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Lingua Nova



INTERNET (2)

HOW THE INTERNET WORKS AND INTERNET ACCESS

The term Internet access refers to the communication between a residence or a business and an ISP that connects to the Internet. Access falls into two broad categories: dedicated and dial-up. With dedicated access, a subscriber's computer remains directly connected to the Internet at all times through a permanent, physical connection. Most large businesses have high-capacity dedicated connections; small businesses or individuals that desire dedicated access choose technologies such as digital subscriber line (DSL) or cable modems which both use existing wiring to lower cost. A DSL sends data across the same wires that telephone service uses, and cable modems use the same wiring that cable television uses. In each case, the electronic devices that are used to send data over the wires employ separate frequencies or channels that do not interfere with other signals on the wires. Thus, a DSL Internet connection can send data over a pair of wires at the same time the wires are being used for a telephone call, and cable modems can send data over a cable at the same time the cable is being used to receive television signals. The user usually pays a fixed monthly fee for a dedicated connection. In exchange, the company providing the connection agrees to relay data between the user's computer and the Internet.

Dial-up is the least expensive access technology, but it is also the least convenient. To use dial-up access, a subscriber must have a telephone modem, a device that connects a computer to the telephone system and is capable of converting data into sounds and sounds back into data. The user's ISP provides software that controls the modem. To access the Internet, the user opens the software application, which causes the dial-up modem to place a toll-free telephone call to the ISP.

HOW INFORMATION TRAVELS OVER THE INTERNET

All information is transmitted across the Internet in small units of data called packets. Software on the sending computer divides a large document into many packets for transmission; software on the receiving computer regroups incoming packets into the original document. Similar to a postcard, each packet has two parts: a packet header specifying the computer to which the packet should be delivered, and a packet payload containing the data being sent. The header also specifies how the data in the packet should be combined with the data in other packets by recording which piece of a document is contained in the packet.

A series of rules known as computer communication protocols specify how packet headers are formed and how packets are processed. The set of protocols used for the Internet are named TCP/IP after the two most important protocols in the set: the Transmission Control Protocol and the Internet

Protocol. Hardware devices that connect networks in the Internet are called IP routers because they follow the IP protocol when forwarding packets. A router examines the header in each packet that arrives to determine the packet's destination. The router either delivers the packet to the destination computer across a local network or forwards the packet to another router that is closer to the final destination. Thus, a packet travels from router to router as it passes through the Internet.

NETWORK NAMES AND ADDRESSES

To be connected to the Internet, a computer must be assigned a unique number, known as its IP (Internet Protocol) address. Each packet sent over the Internet contains the IP address of the computer to which it is being sent. Intermediate routers use the address to determine how to forward the packet. Users almost never need to enter or view IP addresses directly. Instead, to make it easier for users, each computer is also assigned a domain name; protocol software automatically translates domain names into IP addresses. For example, the domain name encarta.msn.com specifies a computer owned by Microsoft (names ending in .com are assigned to computers owned by commercial companies), and the corresponding IP address is 207.46.228.91.

Users encounter domain names when they use applications such as the World Wide Web. Each page of information on the Web is assigned a URL (Uniform Resource Locator) that includes the domain name of the computer on which the page is located. Other items in the URL give further details about the page. For example, the string http specifies that a browser http://encarta.msn.com/encyclopedia_761587964/Browser.html should use the http protocol, one of many TCP/IP protocols, to fetch the item.

CLIENT/SERVER ARCHITECTURE

Internet applications, such as the Web, are based on the concept of client/server architecture. In a client/server architecture, some application programs act as information providers (servers), while other application programs act as information receivers (clients). The client/server architecture is not one-to-one. That is, a single client can access many different servers, and a single server can be accessed by a number of different clients. Usually, a user runs a client application, such as a Web browser, that contacts one server at a time to obtain information. Because it only needs to access one server at a time, client software can run on almost any computer, including small handheld devices such as personal organizers and cellular telephones (these devices are sometimes called Web appliances). To supply information to others, a computer must run a server application. Although server software can run on any computer, most companies choose large, powerful computers to run server software because the company expects many clients to be in contact with its server at any

given time. A faster computer enables the server program to return information with less delay.

ELECTRONIC MAIL AND NEWS GROUPS

Electronic mail, or e-mail, is a widely used Internet application that enables individuals or groups of individuals to quickly exchange messages, even if they are separated by long distances. A user creates an e-mail message and specifies a recipient using an e-mail address, which is a string consisting of the recipient's login name followed by an @ (at) sign and then a domain name. E-mail software transfers the message across the Internet to the recipient's computer, where it is placed in the specified mailbox, a file on the hard drive. The recipient uses an e-mail application to view and reply to the message, as well as to save or delete it. Because e-mail is a convenient and inexpensive form of communication, it has dramatically improved personal and business communications.

