



Lecture – 05

Course Teacher: Rubina Begum

Lecturer in Computer & IT, NENC.

Email: rubina.nenc19@gmail.com



Outline

- ❑ What is Internet?
- ❑ Features of Internet
- ❑ Components of the internet software
- ❑ Applications of internet
- ❑ Email
- ❑ Topology



Internet

- ▶ Internet is a system that interconnects the different computer systems across the world. It uses the Internet protocol suite to link devices located in different corners of the world.
- ▶ The Internet system carries an extensive range of information resources and services including World Wide Web (WWW), telephony, electronic mail, etc. It uses standard internet protocols, such as TCP/IP and HTTP, etc.
- ▶ An internal web comprises of all Hypertext Transfer Protocol (HTTP) nodes on a private network; for example, an organization's LAN or WAN.



Features of Internet

- ▶ **Accessibility**

An Internet is a global service and accessible to all. Today, people located in a remote part of an island or interior of Africa can also use Internet.

- ▶ **Easy to Use**

The software, which is used to access the Internet (web browser), is designed very simple; therefore, it can be easily learned and used. It is easy to develop.

- ▶ **Interaction with Other Media**

Internet service has a high degree of interaction with other media. For example, News and other magazine, publishing houses have extended their business with the help of Internet services.



Features of Internet (Cont.)

- ▶ **Low Cost**

The development and maintenance cost of Internet service are comparatively low.

- ▶ **Flexibility of Communication**

Communication through Internet is flexible enough. It facilitates communication through text, voice, and video too. These services can be availed at both organizational and individual levels.

- ▶ **Security**

Last but not the least, Internet facility has to a certain extent helped the security system both at the individual and national level with components such as CCTV camera, etc.



Components of the internet software

- ▶ **Internet Software** comprises of all the tools needed for networking through computer. Following are a few important components of the Internet Software –
 - ▶ Transmission Control Protocol/ Internet Protocol (TCP/IP)
 - ▶ Dialer Software
 - ▶ Interment Browser



Applications of Internet

Internet applications are server-based applications.

Following are a few Internet Applications –

- World Wide Web (WWW)
- Electronic mail (e-mail)
- File Transfer Protocol (FTP)
- Telnet (i.e., log-in to the computer located remotely)
- Internet Relay Chat (IRC) (Real time video chatting)

Hub, Switch, Router



Template	Hub	Switch	Router
Layer	Physical layer	Data link layer	Network layer
Data Transmission form	Electrical signal or bits	Frame& packet	Packet
Transmission type	Frame flooding, unicast, multicast or broadcast	First broadcast, then unicast and/or multicast depends on the need	At Initial Level Broadcast then Uni-cast and multicast
Device type	Non-intelligent device	Intelligent device	Intelligent device
Used in(LAN, MAN, WAN)	LAN	LAN	LAN, MAN, WAN
Transmission mode	Half duplex	Half/Full duplex	Full duplex
Speed	10Mbps	10/100Mbps, 1 Gbps	1-100Mbps(wireless); 100Mbps-1 Gbps(wired)
Address used for data transmission	MAC address	MAC address	IP address

Broadband



- ▶ In telecommunications, broadband is a wide bandwidth data transmission with an ability to simultaneously transport multiple signals. The medium can be cable, optical fiber, radio or twisted pair. In the context of internet access, broadband is used to mean any high-speed Internet access that is always is on and faster than traditional dial-up access.

Features of Broadband



- ▶ The data transmission speed of the broadband is more than 200 kbps while dial-up is 56 kbps.
- ▶ With broadband, the user need not worry about checking email. If the computer is on, the email application will automatically update from the server checking for new emails.
- ▶ Broadband connections have digital connections and are highly reliable.
- ▶ Multiple users can work at the same time simultaneously.
- ▶ As the connection is first, the download rate is also fast. Thus downloading, music, files, email etc. is much faster in a broadband connection.

Features of Broadband – Cont.



- ▶ In broadband internet connection, there are no automatic cut-offs or time-outs of the connections.
- ▶ The broadband connection is an “always on” connection. The broadband connection is always on 24/7 once the computer is started.
- ▶ Broadband connections are billed according to the usages or plan not as per how much time is spent. Thus users do not have to keep a track of the time they spend on the internet.
- ▶ Broadband Internet access is available for wireless device as well. This connection is an advantage for those who own a laptop, palmtop, or cell phone.

Email



Electronic mail or e-mail, is a method of exchange digital message between people using digital devices such as computers, tablets and mobile phones.

