

## Glossary of technical IT terms

### ATM

See *Automatic Teller Machine*

### Authentication

Authentication is the process of confirming that an individual or organisation is who they say they are. When you purchase something in a physical store using your credit or debit card, you provide a handwritten signature or a PIN number to 'authenticate' who you are. On the Internet, this process is generally done using a digital signature and a digital certificate. Most on-line transactions today do not use any authentication – the merchant selling the goods does not know who is using the credit card, although they can check if the credit card exists, is not on a list of stolen cards, and get confirmation from the bank that the account has enough money.

### Automated E-Mail

Various *e-mail* messages can be generated automatically by a computer and sent to either individuals or a list of people. At its worst, this can allow the much-hated '*Spam*' – unsolicited e-mail advertisements bulk mailed to thousands of people. However, at its best, automated e-mails to which the customer has agreed can provide latest product information, news of specials, or even substitute for invoices.

### Automated Fax

Similar to automated e-mail, except that the computer generates a fax message rather than an e-mail. Such systems are the heart of "faxback" systems which allow users to ring a particular telephone number and enter their own fax number so that the automated system can automatically fax them back information.

### Automatic Teller Machine (ATM)

Machine operated by a bank, which allows customers to use their credit or debit cards to carry out bank *transactions* without needing the services of a human bank teller.

### Bandwidth

The capacity of an information channel. If information was water, 'bandwidth' would be the size of the pipes that it runs through. A small pipe means not much water can get through. If you access the Internet through a modem, you are using a fairly small 'pipe' – the ordinary telephone line. That's why graphics and video take such a long time to load. When lots of people access the same place on the Internet at the same time, it's possible to greatly slow down access because the system runs out of bandwidth. Using our water analogy, it would be as if everyone in a city decided to take a shower at the same time – the water pressure would drop and everyone would get just a trickle.

### Barcode

A standard method of representing numbers by use of a pattern of thick and thin lines, familiar today from its use on everyday grocery items in supermarkets. When the item is scanned, a computer can accurately read the number represented by the pattern and make appropriate access to a *database* for information on that item. For example, in a supermarket the item's price would be returned, and the number of items listed as being in stock would be reduced by one. However, supermarkets do not have a monopoly on barcodes. Barcodes can be used almost anywhere there is a need for rapidly identifying items, or where quick and accurate data entry is required.



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### Browser

A browser is a piece of software on your computer, which lets you explore the *World Wide Web*. It might have e-mail capability built into it. Essentially it is a viewer which knows how to display *World Wide Web* pages and how to move from one page to another as you click on links. Examples would be Microsoft Internet Explorer and Netscape Communicator, but there are several others available.

### Call Centre

A centre or department within an organization set up to handle telephone enquiries and requests for assistance from the public. Most such centres would include the use of *Interactive Voice Response* systems so that caller's can select from a menu of choices so that their enquiries can be directed quickly to the right area. Other technologies employed in sophisticated call centres would include links to *databases* with information on the calling customer's account, previous purchases, etc.

### CD-ROM

A CD-ROM looks just like one of the music CDs you might play at home. And fundamentally it is just the same, except that instead of the information it contains being used to play music, it is used to store computer *programs* or other *data*. CD-ROMs can contain a lot of information, so they are used to store games with lots of graphics and sound, and complex computer *programs*. Most computers these days come with a CD-ROM drive.

### C-Fax

Computer-generated fax. See *Automated Fax*

### Chat Room

A service on the *Internet* or on an *intranet*, which allows those connected to conduct a direct discussion or conversation rather than having to wait for the exchange of *e-mail*. It's rather like discussions on CB radio, but where the conversation is typed rather than spoken.

### Cookie

A cookie is a small piece of information stored on your computer by a *web site* that you visit. When you re-visit the site, the web server computer at that site checks for the piece of information, which might allow it to recognize that you have visited before and have certain preferences about what you want to see. Some people don't like cookies because they are concerned about security or privacy issues, and if you wish you can prevent cookies from being stored on your computer. It is generally accepted, though, that there is little danger from allowing cookies, and they do offer advantages such as allowing *web sites* to tailor themselves to your interests.

