

## History of the Internet

Prior to the widespread inter-networking that led to the Internet, most communication networks were limited by their nature to only allow communications between the stations on the network, and the prevalent computer networking method was based on the central mainframe computer model. Several research programs began to explore networking between separate physical networks. This led to the development of the packet switching model of digital networking. These research efforts included those of the laboratories of Donald Davies (NPL), Paul Baran (RAND Corporation), and Leonard Kleinrock's MIT and UCLA.

The research led to the development of several packet-switched networking solutions in the late 1960s and 1970s, including ARPANET [The **ARPANET (Advanced Research Projects Agency Network)** developed by ARPA of the United States Department of Defense during the Cold War, was the world's first operational packet switching network, and the predecessor of the global Internet.] and the X.25 protocols. Additionally, public access and hobbyist networking systems grew in popularity, including unix-to-unix copy (UUCP) and FidoNet. They were however still disjointed separate networks, served only by limited gateways between networks. This led to the application of packet switching to develop a protocol for inter-networking, where multiple different networks could be joined together into a super-framework of networks. By defining a simple common network system, the Internet protocol suite, the concept of the network could be separated from its physical implementation. This spread of inter-network began to form into the idea of a global inter-network that would be called 'The Internet', and this began to quickly spread as existing networks were converted to become compatible with this. This spread quickly across the advanced telecommunication networks of the western world, and then began to penetrate into the rest of the world as it became the de-facto international standard and global network. However, the disparity of growth led to a digital divide that is still a concern today.

Following commercialization and introduction of privately run Internet Service Providers in the 1980s, and its expansion into popular use in the 1990s, the

Internet has had a drastic impact on culture and commerce. This includes the rise of near instant communication by email, text based discussion forums, and the World Wide Web. Investor speculation in new markets provided by these innovations would also lead to the inflation and collapse of the Dot-com bubble, a major market collapse. But despite this, the Internet continues to grow.

For more information on the history please visit [http://en.wikipedia.org/wiki/History\\_of\\_the\\_Internet](http://en.wikipedia.org/wiki/History_of_the_Internet)

## Definition of terms:

### TCP/IP

Transmission Control Protocol/Internet Protocol. TCP/IP is the combination of the two and describes the set of protocols that allows hosts to connect to the Internet. In actuality, TCP/IP is a combination of more than those two protocols, but the TCP and IP parts of TCP/IP are the main ones and the only ones to

### Domain

A name that identifies one or more IP addresses.. For example, the domain name apple.com represents about a dozen IP addresses. Domain names are used in URLs to identify particular Web sites. For example, in the URL '<http://www.google.com/index.html>', the domain name is 'google.com'.

Every domain name has a suffix that indicates which top level domain (TLD) it belongs to. There are only a limited number of such domains. For example:

- gov** – Government agencies
- edu** – Educational institutions
- org** – Organizations (nonprofit)
- mil** – Military
- com** – commercial business
- net** – Network organizations
- ca** – Canada
- th** – Thailand

Because the Internet is based on IP addresses, not domain names, every Web server requires a Domain Name System (DNS) server to translate domain names into IP addresses.

### DNS

The **Domain Name System** is an Internet directory service. DNS is how domain names are translated into IP addresses, and DNS also controls email delivery. If your computer cannot access DNS, your web browser will not be able to find web sites, and you will not be able to receive or send email.

### DHCP

**Dynamic Host Configuration Protocol** – In a nutshell, it's the request your computer makes and the response it receives that assigns it a "dynamic" IP address.

## **ISP**

An **Internet Service Provider** is a company that collects a monthly or yearly fee in exchange for providing the subscriber with Internet access.

## **ISDN**

**Integrated Services Digital Network** is a type of digital phone/data and internet service that preceded ADSL (see DSL above) and has for the most part been superseded by it.

## **DSL**

**Digital Subscriber Line** is a high-speed Internet service that competes with cable Internet to provide online access to local customers. DSL operates over standard copper telephone lines like dial-up service, but is many times faster than dial-up. In addition to being faster than dial-up, DSL does not tie up the phone line, coexisting with telephone service so that one can surf the Net and use the phone at the same time.

## **POP(3)**

**Post Office Protocol**, and is one of the technologies used for that all-important medium of communication: email. Like many other computer related things, email requires a special language for mail to be received or sent. POP is one of the technologies that allows email sent from anywhere in the world to arrive in your inbox.

## **SMTP**

**Simple Mail Transfer Protocol** is a set of rules or standardized protocols for sending and receiving email across networks like the Internet. A computer that runs SMTP is referred to as a mail server, and ideally has a near-constant uptime. The SMTP mail server can both send and receive mail, albeit at the client level we associate SMTP with an outgoing email server, and Post Office Protocol 3 (POP3) with incoming mail.

## **IMAP**

There aren't many industry acronyms it helps to know about, but IMAP is one of them. The words the letters stand for, **I**nternet **M**essage **A**ccess **P**rotocol, don't exactly cause the heart to leap, but the protocol itself defines a promise that matters a lot to anyone who handles their mail from more than one location. The promise boils down to this: whenever you go to your inbox and other folders, no matter from where, things will be exactly as you last left them, no matter from where. And that's why we use it for MobileMe email accounts.

## **WWW**

From the founder of the web, Tim Berners-Lee "The **World Wide Web** is the universe of network-accessible information, an embodiment of human knowledge."

## **HTTP**

**Hypertext Transfer Protocol** is the set of rules for transferring files (text, graphic images, sound, video, and other multimedia files) on the World Wide Web. As soon as a Web user opens their Web browser, the user is indirectly making use of HTTP. HTTP is an application protocol that runs on top of the TCP/IP suite of protocols (the foundation protocols for the Internet).

## **Modem**

Short for **modulator-demodulator** is an electronic device that converts a computers digital signals into specific frequencies to travel over telephone or cable television lines. At the destination, the receiving modem demodulates the

frequencies back into digital data. Computers use modems to communicate with one another over a network

## **Router**

A router is a networking device whose software and hardware are usually tailored to the tasks of routing and forwarding information. For example, on the Internet, information is directed to various paths by routers.

## **Firewall**

A firewall is a set of related programs, located at a network gateway server or router, that protects the resources of a private network from users of other networks.