Advantage of E-mail



- ▶ **It's free:** Once you're online, there is no further expense.
- ▶ **Easy to reference:** Sent and received message and attachments can be store safely, logically and reliable. It's a lot easier to organize emails than paper.
- ▶ **Easy to use:** Once you're set up, sending and receiving message is simple. Data storage and contacts can be accessed quickly and easily.
- ▶ **Speed:** Message to send? Done, under a second! Email is as fast form of written communication as any.
- ▶ **Global:** Web based email means you can access your message anywhere online.

Advantage of E-mail – Cont.



- ▶ **Info at your fingertips:** Storing data online means less large, space taking file cabinets, folders and shelves. You can access information far quicker if you learn how to use email this way.
- ▶ **Leverage:** Send the same message to any number of people. Adaptations are simple, too. If you have a product or Service to sell, email is an effective medium to get your message out.
- ▶ **Send reminders to yourself:** Do you use more than account? Email yourself messages from work to home or vice versa. Dose the idea of two or more accounts seem complicated? It's you know how to manage multiple accounts.

Steps of Receiving an Email



- ▶ In order to look to the E-mail you have to log into your account.
- ▶ After you have logged in click on the inbox button where all the E-mail you have been saved.
- ▶ Clicking on it will open the mail and you can see the data which have been sent to you.
- ▶ After opening the inbox you will see the person and the subject who have sent the E-mail.
- ▶ If an attachment or file has been sent to you then you can see and even download by clicking on the download option.
- ▶ There will be a reply option in case if you want to reply to the sender.

Email servicing organization name



E-mail servicing organization: Gmail, Zoho Mail, Outlook.com, Mail.com, Yahoo Mail, GMX Mail, Fast mail, Hushmail, iCloud, AOL Mail, Proton Mail.



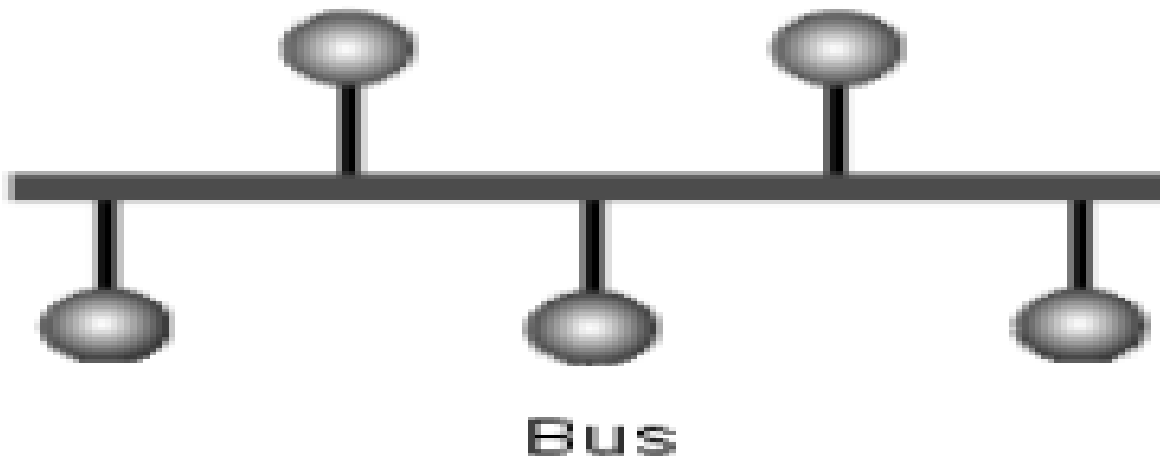


- ▶ In communication networks, a topology is a usually systematic description of the arrangement of a network, including its nodes and connecting lines. There are two ways of describing network geometry: The physical topology and the logical (or signal) topology.
- ▶ The physical topology of a network is the actual geometric layout of workstations. There are several common physical topologies, as described below:

Bus network Topology



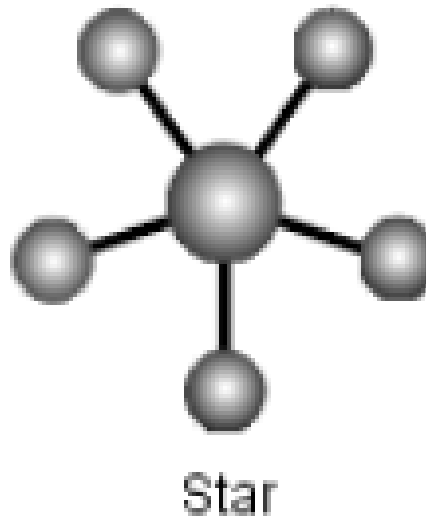
- ▶ In the bus network topology, every workstation is connected to a main cable called the bus. Therefore in effect, each workstation is directly connected to every other workstation in the network.