### Cyberspace

A fanciful phrase thought up by a science fiction writer to describe the "world" of the *Internet*. While browsing the *World Wide Web* you could think of yourself as traveling through 'cyberspace'.

### Data

A fancy word for information. It's generally taken to mean information stored in an electronic form, which can be understood by a computer.

### Database

A database is a bunch of *data* or information stored in a structured format so that it is easy to search. A simple example might be your personal address book. You keep it in alphabetical order to make it easy to locate the name you want. It might have separate columns for the address and the phone number, again so that it is easy to quickly scan and get the information you want. It's no different on a computer.



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### Digital Cash

A service which allows customers to purchase low-value items, which would not individually be worth a credit card transaction. These services generally require the customer to set up an account or “electronic wallet” and place an amount of credit into it, which is then debited progressively as small purchases are made.

### Digital Signature

A way of using *encryption* so that the person who receives a message can ensure that it has come from a particular person, and that it hasn't been changed since it was sent. Several countries and states are currently enacting legislation to give digital signatures the same legal force as a handwritten signature. See also *Public Key / Private Key*.

### Domain Name

The part of an email address to the right of the '@' symbol, or the first part of the *URL* or *web site* address. For example *www.ause.net* is the domain name for AUSE.NET (strictly speaking, only the *ause.net* part is the actual registered domain name, but let's not quibble). Businesses with a web site usually register a unique domain name that is easily identified with their company. Because this can be a very important part of the company's branding, domain names are under the control of a central organisation in each country, which ensures that applications are dealt with fairly. Domain names administered in Australia end in '.au'

### Downloading

Copying a file from a *server* computer – you are loading the file 'down' on to your own computer. Not surprisingly, copying a file of your own up on to the server is called 'uploading'.

### E-Cash

See *Digital Cash*.

### EFTPOS

Electronic Funds Transfer at Point Of Sale. A fancy term for how you can pay for goods in a shop or supermarket by electronically debiting your savings account at the bank.

### Electronic Banking

A way of accessing your bank account electronically to be able to make transfers of money and to see details of transactions. Security for these systems is of course a prime consideration!

### Electronic Commerce

Doing business using electronic communications tools.

### Electronic Data Interchange (EDI)

EDI stands for Electronic Data Interchange. This is a system, which allows companies to exchange information through their computers with no human involvement. For example, a company's ordering system may automatically generate and send a Purchase Order to a supplier, where it is automatically received and entered into their Order Entry system. The data being exchanged can be in any format so long as it can be understood by the computers at both ends of the transaction. The potential advantages of such systems are in reducing costs, cutting down on delays, and enabling stock holdings to be kept to a minimum.

### Electronic Form

A form built into a *web page* on the *Internet*, which allows the user to fill in various information such as their name and address and then click on a button to transmit it to a computer operated by the owner of the *web site*. This may result in an order being taken, or information presented.



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### **Electronic Funds Transfer (EFT)**

Securely transferring money or credit using electronic means. See also *EFTPOS*

### **Electronic Lodgement**

This term is mainly used in reference to the Tax Office, which for some years has allowed tax returns to be submitted electronically rather than in paper form. However, the term could apply to any electronic submission to an authority of forms, which would otherwise need to be filled in on paper.

### **E-Mail**

E-mail is, as the name implies, very similar to ordinary mail. You write a letter, take it to the post office, it gets carried around the country or to other countries to another post office, where the postal worker sorts out who it has to go to, and then takes it out and drops it in your mailbox. E-mail is just the same, except that everything happens electronically, and the postal service is the *Internet*.

### **Encryption**

If you've read any spy novels, you know about secret codes or ciphers. The purpose of these is to keep information secret. As you can imagine, there is a lot of information flowing backward and forward on the *Internet* that people want to keep secret – credit card details, for example. Encryption is the process by which this information is coded or ciphered so that others can't read it.

### **Extranet**

An extranet is a private network, which allows access to certain authorised users from the wider Internet. Typically, these users would use either their name and password, or a digital certificate, before being let in to the extranet. See also *Intranet*

### **Fax-Back**

An automated system using faxes, which allows callers to ring a particular number and provide their own fax number in order to receive some information by return fax.

