Chapter 18

The Internet

Computer Fundamentals - Pradeep K. Sinha & Priti Sinha

Learning Objectives

In this chapter you will learn about:

§ The Internet

§ Evolution and basic services on Internet

§ World Wide Web (WWW)

§ WWW browsers

§ Uses of the Internet

The Internet

§ The Internet is a network of computers that links many different types of computers all over the world

§ Network of networks sharing a common mechanism for addressing (identifying) computers, and a common set of communication protocols

§ Evolved from the basic ideas of ARPANET (the first WAN that had only four sites in 1969) for interconnecting computers

§ Initially used only by research organizations and universities to share and exchange information

(Continued on next slide)

1

The Internet

(Continued from previous slide..)

§ In 1989, the US Government lifted restrictions on the use of the Internet and allowed it to be used for commercial purposes as well

§ Internet has rapidly grown and continues to grow at a rapid pace

§ Interconnects more than 30,000 networks, allowing more than 10 million computers and more than 50 million computer users in more than 150 countries to communicate with each other
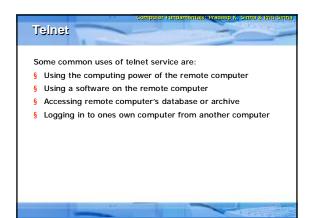
Basic Services of the Internet

§ **Electronic Mail (e-mail):** Allows user to send a mail (message) to another Internet user in any part of the world in a near-real-time manner

§ **File Transfer Protocol (FTP):** Allows user to move a file from one computer to another on the Internet

§ **Telnet:** Allows user to log in to another computer somewhere on the Internet

§ **Usenet News:** Allows group of users to exchange their views/ideas/information

Electronic Mail

§ E-mail is a rapid and productive communication tool because:

   § Faster than paper mail

   § Unlike telephone, the persons communicating with each other need not be available at the same time

   § Unlike fax documents, e-mail documents can be stored in a computer and be easily edited using editing programs

File Transfer Protocol

§ Moving a file from a remote computer to ones own computer is known as downloading

§ Moving a file from ones own computer to a remote computer is known as uploading

§ Anonymous ftp site is a computer allowing a user to log in with a username of anonymous and password that is user's e-mail address.

§ Anonymous ftp sites are called publicly accessible sites because they can be accessed by any user on the Internet

Ref. Page 359 Chapter 18: The Internet Slide 7/16

Telnet

Some common uses of telnet service are:

§ Using the computing power of the remote computer

§ Using a software on the remote computer

§ Accessing remote computer's database or archive

§ Logging in to ones own computer from another computer

Ref. Page 360 Chapter 18: The Internet Slide 8/16

Usenet News

§ Several usenet news groups exist on the Internet and are called newsgroups

§ In a *moderated newsgroup* only selected members have the right to directly post (write) a message to the virtual notice board. Other members can only read the posted messages

§ In a *nonmoderated newsgroup* any member can directly post a message to the virtual notice board

§ *Netiquette* (network etiquette) deals with rules of framing messages that will not hurt others

Ref. Page 360 Chapter 18: The Internet Slide 9/16

3

World Wide Web (WWW or W3)

§ Hypertext documents on the Internet are known as web pages

§ Web pages are created by using a special language called *HyperText Markup Language (HTML)*

§ WWW uses the client-server model and an Internet Protocol called *HyperText Transport Protocol (HTTP)* for interaction among the computers on the Internet

§ Any computer on the Internet that uses the HTTP protocol is called a web server and any computer that can access that server is called a web client

(Continued on next slide)

World Wide Web (WWW or W3)

(Continued from previous slide..)

§ It uses the concept of *hypertext* for information storage and retrieval on the Internet

§ Hypertext documents enable this by using a series of links

§ Link is a special type of item in a hypertext document that connects the document to another document providing more information about the linked item

Example of Hypertext Document

Pradeep K. Sinha has been involved in the research and development of distributed systems for almost a decade. At present Dr. Sinha is working at the **Centre for Development of Advanced Computing (C-DAC)**, Pune, India. Before joining C-DAC, Dr. Sinha worked with the **Multimedia Systems Research Laboratory (MSRL) of Panasonic** in Tokyo, Japan.

Links

4

WWW Browsers

WWW browser is a special software loaded on a web client computer that normally provides following navigation facilities to users:

§ Does not require a user to remotely log in to a web server computer or to log out again when done

§ Allows user to visit the server computer's web site and to access information stored on it by specifying its *URL (Uniform Resource Locator)* address

(Continued on next slide)

WWW Browsers

(Continued from previous slide..)

§ Allows user to create and maintain a personal *hotlist* of favorite URL addresses of server computers that user is likely to frequently visit in future

§ Allows user to download information in various formats from server computers to user's own computer

Uses of the Internet

Some important current strategic uses of the Internet are:

§ On-line communication
§ Software sharing
§ Exchange of views on topics of common interest
§ Posting of information of general interest
§ Product promotion
§ Feedback about products
§ Customer support service
§ On-line journals and magazines
§ On-line shopping
§ World-wide video conferencing

Keywords/Phrases

- § Anonymous ftp site
- § Browser
- § Download
- § Electronic mail (e-mail)
- § File Transfer Protocol (FTP)
- § Hypertext
- § Hypertext Transport Protocol (HTTP)
- § Internet
- § Newsgroup
- § Publicly accessible sites
- § Standard Generalized Markup Language (SGML)
- § Telnet
- § Uniform Resource Locator (URL)
- § Upload
- § Usenet
- § Web client
- § Web Server
- § World Wide Web (WWW)