

Web Browsers And Mailing Tools

Introduction:

Network

A network is an interconnection between two or more computers or other computing devices which are connected together usually through a cable to share data and resources among each other.

Internet

It is a computer network made of thousands of networks situated world wide, which keeps increasing rapidly. The Internet is used to share information and services available across multiple networks.

Internet is a set of computers talking over telephone lines, fiber optics, satellite links and other media including probably, the one on your desktop.

In technical words Internet is “the network formed by the cooperative interconnection of computing networks. These connected networks usually use the TCP/IP (Transmission control protocol/Internet Protocol).

Types of Internet Connectivity Options:

- There are number of options for the Internet Connectivity. Plain Dial up, ISDN(Integrated Service Digital Network), DSL(Digital Subscriber Line), Leased Line, Cable Internet Connectivity, Satellite Connectivity and Radio connectivity.

The option you choose depends on the type and quality of access you want and the price and you are willing to pay to get that access.

In India, VSNL (Videsh Sanchar Nigam Limited) is the Internet Service Provider (ISP).

Dial Up Access

The major advantage of a dial-up connection is that it is less expensive as compared to the dedicated connection. This is least expensive means of accessing the Internet. An individual user can easily afford this type of connection. In India this type of connection costs Rupees 3000 to 10000 for a year or 100 or 500 hours, whichever is less. Another advantage of a dial-up connection is that it requires very modest hardware and software resources.

Although dial-up connections are the least expensive they have certain disadvantages. The major disadvantages is their slow speed and low reliability. Regular telephone lines are is that may be very busy during peak hours thus slowing the process. Also, telephones lines are not very reliable. A little disturbance may break the connection to the Internet. In such a case the user will have to dial again.

Direct or Dedicated Access

This option provides full Internet access by dedication a leased phone line between your network (or individual PC) and an Internet service provider (such as VSNL or Department of Telecommunication in India.)

The direct connection is very expensive and difficult to set up and manage. Therefore only organizations are the best suited to take advantages of this solution. Most individuals neither require the dedicated links nor can they afford it. In India, a dedicated connection costs more than Rupees 150,000 a year.

The dedicated connection has many advantages. The major advantage is the fast speed and better reliability.

With a direct connection, you can have many users of your local area network connected to the Internet through a single leased line. You do not need a modem on each individual computer that is connected to the Internet. The computer on your desktop is always connected to the Internet.

The only disadvantage of dedicated connections is that the cost of communication is too high. Also a dedicated connection is more complex and difficult to maintain.

ISDN(Integrated Service Digital Network):

It gives much faster connectivity and speed than that of the plain Dial Up Connection. To use this type of option you need an ISDN connection from an ISP, an ISDN line from the telephone exchange, an NT1 box and a terminal adapter. The NT1 box is used to share the line with multiple ISDN services. The access mechanism is same as that of the dial up access. It is particularly suitable for small business and corporate offices.

Cable Internet Connection:

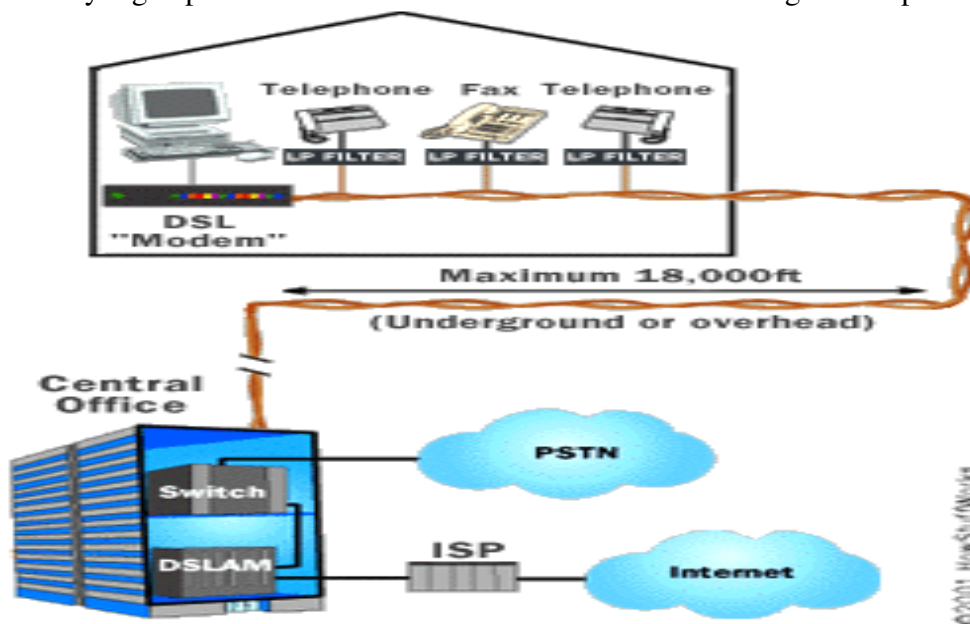
In this type, existing cable of the Television Network is used. Cable that you are using is split in to two. One end goes to your television and the other one connects to the cable modem. The speed of the cable modem is enhanced by utilizing and sharing the existing coaxial and fiber cable lines.