### **Firewall**

A Firewall is a software protection used in computer systems to prevent unauthorized access to computers as a first line of defense against computer *Viruses* and *Hackers*.

### **FTP**

'File Transfer Protocol'. A method for transferring files over the Internet.

### **Hacker**

A Hacker is a person who uses their computer and Internet knowledge to obtain unauthorized access to other peoples and organizations computer networks, systems and web site. In the worst cases this is to cause harm to the other party and damage to their web sites and systems or to fraudulently steal information or money from them. *Passwords* and *Firewalls* can provide some protection.

### **Home Banking**

See *Electronic Banking*

### **HTML**

HyperText Markup Language. *Web pages* are simply text files, which include special 'tags' so that a *browser* knows how to display a page. For example, formatted text might appear in the HTML document as `<i>this is in italics</i>` or `<b>this is bold</b>`. Other kinds of tags describe headings, images to be displayed, or links to other web pages.

## HTTP

'HyperText Transfer Protocol'. A method of sending *web pages* over the *Internet*. You often see these letters at the start of a web site address, e.g. 'http://www.ause.net'.

## Interactive Services

Any service which allows the user to interact, that is, to make choices and see the results of that choice rapidly. On the Internet, the term is generally used to mean services, which carry out some calculation in the background, or look up a result in a database, or return search results, rather than being simply 'static' pages, which are the same for every user, every time that user comes to the page.

## Interactive Voice Response (IVR)

An automated telephone system which allows callers to select from various options by using the touchpad of their telephone to enter numbers, directed by prompts like the following: 'If you are interested in purchasing our products, press 1. For bill payments, press 2'.

## Internet

The Internet is nothing more than the world's biggest computer *network*. It is just the total sum of all the connected computers which are able to talk together using the TCP/IP protocol or language. These days, that's a lot of computers. See also *Network, Protocol, TCP/IP, World Wide Web*

## Internet Service Provider (ISP)

A company, which offers access to the *Internet* to customers, generally for a set cost per hour. If you are using a *modem* to connect to the *Internet* then your computer will dial the phone number of the local branch of your ISP to connect.

## Intranet

"Intra" means "within", and "inter" means "between". An intranet is just a small, localized version of the *Internet* that has been set up by a company to provide information to its own workers. It cannot be accessed by any other users of the Internet, or by a company's customers or suppliers. See also *Extranet*

## IP Address

Although it is easy for humans to recognise *web site* addresses or *URLs* like [www.ause.net](http://www.ause.net), computers prefer numbers. Every web site on the Internet actually has its own unique four part identification number called an IP Address, which might look like this: 217.18.234.22 . Unless you are a network administrator, you will almost never have to worry about this!

## ISDN

Integrated Services Digital Network. A fancy name for a particular kind of high speed connection between computers, a good deal faster than using *modems* over an ordinary phone line.

## Local Area Network (LAN)

See *Network*

## Meta Tag

Special 'tags' included in the *HTML* of a *web page* to carry additional information, which is not seen by the person looking at the page in a *web browser*. In particular, such tags can be used to include a synopsis of a page, or a set of keywords, which are used by the popular *search engines* to decide on what pages are most relevant to a particular search.



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### **Modem**

You can think of a modem as a computer's very own telephone. Computers can't talk and listen the way that we do, so they need a special device to talk to other computers over the phone line. That's the modem. Just as with a telephone call where you need a telephone at each end of the line so that two people can talk to each other, so there has to be a modem at each end of the phone line so that two computers can talk to each other.

### **Network**

A computer network is just a group of computers, which can talk to each other. If two computers using modems are like two people talking over the telephone, then a network is like a private telephone system in an office. The computers can talk to each other easily all day. A computer network, which just services a local area like an office is called a Local Area Network. People love acronyms, so this is usually abbreviated as LAN. And a network which covers a wider area, such as linking branch offices together is known as a Wide Area Network, or WAN.

### **Online**

An adjective to describe anything connected to a *network* service like the *Internet*. You are online when your *computer* is connected to the Internet. An online service is one, which operates over the *Internet*. Naturally, you are 'offline' when you are not online.

