PUBLIC SCHOOL DARBHANGA

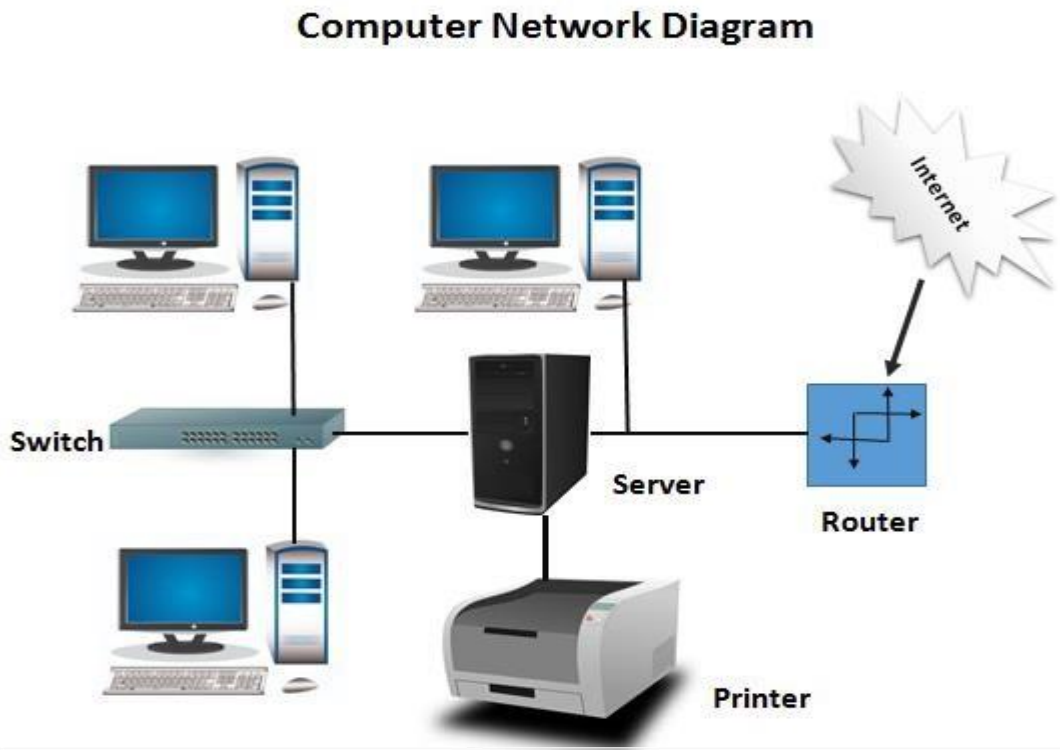
CLASS 8

COMPUTER

NETWORKING

Networking

- A computer network can be defined as a group of computers and other peripheral devices that are linked together for the purpose of sharing data and hardware resources.



- The computers in a network can communicate with each other as well as work independently. Each computer in a network is called a node.

Network Components:

1. Network Card:

A network card is used to physically attach a computer to a network, so that it can participate in network communication. Ethernet network card is the most commonly used network card.

2. Network Cable:

- Modern Ethernet networks use twisted pair cable containing eight wires. These wires are arranged in a special order, and an RJ-45 connected is crimped at both the ends of the cable.