In its original form, e-mail could only be sent to recipients named by the sender, and only text messages could be sent. E-mail has been extended in two ways, and is now a much more powerful tool. Software has been invented that can automatically propagate to multiple recipients a message sent to a single address. Known as a mail gateway or list server, such software allows individuals to join or leave a mail list at any time. Such software can be used to create lists of individuals who will receive announcements about a product or service or to create online discussion groups. Of particular interest are Network News discussion groups (newsgroups) that were originally part of the Usenet network. Thousands of newsgroups exist, on an extremely wide range of subjects. Messages to a newsgroup are not sent directly to each user. Instead, an ordered list is disseminated to computers around the world that run news server software. Newsgroup application software allows a user to obtain a copy of selected articles from a local news server or to use e-mail to post a new message to the newsgroup. The system makes newsgroup discussions available worldwide.

E-mail software has also been extended to allow the transfer of nontext documents, such as photographs and other images, executable computer programs, and prerecorded audio. Such documents, appended to an e-mail message, are called attachments. The standard used for encoding attachments is known as Multipurpose Internet Mail Extensions (MIME). Because the Internet e-mail system only transfers printable text, MIME software encodes each document using printable letters and digits before sending it and then decodes the item when e-mail arrives. Most significantly, MIME allows a single message to contain multiple items, enabling a sender to include a cover letter that explains each of the attachments.

OTHER INTERNET APPLICATIONS

Although the World Wide Web is the most popular application, other Internet applications are widely used. For example, the Telnet application enables a user to interactively access a remote computer. Telnet gives the appearance that the user's keyboard and monitor are connected directly to the remote computer. For example, a businessperson who is visiting a location that has Internet access can use Telnet to contact their office computer. Doing so is faster and less expensive than using dial-up modems.

Another application, known as the File Transfer Protocol (FTP), is used to download files from an Internet site to a user's computer. The FTP application is often automatically

invoked when a user downloads an updated version of a piece of software. Applications such as FTP have been integrated with the World Wide Web, making them transparent so that they run automatically without requiring users to open them. When a Web browser encounters a URL that begins with ftp:// it automatically uses FTP to access the item.

The Internet can also be used to transfer telephone calls using a computer with a microphone and speakers or a phone with a special adapter. Calls made in this way to computers or telephones that also connect to the Internet are often free.

The speed of new technology means that new words, and new meanings of existing words, are entering English language at an incredible rate. How can the learner hope to keep up with these changes?

Find out whether you can guess what these words mean!!!

Match the halves – numbers from the 1st table with letters of alphabet from the next table.

1. HOT-DESKING	2. JOINED – UP THINKING	3. DEAD CAT BOUNCE
4. IRC		5. LOL
6. FWIW	7. DIVVY	8. SPAM

- A. Informal disapproving unwanted e-mail, usually advertisements
- B. It is a way of saving office space in which workers do not have their own desk and are only given a desk when they need it
- C. British informal for a stupid person
- D. It is thinking about a complicated problem in an intelligent and original way, and considering everything that is connected with it.
- E. It is internet abbreviation for 'for what it's worth'; used when you are giving someone information and you do not know if it is useful or not.
- F. It is a temporary increase in the value of the shares of a company after there has been a large decrease in their value.
- G. It is Internet Relay Chat: a program that connects computers to a central computer and enables people in different places to discuss subjects at the same time by typing.
- H. Internet abbreviation for 'Laughing out loud'; used when you think that something is very funny.

Key: 1b, 2d, 3f, 4g, 5h, 6e, 7c, 8a

Here are some examples of the way the digital revolution is changing the English language.

See whether you can fill in the gaps with the definitions used in the table below.

- a). To move around the Internet ; b). a person who robs ships at sea; c). to start a computer; d). To break a computer code; e). a small insect; f). a red or yellow burning gas; g). a rich successful person in the computer industry

Word	Original Meaning	New Meaning
1. to boot	To kick	
2. a bug		An error in a computer programme
3. to crack	To make something split	
4. a flame		An insulting or unfriendly e-mail
5. A geek	An entertainer who bites the heads off live chickens	
6. a pirate	A person who illegally copies software	
7. to surf	To ride on a board on the waves of the sea	

Key: 1c, 2e, 3d, 4f, 5g, 6b, 7a