### **Operating System (OS)**

The operating system is a crucial piece of *software*, which tells a computer how to behave at a basic level, how to handle disk drives, the keyboard, the screen, and so on. Some of the more common operating systems on personal computers are Windows 95 or 98, and the Apple Mac OS. On *servers*, common systems are Unix and Windows NT, but there are many more.

### **Password**

A secret word or phrase which needs to be provided by someone to enter a secure area. Computer users typically have to supply their user name and a password to be allowed into a *network*.

### **Patch**

A *software* patch is a small computer program, which is used to bring another program up to date by changing small parts of the program. Such an updating patch is much smaller and therefore easier to distribute or to download than a complete new copy of the program.

### **Program**

A computer program is simply a set of instructions to a computer to do one or more tasks. Of course, those tasks can get pretty complicated! Working out how to tell a computer to do something complicated is the job of a computer programmer.

### **Protocol**

If computers are talking together, what language do they speak? Good question. If you use your telephone to call someone in Moscow, you'd better be able to speak Russian, or hope you'll be able to find someone who speaks English! So it is with computers. If they are going to talk together, they had better be using the same language or protocol. There are a lot of different protocols, but just as English is becoming a pretty universal language for business, the main protocol or language used for the Internet is called TCP/IP.



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### Public Key / Private Key Encryption

A form of *encryption* now becoming a global standard. It is based on an “asymmetric” – or one-way – method of coding a message. Two “keys” (or codes) are generated for an individual – let’s call her Mary. Amazingly, one of these keys – the public key – can be freely given away, even published widely without any loss of security. The other – the private key – is known only to Mary, and is kept very secure. If you know Mary’s public key, you can encipher a message to Mary. However, despite the fact that many people may know the public key, it is (for all practical purposes) impossible for any of them to decipher the message. Only Mary can do it, using her secure private key. It can also work the other way. If Mary enciphers a message with her private key, anyone in the world who knows the public key can decipher that message – but they can be certain that the message came from Mary. This forms a kind of *digital signature*, proving that Mary was the author, since only she knows the private key.

### Search Engine

A search engine is a service operated on the Internet to give you a way of finding information on the literally millions of web pages that now exist. There are two types of searching services. One, such as that operated by the Lycos company, lets you type in key words, and then shows you a list of web pages, which include those key words. Another type, such as that operated by the Yahoo company, is more structured, with web sites listed under topic headings like an encyclopedia.

### Secure Sockets Layer (SSL)

A particular kind of *protocol* which can be used between two computers on the *Internet* to ensure that their conversation is secure. It uses *encryption* to ensure, for example, that credit card details are only transmitted in an encoded form and not intercepted. Web pages using SSL usually have a *web address* that begins with https, rather than just http. Most *browsers* will indicate in some way, such as displaying a padlock icon, that a particular page is secure.

### Security

The condition or feeling of being safe and free from interference or theft. Ensuring security on the Internet involves many different tools and techniques. See *Encryption*, *Secure Sockets Layer*.

### Server

A server is just a *computer*, though probably one a bit more powerful than the one you might have on your desktop. Its job is to ‘serve’ visitors with information. A web server is one which stores (or ‘hosts’) one or more *web sites*. When someone browsing the *World Wide Web* asks for a page, which is stored on that server, the server reads the information from its hard disk and sends it out over the *Internet* to the computer of the person who asked for it. The *Internet* is really no more than the collection of all of the millions of server computers all over the world and the communication lines between them.

### Shared Calendar

A way for employees to coordinate meeting times through a *Local Area Network*. Each has an electronic calendar on their computer, and through the network they are able to check when others are available for a meeting.

### Shopping Cart or Shopping Basket

A system on a web site by which visitors can nominate a number of different items they wish to purchase during a session before committing the actual order. Some web sites allow items to be accumulated over several days before the customer agrees to send the order; others clear the shopping basket at the end of each session if the customer does not send the order.