3. Hubs and Switches:

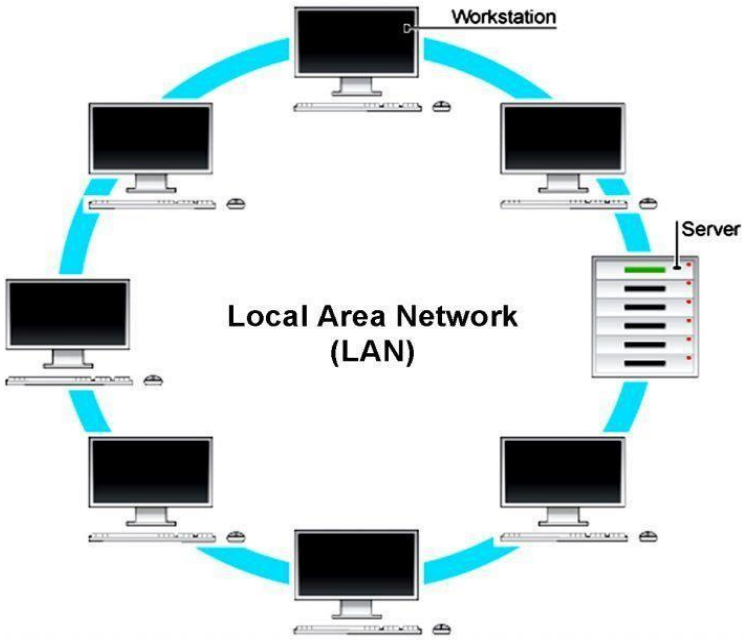
- Network cards are used to send and receive data being transmitted over Ethernet cables. When a network has more than two computers, we cannot directly connect all the computer together. We need an interface through which the computers can be connected, and sending and receiving of data

can take place. This function is performed by a hub or a switch.

- **Types of network**

1. Local Area Network(LAN)

In LAN two or more computers are peripheral devices are connected within a small area such as room, office building or a campus. In LAN computer terminals are physically connected with wires. The data transmission speed is slow as compared to WAN.



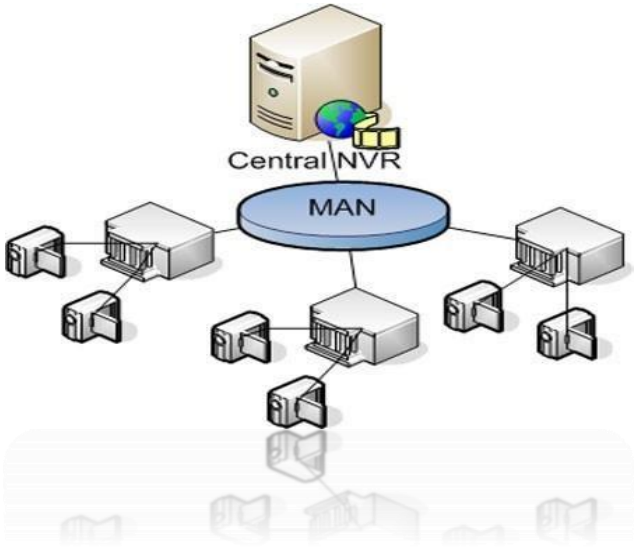
2. Metropolitan are network(MAN)

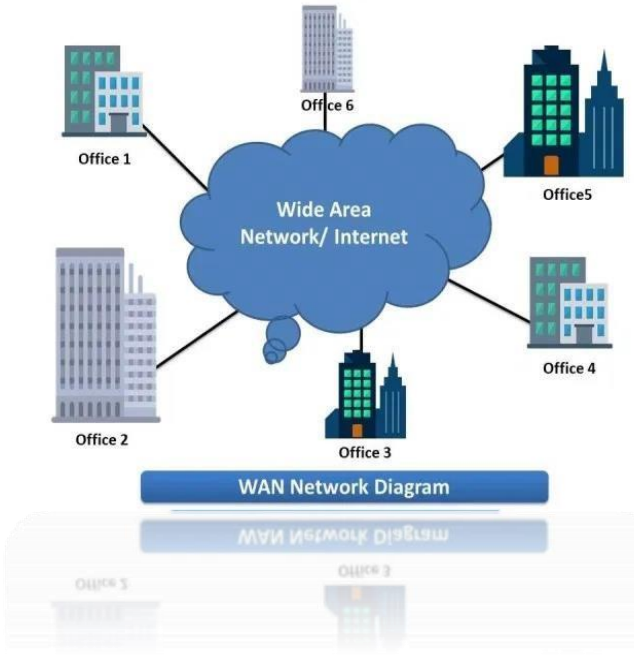
MAN is larger network than LAN. It is spread across a

city. Since it covers a city, it is called metropolitan. The most common example of MAN type network is cable television, branches of local bank in a city etc.