Leased Line:

It is particularly suitable for “Virtual Private Networks”. It is “always on” connection so that you need not dial every time to access the Internet. Normally the companies use leased lines where large volume of data transfer is necessary. The speed of the leased line is available from 9.6 KBPS to 155 MBPS.

Digital Subscriber Line (DSL):

When you connect to the Internet, you might connect through a regular modem, through a local-area network connection in your office, through a cable modem or through a **digital subscriber line** (DSL) connection. DSL is a very high-speed connection that uses the same wires as a regular telephone line.



Here are some advantages of DSL:

- You can leave your Internet connection open and still use the phone line for voice calls.
- The speed is much higher than a regular modem (1.5 Mbps vs. 56 Kbps)
- DSL doesn't necessarily require new wiring; it can use the phone line you already have.
- The company that offers DSL will usually provide the modem as part of the installation.

But there are disadvantages:

- A DSL connection works better when you are closer to the provider's central office.
- The connection is faster for receiving data than it is for sending data over the Internet.
- The service is not available everywhere.

Radio Connectivity :

It does not require physical connection between ISP(Internet Service Provider) and the user.This connectivity gives high bandwidth and require the user at line-of-sight with the ISP setup. Wireless Application Protocol (WAP) is the emerging technology coming up in this era. It makes possible to use Palms,Mobile Phones,Tablet PCs for the Internet Connectivity and it's applications.

Addressing System :

The Internet has many computer systems linked to it. Internet Protocol (IP) addressing system is used to keep the track of the users. This system uses two types i.e. Letter System and Number System. The Letter addresses are words separated by dots. These are the addresses of a Professional Society. The Lettering system is called the Domain Naming System (DNS). The IP addressing system functions by making use of numeric addresses. The protocol software is responsible to make the Internet functioning more efficiently i.e. TCP and IP.

TCP stands for "Transmission Control Protocol" and IP stands for "Internet Protocol". The main point behind the IP systems is that each computer knows of or can determine the existence of all the others and thus routes packets of information to its destination through the quickest route. Domain Name System means Addressing system. It is necessary for transferring data from one computer to another.

Domain:

A domain is the server that belongs to a particular network and it can be of different types such as org (organizations), com (commercial sites), edu (educational sites), etc. When the user enters a domain name it is translated into its IP address.

Domain Name Extension: --

| Domain Type | Description |
|-------------|--|
| .com | Indicates a commercial organization such as microsoft.com oracle.com etc. |
| .net | Indicates a network service provider organisation, such as nsf.net. |
| .edu | Indicates an academic organisation such as oxford.edu, mit.edu, etc. |
| .gov | Indicates a government organization in United State, such as whitehouse.gov. |
| .int | Indicates an international organization, such as nato.int (North Atlantic Treaty Organisation.) |
| .mil | Indicates military operations, such as ddn.mil (Defnse Data Network). |
| .org | Indicates noncommercial organizations, such as cnidr.org (Center for Networked Information Discovery and Recovery) |

The following table lists some geographical domain names.

| | |
|-----|--------------------------|
| .in | India |
| .au | Australia |
| .us | United States of America |
| .pk | Pakistan |
| .uk | United Kingdom |
| .ch | Switzerland |

Internet Browsers:

Once you are connected to the Internet, it is necessary to use any Internet browser to view information on the various websites on the Internet. Internet browsers are the softwares. There are two browsers widely used in our country to navigate and explore the Internet. These are:

1. Netscape Navigator: The entire version range of the Netscape communicator is used to navigate the Internet. This is the product of Netscape Communication Corporation.

2. Microsoft Internet Explorer: The entire range of Internet Explorer happens to be quite prominent. It is a product of Microsoft Corporation which is usually bundled with Operating System i.e. Windows98, Windows2000 etc.

Connect to the Internet:

To get web based information, it is necessary to connect to the Internet. By following steps you can connect the Internet::

- 1) Click the ICON “Short cut to SVS” i.e. connecting to the ISP through telephone connection and ISP account.
- 2) Click Connect.
- 3) Getting connected with ISP , it asks you to enter user name and password.
- 4) Enter the user name and password and then click Continue.
- 5) It will check the same and then you get connected to the Internet.
- 6) Click the Internet Explorer Icon.
- 7) Type the web site name at “Address” say www.timesofindia.com
- 8) Browse the web sites by using the various menu options.

WWW (World Wide Web):

It is a distributed hypertext collection of clients and servers that link a page to other pages throughout the global Internet.

There is another approach to offering information on the computers on the Internet, the most popular one at that, and it is called world called World Wide Web (WWW).