Star Network Topology



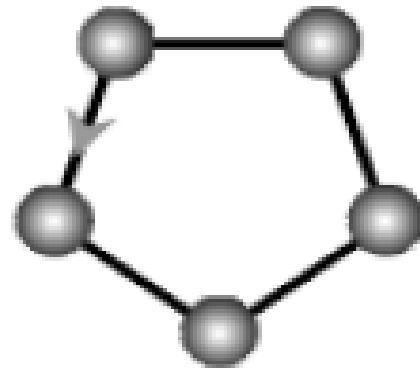
- ▶ In the star network topology, there is a central computer or server to which all the workstation are directly connected to every other through the central computer.



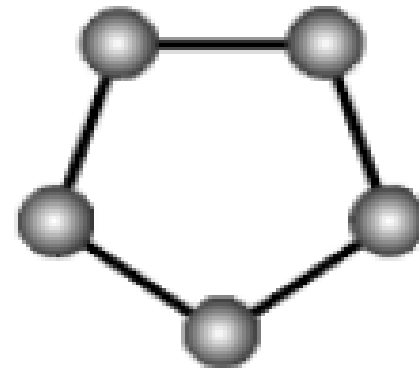
Ring Network Topology



- ▶ In the ring network topology, the workstations are connected in a closed loop configuration. Adjacent pairs of workstation are directly connected. Other pairs of workstation are indirectly connected, the data passing through one or more intermediate nodes.



Token ring

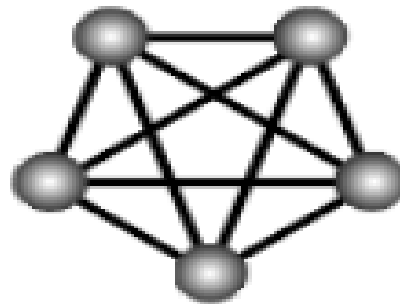


Ring

Mesh Network Topology



- ▶ The mesh network topology employs either of two schemes, called to full mash and partial mash. In the full mash topology, other workstation is connected direct directly to each of the others. In the partial mesh topology, some workstations are connected to all the others, and some are connected only to those other nodes with which they exchange the most data.

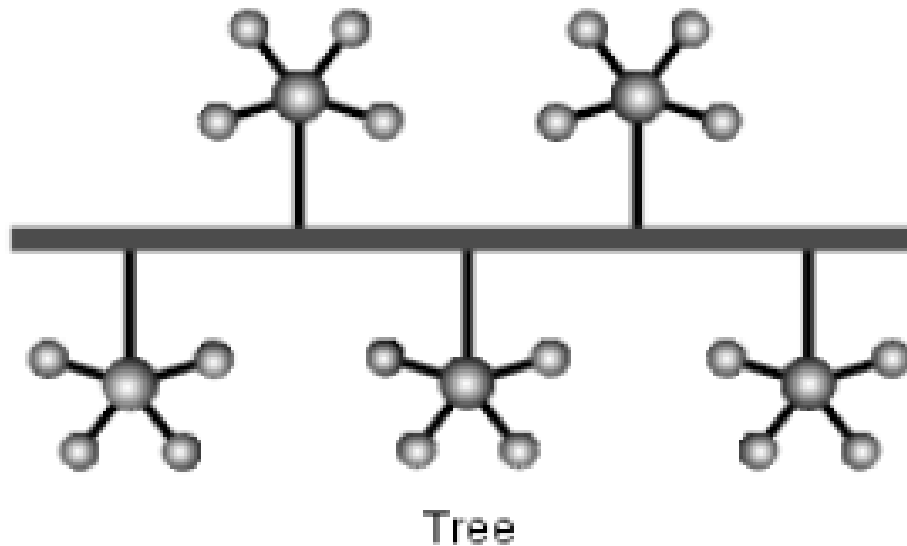


Mesh

Tree Network Topology



- ▶ The tree network topology uses two or more star networks connected together. The central processors of the star networks are connected to a main bus. Thus, a tree network is a bigger network to star networks.





Any Questions?



Thank you