3. Wide area network (WAN)

This kind of network connects two or more computers located at far away places. They are linked by communication facilities like communication or satellite signals. The most common example of WAN type network is telecom system. The usage of WAN is limited to very large organization and government agencies. Internet and Intranet are the best example of it.



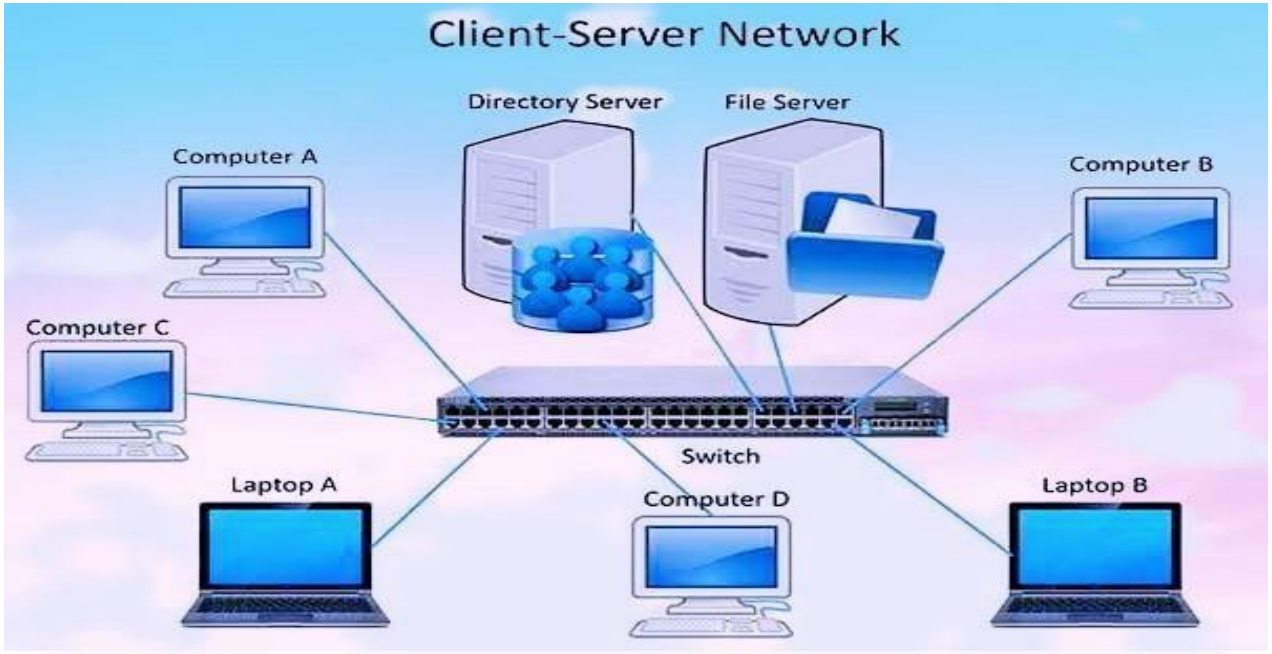


Network architecture

Network architecture is an overall design of a computer network that describe how a computer network is configured and what strategies are being used. Computer networks are of two main types:

