

Module IV – Introduction To Networking And The Internet

A network is a collection of computers, printers, and other electronic devices, linked by cables or wireless devices, allowing them to communicate with each other. A network allows individuals to share and exchange information (files and programs), access common services (email and applications), and share hardware (printers, servers, image scanners, and fax machines).

LAN

There is always a need for sharing resources and exchange of information within an organization. LAN (Local Area Network) is the communication network that sends data and connects many computers, terminals, printers together. They also permit exchange of data within a localised area.

- Benefits of LAN
- The cost of setting up of a LAN is low.
- Each device in the network can communicate with other devices in the network.
- Network can shared by all the connected devices in the network.
- Each device in the network can work stand alone if required.
- One main drawback is that the area covered is small – a few kilometers

WAN

Wide Area Network (WAN) on other hand covers a large geographical area, that could be extended through out a country or across continents.

Essential purpose of WAN is to link separate locations in order to move data around.

WAN allows these locations to access and use and use computer resources and also provides infrastructure essential for information exchange.

The main difference between LAN and WAN is that LAN is under the complete control of the owner. In WAN, it needs the involvement of other agencies, for example – a telephone company.

Network cover area within a city is called MAN (Metropolitan Area Network).

Wireless networks

The easiest, least expensive way to connect the computers in your home is to use a wireless network, which uses radio waves instead of wires. The absence of physical wires makes this kind of network very flexible. For example, you can move a laptop from room to room without fiddling with network cables and without losing your connection. The downside is that wireless connections are generally slower than Ethernet connections and they are less secure unless you take measures to protect your network.

If you want to build a wireless network, you'll need a wireless router. Signals from a wireless router extend about 100 feet (30.5 meters) in all directions, but walls can interrupt the signal. Depending on the size and shape of your home and the range of the router, you may need to purchase a range extender or repeater to get enough coverage.

You'll also need a wireless adapter in each computer you plan to connect to the network. You can add printers and other devices to the network as well. Some new models have built-in wireless communication capabilities, and you can use a wireless Ethernet bridge to add wireless capabilities to devices that don't. Any devices that use the Bluetooth standard can also connect easily to each other within a range of about 10 meters (32 feet), and most computers, printers, cell phones, home entertainment systems and other gadgets come installed with the technology.

NETWORKS

Previously, home networks could be afforded only by computer professionals or technophiles -- most families either didn't need or couldn't afford more than one computer. But now, in addition to using computers for e-mail, people use them for schoolwork, shopping, instant messaging, downloading music and videos, and playing games. For many families, one computer is no longer enough to go around. In a household with multiple computers, a home network often becomes a necessity rather than a technical toy.

A home network is simply a method of allowing computers to communicate with one another. If you have two or more computers in your home, a network can let them share:

Files and documents

An Internet connection

Printers, print servers and scanners
Stereos, TVs and game systems
CD burners

Benefits of Networking

- Increased Employee Productivity When an office is connected, so are people.
- Ideas are shared more quickly.
- More informed decisions are made.
- Data is conveniently shared without using CDs
- Network-based communication such as e-mail, “instant messenger” services become cost-effective.

Reduced Office Equipment Costs Networking allows equipment – mainly printers and servers – to be shared with multiple users.

- Access to Resources Anytime/Anywhere Networking brings mobility. Key files, data and services can be accessed from any place on the network.

Networking in an internet café

Networking is the linking of two or more computing devices together for the purpose of sharing data. There are many kinds of networks such as LAN, WAN etc. We use networking in our day to day lives. One of the common place we use networking is the internet cafe. Cafes are the place where one can use the computer with internet access, mostly by paying a small fee. They are widely used because they are more affordable than personal ownership of equipment.

Networking is used to link up the computers in an internet cafe. Thus all the computers in a café are connected to each other. A user can access internet and can chat, browse, blog...etc.

The Internet

The Internet, or *the Net* is the large group of millions of computers around the world that are all connected to one another. These computers are connected by phone lines, fibre optic lines, coaxial cable, satellites, and wireless connections.

When you log on to the Internet you are given access to many of the other computers that are connected around the world.

The Internet was conceived by the Advanced Research Projects Agency (ARPA) of the U.S. government in 1969 and was first known as the ARPANet. The original aim was to create a network that would allow users of a research computer at one university to be able to "talk to" research computers at other universities.

