (if any), and cross-references (if any).

Main Entries

Entries that are acronyms or abbreviations for one or more words or concatenations of two or more words have those words spelled out at the beginning of the definition. The letters in these words or phrases that make up the acronym, abbreviation, or concatenation are in boldface.

When a main entry is spelled exactly the same as another main entry, the two entries are differentiated by the use of a superscript numeral after each term. These entries are called homographs, and they are generally different parts of speech. For example,

e-mail¹ (*noun*)

e-mail² (*verb*)

Spelling Variants

When a main entry has one or more variations in the way it is spelled, each spelling variant follows the main entry, after the word *or*.

Parts of Speech

Entries are broken down into four parts of speech, in addition to prefixes, abbreviated as follows:

n. noun

vb. verb

adj. adjective

adv. adverb

Definitions

Each of the more than 10,000 entries is written in clear, standard English. Many go beyond a simple definition to provide additional detail and to put the term in context for a typical computer user. When an entry has more than one sense or definition, the definitions are presented in a numbered list, to make it easier to distinguish the particular, sometimes subtle, variations in meaning.

Illustration and Table References

Some entries have affiliated illustrations or tables that aid in defining the entry. In most cases, illustrations and tables appear on the same page as the entries to which they apply.

In some instances, however, page layout requirements have forced them to a subsequent page. Entries with illustrations or tables usually have references at the end of the definition for an entry, in the following formats:

See the illustration.

See the table.

Acronyms

Some terminology in the computer field, particularly computer standards and Internet slang, can be shortened to form acronyms. Sometimes the acronym is the more common way to refer to the concept or object; in these cases, the acronym is the main entry. In other cases, the acronym is not as commonly used as the words or phrase for which it stands. In these cases, the words or phrase constitute the main entry. The acronym is given after the definition for these entries in the following format:

Acronym:

Alternative Names

Some items or concepts in the computer field can be referred to by more than one name. Generally, though, one way is preferred. The preferred terminology is the main entry. Alternative names are listed after any acronyms; otherwise they are listed after the definition in the following format:

Also called:

Cross-References

Cross-references are of three types: *See*, *See also*, and *Compare*. A *See* reference is used in an entry that is a synonymous cross-reference and simply points to another entry that contains the information sought. A *See also* reference points to one or more entries that contain additional or supplemental information about a topic and follows any acronyms or alternative names after the definition. A *Compare* reference points to an entry or entries that offer contrast and follows any *See also* references; otherwise it follows any acronyms or alternative names after the definition.

Future Printings and Editions

Every effort has been made to ensure the accuracy and completeness of this book. If you find an error, think that an entry does not contain enough information, or seek an entry that does not appear in this edition, please let us know. Address your letter to: Dictionary Editor, Microsoft Press, One Microsoft Way, Redmond, WA 98052-6399. Or send e-mail to mspcd@microsoft.com.

radio *n.* **1.** Electromagnetic waves longer than about 0.3 mm (frequencies lower than about 1 THz). Radio is used to transmit a wide variety of signals, using various frequency ranges and types of modulation, such as AM and FM broadcasts, microwave relays, and television broadcasts. *See also* hertz, radio frequency. **2.** Audio signals transmitted over the Internet of quality comparable to those broadcast by commercial radio stations. *See also* Internet Talk Radio, MBONE, RealAudio.

radio button *n.* In graphical user interfaces, a means of selecting one of several options, usually within a dialog box. A radio button appears as a small circle that, when selected, has a smaller, filled circle inside it. Radio buttons act like the station selector buttons on a car radio. Selecting one button in a set deselects the previously selected button, so one and only one of the options in the set can be selected at any given time. In contrast, check boxes are used when more than one option in the set can be selected at the same time. *Compare* check box.

radio clock *n.* A device that receives a broadcast containing a standard time signal. Radio clocks are used in network communications to synchronize the host's hardware clock to the Universal Time Coordinate format in accordance with the Network Time Protocol (NTP). *See also* NTP, Universal Time Coordinate.

radio frequency *n.* The portion of the electromagnetic spectrum with frequencies between 3 kilohertz and 300 gigahertz. This corresponds to wavelengths between 30 kilometers and 0.3 millimeter. *Acronym:* RF. *See also* radio (definition 1).

radio frequency interference *n.* *See* RFI.

radiosity *n.* A method used in computer graphics to render photographic-quality, realistic images. Radiosity is based on dividing an image into smaller polygons, or patches, for purposes of calculating the global illumination emitted by sources of light and reflected from surfaces. Unlike ray tracing, which follows rays of light between a light source and the objects it illuminates, radiosity takes into account both the light emitted from a light source and the light reflected by all objects in the image environment. Radiosity thus accounts not only for a source of illumination (such as a lightbulb) but also for the effects of that illumination as it is absorbed by, and reflected from, every object in the "picture." *See also* form factor. *Compare* ray tracing.

