Internet : Features and Usefulness

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Abstract

Today computers play a major role for communicating information by networking with one another worldwide. The connection between any two computers of any part of the world irrespective of their physical distance is possible through the network, like INTERNET which is a worldwide network of computer networks. The author provides the background and usefulness of INTERNET, describes the mode of using and its features like E-mail, FTP, Telnet, Gopher, Archie, WWW and Veronica. INTERNET today is perhaps the most revolutionary information management vehicle of the century.

Introduction

The need for communicating information across the globe has grown tremendously in the 20th Century. The medium of communication in early days was the printing press. Subsequently telephone, radio, television and other mass media influenced our information age. Today computers play a major role for communicating information by networking with one another worldwide.

Network is a collection of independent computers connected together to share information and resources. The link between computers are setup through modems (a device which connects telephone line with computers,) telephone lines, microwave radio transmission and satellite. The connection between any two computers of any part of the world irrespective of their physical distance is possible through the network.

Internet

Internet is internetworking, i.e, networking of networks. It is a worldwide network of networks, which is a conglomeration of smaller networks and other computers spreading over the entire globe creating a virtual web like structure. It is the resource of information, which is accessible to public from any computer connected to Intenet. Hence Internet is popularly known today as "The Information Superhighway".

Background

In 1969, the U.S. Department of Defence started network for military communication called ARPANET (Advanced Research Project and Administration Network). This was used primarily to support military research. In 1984 the National Science Foundation established a network called NSFNET. Then more and more sites were connected to it. By 1990 the Internet as we know it today has begun and since then there is a phenomenal growth of the Internet. At present there are more than 30 million users on the net (Internet) and growing at the rate of 1 million per month.

On 15th August 1995, Videsh Sanchar Nigam Limited (VSNL) launched Gateway Internet Access Service (GIAS) from 5 nodes (a Computer attached to a network and also called a host) at Delhi, Mumbai, Calcutta, Madras and Pune. Each GIAS node is connected to Internet via high speed MCI circuits with a total band width of approximately 15 MBPS. Other cities can access GIAS through I-NET a data Network service Provided by Department of Telecommunication (DOT), Govt. of India.

Usefulness of Internet

Internet is being used for elctronic mailing, transferring file or information, browsing, retrieving, social communication, news gathering, business or advertising, music, games, etc. We have access to all the resources on our host computer to which we are authorised to use, or on any other Internet host on which we have an account or on any other Internet host that offers publicly accessible information.

Internet gives us the ability to move information between hosts via file transfer or interactively by logging into a remote host. In addition to the above there are various other services we can use for example, some hosts provide access to specialised databases, or archives of information. The Internet resource guide compiled by the NSF Network Service Centre (NNSC), lists facilities on the Internet that are available to users. Such facility includes Super Computer Centres, library catalogues and specialised data collection. This guide is maintained by directory services portion of inter-NIC (Network Information Centre) and available on-line to the users via anonymous FTP (File Transfer Protocol) from the host of Inter-NIC in the resource guide directory.

Using Internet

Internet is huge network. To access data, a system has been developed which is called Internet Protocol (IP) Addressing system. Each computer

on the Internet is called a node or host and has a unique IP address. This address uses either numbers or abbreviated words separated by dots. For example-164.10012.8 is an IP address of a particular host and can be reached by addressing this number. Princeton.edu which is an Internet site address of Princeton University, US.

It is possible to reach a particular host and download information by requesting through this IP addressing system.

The number addressing is specific to a particular host and letter addressing is linked to a particular number address. Hence by requesting through letter address system which in turn refers to the particular number address and reaches to the requested host.

Internet is a packet switching network. A packet consists of data and its destination address called a Datagram and are sent from one host to another by using specific set of rules designed for Internet called TCP/IP Protocol. Protocol is a set of rules framed to communicate between one computer to another. TCP/IP stands for Transmission Control Protocol/ Internet Protocol. In this protocol the data is broken into smaller packets and are sent from one point to another using data transfer mechanism - Bridges, Routers Gateways.

Features

Internet allows us to do electronic commerce by providing value added services like E-mail, FTP, Telnet, Gopher, Archie, World Wide Web (WWW) & Veronica.

E-mail

E-mail stands for Electronic Mailing which is the modern days World's latest communication way where texts, MIS reports, data, agenda, minutes and other messages are sent world wide. It is the most used feature in the Internet. It conveniently replaces postal services, courier services, telex and fax with far more speed, accuracy and privacy at a much cheaper price.

FTP

File Transfer Protocol (FTP) as the name suggest to copy files from remote host to our host and vice-versa. Hundreds of systems connected to Internet has file libraries, Archives accessible to public. There are also libraries of documents as well, a copy of historical documents, songs, lyrics, poems, can be downloaded from Internet. Many FTP sites permit

us to access their files without establishing any account with them, are called anonymous sites.

Telnet

Telnet is a utility which allows us to log in (connect to another computer) to a remote host. We can telnet into huge databses to do research work or telnet into libraries around the World to check whether the library has certain books that we are looking for. If not available in this library we may telnet to other libraries.

Gopher

Gopher was developed at the University of Minnesota of US. This is an Internet based document retrieval system which is a menu driven application that allows us to hop around the globe looking for information in various information libraries. The Internet offers a fascinating world called Gopherspace in which approximately 3000 Gopher servers are connected.

Archie

Archie is another Internet search program which helps users to locate files and directories on anonymous FTP servers any where on the Internet. It responds to queries based on complete or partial filenames. It is useful for gathering information and indexing widely distributed collections of data. Archie runs as a client program and allows us to retrieve public domain files. These files can be text based, graphics based or sound files. The Archie database can be accessed through a local client, a interactive Telnet session or through an electronic mail.

WWW

Instead of linking menus as in case of Gopher the documents are linked togther in the form of hypertext (Text with graphics, sounds etc.) creating a World Wide Web (WWW). A series of servers containing these hypertexts are interconnected. The documents can be fetched by a browsing mechanism by using Web browsers. A browsing software like Netscape Navigator, Mosaic is used to browse through the Webs. The webs contain hypertexts with graphics and multimedia applications like audio video clipart stored in a HTML (Hyper Text Markup Language) format on a series of servers. There are also web sites for searching the

webs called search engine such as yahoo.com, infoseek.com etc., through which Web surfing is possible.

Veronica

Veronica stands for Very Easy Rodent Oriented Netwide Index to Computer Archives. It is a search tool which allows us to quickly scan Gopherspace to particular file and directories. Veronica is a programme accessed through Gopher. It asks us to enter a keyword and then it searches through database over Gopher servers.

Conclusion

Internet today is perhaps the most revolutionary information management vehicle of the century. Due to its open standards and communication protocols, it is possible to connect computers irrespective of the platform and access information by just using powerful browsers. We are no more constrained by distances, geographical barriers, languages, and other differences.

References

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