A WWW computer system consists of a computer called web server. The information that is to be offered is stored on the web servers in the form of web pages. These web pages can be created using a number of tools. The most common of these tools is the language called Hyper Text Markup Language (HTML). A user can view these web pages using a web browser. A web browser is just a program such as Netscape Navigator, Microsoft Internet Explorer, or Mosaic.

A web page can simply be a block of text, but typically also includes graphics. Sound clips and full motion video might also be part of a page. Anything on this page can be linked to another page of information. The user who accesses the first page simply clicks the mouse pointer on any of these linked spots and can receive additional information on his screen or transfer files to his computer.

The Concept of E-Mail

The most common use of the Internet is electronic mail (popularly known as e-mail). Using e-mail a user can send text, pictures, sound files, program files, or animated movies to any other person on the network anywhere in the world. There are two main advantages of using e-mail. The first is the speed at which delivery takes place (almost instantaneously), and the second is that it costs almost the same regardless of the distance.

How does E-mail work?

Every Internet mail user has a unique Internet e-mail address. This e-mail address is in the format username@domainname. To send e-mail to someone you need to know only his e-mail address. You do not need to know the hardware and software specification of the recipient. Following figure shows how mail messages move across the Internet.



Mail Server

Sender

Sender sends message to the remote mail server
mail server

Receiver

Recipient retrieves message from the

The above figure shows a very simplified model of an e-mail system. Following steps are involved in sending an e-mail message ---

1. The sender composes the mail message using his mail client software. A mail client allows a user to compose, edit and send the mail message. There are a number of mail client software available. Netscape Mail, Outlook Express, Eudora, Pine, etc. are examples of mail clients.
2. After composing the mail message the user sends it to the recipient's e-mail address. The message propagates across the Internet before it reaches the mail server of the recipient. The domain name in the recipient's e-mail address identifies his mail server and the username identifies the recipient on that server. For example, when you send mail to micron@pn2.vsnl.net.in the address of the mail server is pn2.vsnl.net.in and the username is micron.
3. The recipient connects to his e-mail account on his mail server to read the messages sent to him.

The Services provided on the Internet:

The File Transfer Protocol - FTP:

The FTP is a very commonly used protocol on Internet. The FTP makes it possible to transfer files from one computer on the Internet to another. The FTP is a member protocol of the TCP/IP protocol suite.

When you transfer a file from your computer to a remote computer it is called *file uploading* and when you transfer a file from a remote host to your computer it is referred to as *file downloading*.

FTP Terminology:

File Uploading: Transferring a file from a local computer to a remote host.

File Downloading: Transferring a file from a remote host to a local computer.

FTP Server: An FTP server is a host that acts as a repository of information. The information stored on these hosts is made available for users to transfer to their local computers. FTP servers are also referred to as archive sites.

FTP Client: FTP Client is a program that helps you connect to an FTP server. There are 2 types of FTP Clients- text based (or line mode clients) and GUI based. The GUI based FTP clients are easy to use as compared to line mode clients.

There are 2 types of FTP Clients - text based (or line mode clients), and GUI based. The GUI based FTP clients are easy to use as compared to line mode clients. E.g. WS_FTP, CuteFTP, FTPVoyager.etc.

Search Engines :

The good news about the Internet and its most visible component, the World Wide Web, is that there are hundreds of millions of pages available, waiting to present information on an amazing variety of topics. The bad news about the Internet is that there are hundreds of millions of pages available, most of them titled according to the whim of their author, almost all of them sitting on servers with cryptic names. When you need to know about a particular subject, how do you know which pages to read? If you're like most people, you visit an **Internet search engine**.

Internet search engines are special sites on the Web that are designed to help people find information stored on other sites. There are differences in the ways various search engines work, but they all perform three basic tasks:

- They search the Internet -- or select pieces of the Internet -- based on important words.
- They keep an index of the words they find, and where they find them.
- They allow users to look for words or combinations of words found in that index.

Early search engines held an index of a few hundred thousand pages and documents, and received maybe one or two thousand inquiries each day. Today, a top search engine will index hundreds of millions of pages, and respond to tens of millions of queries per day.

There are various categories of search engines that are based upon the dedicated work.

1) General Purpose Engines:

These types of search engines are commonly used for looking some information on the web sites and pages. "Indiatimes.com" search is a good example of this type.

2) Search Engine (MP3):

It is used only to search MP3 files on the Internet MP3 files are the digital audio files that you can download from the sites and play them on the personal computer. Napster is an example of this type of search engine.

3) Search Engine (regional):

It allows you to search the relevant information to the geographic limitations. Hence you find more information. You can also try for something that can be associated to the particular region. "Yahoo" is the example of this type.

4) Search Engine (Images and Multimedia):

It is used to find the web sites related to the images and multimedia. The content in this type of search engine is organised in directories and returns the results with thumbnails.

5) Search Engine (Browser based):

Many internet browsers have built in search facility. Internet Explorer, Netscape Communicator gives this facility with customisation.