

UnderstandIT

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A publication designed to inform and enable businesses to understand the implications, costs and advantages of using Information and Communications Technology. Distributed through Chambers of Commerce.

TECHNICAL TERMS EXPLAINED

In the early editions of *Understand IT* (editions published in the late 1990's) we often included a section called "Jargon Busting" that sought to explain technical terms.

Technology continues to develop and move on apace, but we have not included an update on technical jargon that we know many people still find mystifying and even intimidating. This month we include an explanation of some of the technical terms that you might see used glibly even in non-technical articles. If you need an explanation of technical terms that you have been faced with but cannot understand, then let us know and we will do our best to explain them in as simple terms as we can.

Bandwidth

The range of radio frequencies which indicates how much data can pass along a telecommunications channel at one time. Broadband networks, the basis of the Internet, can transmit information at high speed; Narrowband networks on the other hand tend to be text-only and are slower. For example, voice over the telephone network requires a bandwidth of 3 KiloHertz (KiloHertz = a thousand cycles per second), while uncompressed video requires a bandwidth of 6 MegaHertz (6 million cycles per second).

Cache

Temporary area of computer memory used to access frequently used instructions, thus speeding up processing time. The term is also used to denote where your Internet Browser temporarily stores world wide web pages so that it can re-load them when required without necessarily returning to the Internet to refresh the information.

Cookie

A small text file or set of instructions from a web server that is placed on a client PC. Cookies are typically used by a web site owner to identify and track users of that site. Browsers can be customized to accept or reject cookies. Some regard the placing of cookies on your computer whilst browsing is an invasion of one's privacy, particularly as they are often used to track what sites you visit.

KBps or Kbps

There is still a great deal of confusion on the part of many people into these two acronyms. On the face of it, they may appear to be the same, but in fact, they are somewhat different.

The first (KBps – with a capital 'B') means Kilo BYTES per second. This refers to the transmission speed of a particular transmission medium. You might typically see 64KBps or 64 thousands of BYTES per second. A BYTE usually represents a character as it is transmitted via a communications link. A BYTE consists of 8 BITS, and a BIT is represented by 0 or 1 in the binary system of counting.

The second term Kbps (with a lower case "b") means Kilo BITS per second. A transmission rate of 64KBps is therefore equal to 512Kbps (8 X 64).

Kilobytes, Megabytes, gigabytes and terabytes

These terms are normally used to specify either a transmission rate over a communications line or the unit of storage capacity on a computer hard disk or memory chip.

However, since capacity or speed in computer terms is expressed to the power of 8, a kilobyte is in actual fact not 1,000 bytes, but 1024 bytes. Similarly a megabyte is not one million bytes, but in fact 1,048,576 bytes. One Gigabyte is therefore notionally one thousand megabytes and a Terabyte is one thousand Gigabytes. Confused? We hope not, but as you can see, measurement in the ICT world can be quite complex!

Virtual Servers

The term "virtual private server" (VPS, also referred to as Virtual Dedicated Server or VDS) is a method of partitioning a physical server computer into multiple servers such that each has the appearance and capabilities of running on its own dedicated machine.

Each virtual server can run its own separate operating system, and each server can be independently rebooted and configured as though they were separate physical hardware computers.

The practice of partitioning a single server so that it appears as multiple servers has long been common practice in large mainframe computer systems, but lately it is becoming more common with the development of virtualization software and technologies for other architectures.

The reason to use a Virtual Server is often for economic benefit. For example, it is now common to host multiple web sites on a single hardware server by web site hosting company. Each web site can be administered as though it were on a separate physical device. This means that the company only needs to maintain and manage one single hardware server and all its supporting hardware and software.

WOLFRAM ALPHA – THE NEW GOOGLE?

The IT press has been buzzing with comment recently about a new web based service that has just been launched. The service is difficult to describe, since it doesn't fit easily into existing categories of such services. The company behind the service describes Wolfram Alpha as a "computational knowledge engine".

Its creator – British born physicist Stephen Wolfram claims that his new approach aims to change the way people use online information. Naturally, it is being compared with Google, who have a major stake in the market for retrieval of information. However, there are significant differences between the two services.

The Wolfram Alpha service aims to present a range of computed and related information in response to the input of almost any word, phrase or even mathematical formula. This is in stark contrast to Google, who will present a list of web sites that in some way relate to the word or phrase entered into its search engine.

The best way to explain these differences is to try a few examples. Many IT industry commentators have been doing just this since its launch, and their reactions have been extremely mixed.

By entering a date – perhaps your birthday, Wolfram Alpha will produce a list of information relating to your date of birth, which will include the difference between the current date and your birth date, expressed in years, months and days, the number of weeks and number of days that have elapsed since your birth, the day and week number in that year, any notable events that occurred on the same day and even the time of the sunrise and sunset and number of daylight hours in your current location on the day of your birth!

A further example is entering two cities in the form "London to Johannesburg". This will bring you the distance between the two cities in kilometres, the flight time at given air speed, a map showing the two locations, the current time and population in both cities (both city and metropolitan areas) and even the elevation of each city above sea level.

You may regard much of this information as trivial and perhaps even banal, but it does demonstrate the type of information that the system is potentially capable of producing. Entering in mathematical formulae and algebraic equations will also produce amazing results (assuming you can understand them).

This last point is perhaps why many have not been overly impressed with the newcomer – the ability to understand the results of your input to the service.

However, one could argue that if you are not likely to understand the answer, why ask the question? Most agree that the service is still very new and has been described by its creator as "work in progress" since their large array of supercomputers are being populated by new information daily and they see this as a long term project.

The other major criticism being levelled at Wolfram Alpha is that the information currently available is very US orientated. However, this is perhaps to be expected since it is a US organisation (based in Champaign, Illinois). The knowledge base will expand in the course of this project, and no doubt the service will become even more relevant to almost anyone using the Internet for research, or just to increase their knowledge in any particular field.

You can read considerably more about Wolfram Alpha and forming your own judgement by visiting their site, trying out some of their suggested "searches" or improving your own computational knowledge.

<http://www.wolframalpha.com>.

OFFCOM AND MOBILE PHONE CHARGES

OFCOM, the industry regulator continues to apply pressure on the mobile phone network operators. It has now announced that it is to begin a review of the charges for mobile phone calls and specifically of the "mobile termination rates". A previous study in 2007 concentrated on the objective of reducing charges by 25% by 2011. This new effort will concentrate on the period 2011 to 2015.

The mobile termination charges are levied by each network operator on other networks for accepting and connecting calls for that rival's network. Currently, these charges account for approximately 14% of a call cost charged to a mobile customer.

The issue of termination rates has been controversial for a long time and by regulating the charges, perhaps eventually eliminating them completely will free network operators to offer more flexibility in designing call packages for its customers.

.... AND FINALLY....

This is completely off-topic, but might lighten your day! (Taken from a child's exam paper):

"Ancient Egypt was inhabited by mummies and they all wrote in hydraulics. They lived in the Sarah Dessert and travelled by Camelot. The climate of the Sarah is such that the inhabitants have to live elsewhere."

We wish to acknowledge with thanks that some of the material contained within this publication has been sourced from Computer Weekly, PC Pro, BBC and other reputable sources..

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