



# COMPUTER NETWORKS

**Maninder Kaur**

professormaninder@gmail.com

# Computer Networks

- A network consists of two or more computers that are linked in order to share resources (such as printers and CDs), exchange files, or allow electronic communications.
- The computers on a network may be linked through cables, telephone lines, radio waves, satellites etc.
- A popular example of a computer network is the Internet, which allows millions of users to share information.

# Computer Network



# Every Network Includes:

1. At least two computers that have something to share.
2. A cable or wireless pathway, called **Transmission Media**, for computers to signal each other.
3. Rules, called **Protocols**, so that computers can use the unified principle of data communication.
4. Networking Interface Cards (NIC)

# Advantages of Computer Networks

- **File Sharing:** Networks offer a quick and easy way to share files directly.
- **Resource Sharing:** All computers in the network can share resources such as printers, fax machines, modems and scanners.
- **Communication:** Those on the network can communicate with each other via e-mail, instant messages etc.

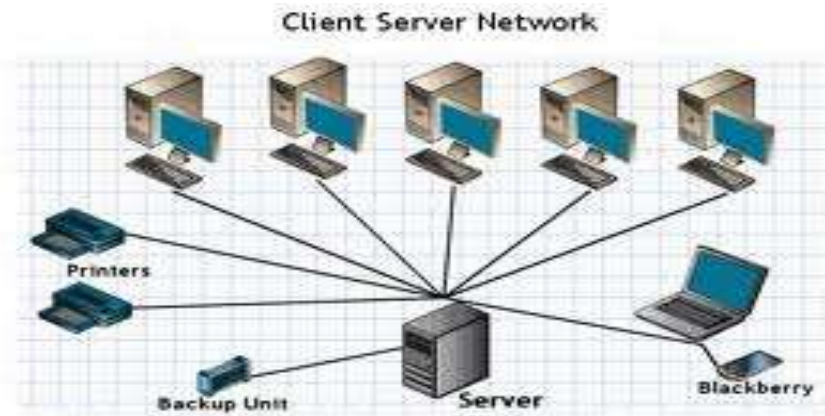
# Advantages of Computer Networks

- **Flexible Access:** Networks allow their users to access files from computers throughout the network.
- **Sharing of Information:** Computer networks enable us to share data and information with the computers that are located geographically large distance apart.

# Network Computing Models

## Centralized Computing (Client-Server Network)

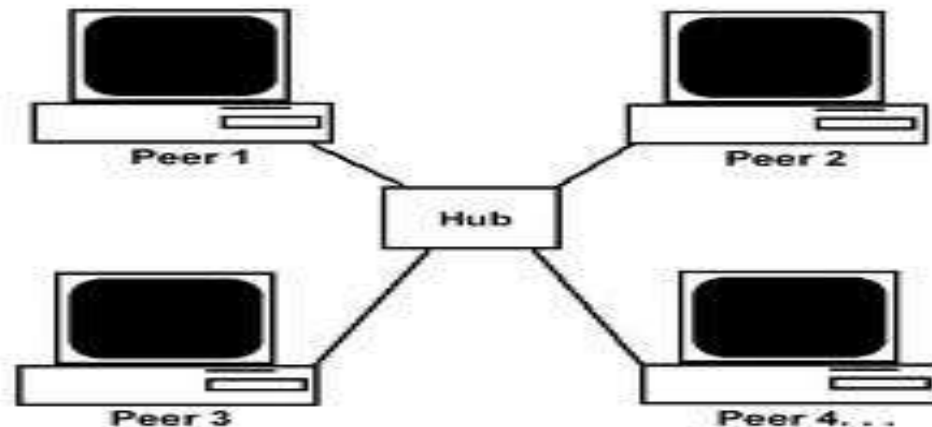
- A client-server network is where every client is connected to the server .
- Server or mainframe computer has huge storage and processing capabilities.



# Network Computing Models

## Distributed Computing (Peer-to-Peer Network)

- All devices have same power.
- It interconnects one or more computers.
- Centralized backup is not possible.





# Uses of Computer Network

- Simultaneous Access
- Shared Peripheral Devices
- Personal Communication
- Easier Backup

# What is Ethernet?

- A group of standards for defining a local area network that includes standards in cabling and the structure of the data sent over those cables as well as the hardware that connects those cables.
- Independent of the network architecture.
- Flavors of Ethernet:
  - IEEE 802.3 Ethernet Specification
  - Great detail specifying cable types, data formats, and procedures for transferring that data through those cables
  - IEEE 802.5 Token Ring Specification

# APPLICATIONS OF NETWORKS

- E-mail
- Searchable Data (Web Sites)
- E-Commerce
- News Groups
- Internet Telephony (VoIP)
- Video Conferencing
- Chat Groups
- Instant Messengers
- Internet Radio

THANKS A LOT