RADIUS *n.* Acronym for **R**emote **A**uthentication **D**ial-**I**n **U**ser **S**ervice protocol. A proposed Internet protocol in which an authentication server provides authorization and authentication information to a network server to which a user is attempting to link. *See also* authentication, communications protocol, server (definition 2).

radix *n.* The base of a number system—for example, 2 in the binary system, 10 in the decimal system, 8 in the octal system, and 16 in the hexadecimal system. *See also* base (definition 2).

radix-minus-1 complement *n.* In a system for representing numbers using a fixed number of possible digits (radix) and a fixed number of positions for them, the number obtained from another number by subtracting each of the digits of the other number from the largest possible digit (equal to the radix minus 1). For example, in a system of five-digit decimal numbers, the radix-minus-1 complement of 1,234 is 98,765. Adding any number to its radix-minus-1 complement produces the largest possible number in the system (in the example, 99,999). Adding another 1 to this number produces, in our example, 100,000—but since only the lower five digits are used, the result is zero. Thus, the negative of any number in the system is its radix-minus-1 complement plus 1, because $-a + a = 0$. In the binary system, the radix-minus-1 complement is the one's complement, which is easily formed electronically by inverting all bits.

radix point *n.* The period or other character that separates the integer portion of a number from the fractional portion. In the decimal system, the radix point is the decimal point, as in the number 1.33.

radix sort *n.* *See* digital sort.

radix sorting algorithm *n.* A sorting algorithm that sorts by grouping elements according to successive parts of their keys. A simple example is sorting a list of numbers in the range 0–999. First the list is sorted by the hundreds digit into a set of (up to) 10 lists; then each list, one at a time, is sorted into a set of (up to) 10 lists based on the tens digit; and finally each of those lists is sorted by the ones digit. This algorithm is usually most efficient when the sorting is done using binary values, which simplifies comparisons (is a given bit on or off?) and reduces the number of lists (each pass produces at most two lists).

RADSL *n.* Acronym for **r**ate-adaptive **a**symmetric **d**igital subscriber **l**ine. A flexible, high-speed version of ADSL

serial port adapter *n.* An interface card or device that either provides a serial port or converts a serial port to another use. *See also* adapter, serial port.

serial printer *n.* A printer connected to the computer via a serial interface (commonly RS-232-C or compatible). Connectors for this type of printer vary widely, which is one reason they are less popular than parallel printers among those who use IBM and IBM-compatible PCs. Serial printers are standard for Apple computers. *See also* DB connector, serial, serial transmission. *Compare* parallel printer.

serial processing *n.* *See* sequential processing (definition 2).

Serial Storage Architecture *n.* *See* SSA.

serial transmission *n.* The transfer of discrete signals one after another. In communications and data transfer, serial transmission involves sending information over a single line one bit at a time, as in modem-to-modem connections. *Compare* parallel transmission.

series circuit *n.* A circuit in which two or more components are linked in series. All the current passes through each component in a series circuit, but the voltage is divided among the components. *See* the illustration. *Compare* parallel circuit.



Series circuit.

serif¹ *adj.* Marked by the use of serifs. For example, Goudy is a serif typeface, whereas Helvetica is a sans serif typeface. *See* the illustration. *See also* serif². *Compare* sans serif.



Serif. A serif typeface (top) and a sans serif typeface (bottom).

serif² *n.* Any of the short lines or ornaments at the ends of the strokes that form a typeface character.

server *n.* **1.** On a local area network (LAN), a computer running administrative software that controls access to the network and its resources, such as printers and disk drives, and provides resources to computers functioning as workstations on the network. **2.** On the Internet or other network, a computer or program that responds to commands from a client. For example, a file server may contain an archive of data or program files; when a client submits a request for a file, the server transfers a copy of the file to the client. *See also* application server (definitions 1 and 2), client/server architecture. *Compare* client (definition 3).

server appliance *n.* A device designed to deliver one or more specific network services in a single turnkey package that includes both hardware and software. All necessary programs are preinstalled on a server appliance, which has minimal, simplified options and controls. Server appliances can be used to complement or replace traditional servers on a network and can provide such services as file and printer sharing and Internet connectivity. *Also called:* appliance. *See also* information appliance.

server-based application *n.* A program that is shared over a network. The program is stored on the network server and can be used at more than one client machine at a time.

server cluster *n.* A group of independent computer systems, known as nodes, working together as a single system to ensure that mission-critical applications and resources remain available to clients. A server cluster is the type of cluster that Cluster service implements. *See also* cluster.

server control *n.* *See* ASP.NET server control.

server error *n.* A failure to complete a request for information through HTTP that results from an error at the server rather than an error by the client or the user. Server errors are indicated by HTTP status codes beginning with 5. *See also* HTTP, HTTP status codes.

server farm *n.* A centralized grouping of network servers maintained by an enterprise or, often, an Internet service provider (ISP). A server farm provides a network with load balancing, scalability, and fault tolerance. Individual servers may be connected in such a way that they appear to represent a single resource.

serverlet *n.* *See* servlet.

Server Message Block *n.* *See* SMB.