Today, the Internet is a public, cooperative, and self-sustaining facility accessible to hundreds of millions of people worldwide. For many Internet users, electronic mail (e-mail) has practically replaced the Postal Service for short written transactions. Electronic mail is the most widely used application on the Net. You can also carry on live "conversations" with other computer users, using Internet Relay Chat (IRC) and more recently with Internet telephony.

HTML

HTML, which stands for **Hyper Text Markup Language**, is the predominant markup language for web pages. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. It allows images and objects to be embedded and can be used to create interactive forms. It is written in the form of **HTML** elements consisting of "tags" surrounded by angle brackets within the web page content. It can embed scripts in languages such as JavaScript which affect the behavior of **HTML** webpages. **HTML** can also be used to include Cascading Style Sheets (CSS) to define the appearance and

layout of text and other material. The W3C, maintainer of both **HTML** and CSS standards, encourages the use of CSS over explicit presentational markup.

Websites

A web site is a collection of information about a particular topic or subject. Web site design is defined as the arrangement and creation of web pages that in turn make up a web site. A web page consists of information for which the website is designed and developed. For example, a web site might be compared to a book, where each page of the book is a web page.

An example of a website is www.mccclicut.org

Blogs

A blog is also known as Weblog. It is a personal online diary or a journal which allows one to share thoughts and ideas. In a blog, one can add video, pictures and music. One can also read comments that a visitor leaves on the blog. The best part is that one does not have to be computer literate. People who create blog are called bloggers. Blog is a very cheap medium on the Internet through which one can express feelings and write according to one's wish about anything that one likes.

A blog gives us the freedom of writing articles. Users can give their views about the article and you can know your mistakes. Specially those people who has no website but wants to give information to others about themselves, and want to share his/her opinion about others, can use this to their advantage.

Some of the best blogging sites are given below.

www.blogger.com

www.blogspot.com

www.wordpress.org

Search engine

A program that searches documents for specified keywords and returns a list of the documents where the keywords were found. Although *search engine* is really a general class of programs, the term is often used to specifically describe systems like Google, Alta Vista and Excite that enable users to search for documents on the World Wide Web and USENET newsgroups.

Typically, a search engine works by sending out a *spider* to fetch as many documents as possible. Another program, called an *indexer*, then reads these documents and creates an index based on the words contained in each document. Each search engine uses a proprietary algorithm to create its indices such that, ideally, only meaningful results are returned for each *query*.

e-mail

e-mail is the shortened form for *electronic mail*, the transmission of messages over communications networks. These messages can be notes entered from the keyboard or attachments from a computer. They enable users to send electronic mail anywhere in the world. E-mails are fast, flexible, and reliable.

An email address is usually made by the user in order to communicate.

Chat

Chat is live online communication between two users via computer. Once a chat has been initiated, either user can enter text by typing on the keyboard and the entered text will appear on the other user's monitor.

A chat room is a Web site or part of a Web site that provides a venue for communities of users with a common interest to communicate in real time.

Because chat room messages are spontaneous and instantly visible, there is a potential for abuse, which may or may not be intentional. Chat rooms can be found that focus on virtually any aspect of human endeavour or interest.

Social networking

Social networking is the communication of choice between modern youths of today. Social network can be termed as a small community found in a workplace, university or college. Imagine a million individuals who are ready to meet other people, share first-hand information and experiences about any topic under the sun.

Social networking is advantageous in a sense because it creates diversity. One can make friends with another person in another part of the continent and share 'culinary secrets'

The flip side that social networking sites attract viruses and thieves who try to con you.

There are many social networking sites including Orkut, friendfinder, classmates...

Hacking

Computer hacking is the practice of modifying computer hardware and software to accomplish a goal outside of the creator's original purpose. People who engage in computer hacking activities are often called hackers. Since the word "hack" has long been used to describe someone who is incompetent at his/her profession, some hackers claim this term is offensive and fails to give appropriate recognition to their skills.

Phishing

Phishing is an illegal process of acquiring sensitive information such as usernames, passwords and credit card details etc. Phishing is generally done by e-mail or instant messaging and it often directs users to enter details at a fake website, which is almost identical to the legal one. The user requires tremendous skill to detect that the website is fake. A phishing technique was described in detail in 1987, and the first recorded use of the term "phishing" was made in 1996. The term is a variant of *fishing*.