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### Smart Card

Though very similar to a traditional credit card, a smart card can store a lot more information on a tiny in-built computer chip. This extra information might include, for example, your bank account number and credit limit, or your medical history, or an amount of money. *See also Stored Value Card.*

### Software

You can understand the familiar term 'hardware' to mean something physical: a hammer, a television set or a refrigerator, are all pieces of hardware. So, too is the equipment used in a computer: the case, the circuit boards, etc. 'Software', by comparison, is a non-physical component. A television show might be considered to be the software that runs on television hardware. Similarly, computer *programs* or operating systems are examples of software, which runs on the computer equipment hardware.

### Spam

A term derisively applied to *e-mail* advertisements sent in bulk to huge numbers of people. The electronic equivalent of junk mail. The term derives from a kind of cheap processed meat popular in Britain, and featured in a famous skit by Monty Python set in a restaurant where Spam appears to be the only item on the menu.

### Stored Value Card

A kind of *smart card* which stores an amount of credit value which can be progressively debited as you make purchases. The most familiar example is the Telstra phone cards, which you can 're-fill' with credit so you can keep on using them to make calls.

### Surfing

A fanciful term thought up by a writer to describe browsing the *World Wide Web* – 'Surfing the Internet'.

### TCP/IP

TCP/IP is the transmission *protocol* or language of the *Internet*. Literally it means Transmission Communications Protocol/ Internet Protocol and was developed in 1969 as a means of sending messages over the Internet.

### Transaction

Any piece of commercial business completely carried out. In computer programming terms, 'transaction' has a more precise meaning. For example, if you were using a computer system or ATM to withdraw money from one bank account and transfer it to another, it is important that either the whole transaction (from withdrawal to deposit) is carried out, or none of it is. If the computer were to fail after you had withdrawn the money from the first account, but before the deposit in the second account, you would lose money and be justifiably aggrieved! If a failure happens, the transaction must 'roll back' to before the original withdrawal. *See also Transactional Features*

### Transactional Features

On a web site, a feature which allows the visitor to enter information for use by a computer program. For example, it might allow the visitor to enter credit card details securely in order to buy goods, or to update their name and address details on a supplier's master customer file. *See also Transaction.*

### URL

'Uniform Resources Locator'. A fancy technical term for 'web site address' such as 'http://www.ause.net'. This address is used by a web *browser* to find the *Internet* page you are looking for.



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### Virtual

An overused expression to describe anything, which is not 'real', in the sense that it exists only on a computer. A 'virtual shop', for example, is one which exists only on the *Internet* without having a physical shop front. One hopes that it sells 'real' goods! From the above you can see that the term 'virtual reality' is a bit of a contradiction in terms! It is mainly used to describe game systems where the players might be fooled into believing they are experiencing a real environment. However, there are some nongame applications such as exploring architectural models for proposed buildings.

### Virus

A Computer Virus is a software program developed to cause harm or disruption of computer operating systems or files. Computer Viruses are inadvertently distributed via floppy disks taken from one computer "infected" with a computer virus, to another. They are also spread on purpose via the Internet and users are recommended not to open email attachments received from senders that they do not know. Often these attachments can contain hidden computer Viruses and once infected the virus can remain dormant for some time before causing its intended damage. *Firewalls* and Virus protection software can help prevent infection and remove Viruses to prevent the damage that Viruses can cause.

### Voice Mail

Like a centralised telephone answering machine for a company's employees. It allows callers to leave recorded messages that the employee can listen to at a later time.

### Web Site

A web site is a collection of *World Wide Web* 'pages' or screens of information put up on the *Internet* by a company or an individual. A web site might contain a variety of text and graphics. An advanced site might include animation and possibly even some video and sound. A transactional web site is one where you can search a database, or buy goods or services just by filling in simple electronic forms on the web site pages.

### Wide Area Network (WAN)

See *Network*

### World Wide Web

The World Wide Web is just a name given to a particular way of moving through all of the information on the *Internet*. In fact, it was the development of the Web – because it was so easy to use - that has really driven the very rapid growth in popularity of the *Internet*. Each page of information is linked to many others, and that you move through the information by running along links from one place to another, to another, to another – to information stored in computers all over the world.

### Worms

A type of computer virus. See *Virus*