1. **Client server network**

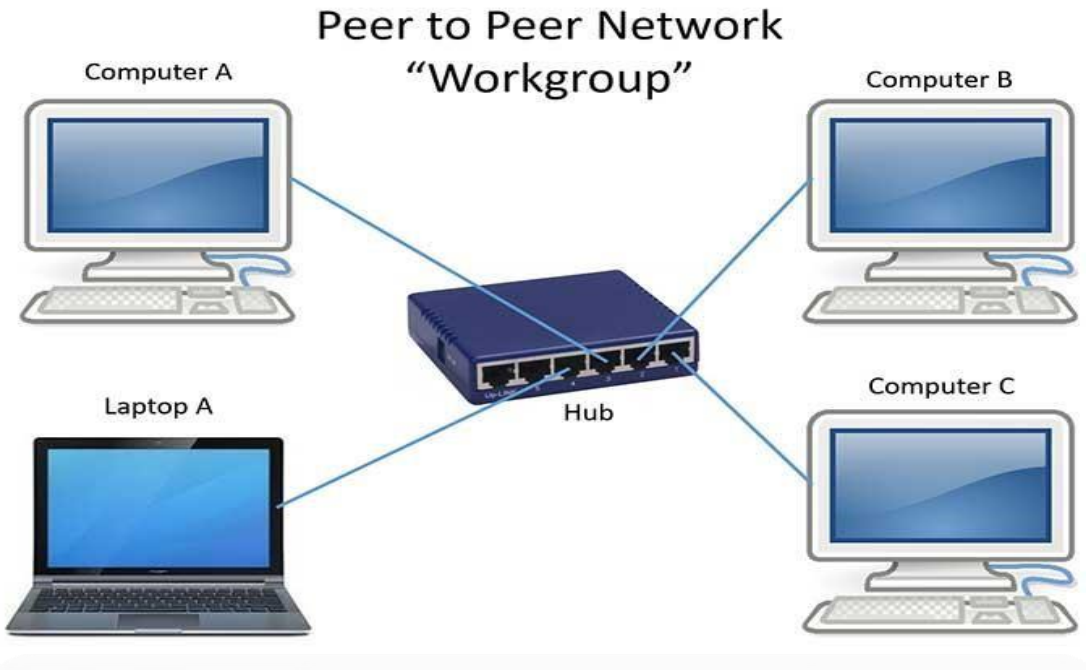
- It is a network where several computers called clients or workstations are connected to the main computer called the server.



- A server is a computer that provide services to client and controls access to hardware, software and other resources.
- Clients are the computers which request services like data retrievals, storage etc. from the server.

2. Peer to peer network

Peer to peer is a network where a few computers having equal capacity and capabilities are connected together to use the resources available on the network.

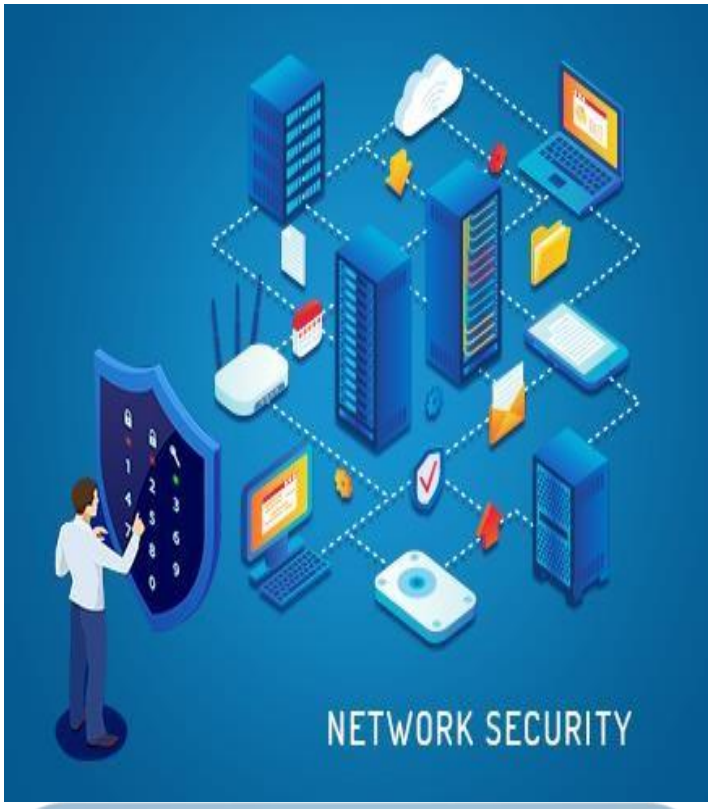


In Peer to Peer network, there is no central server. Each computer can act as a server as well as client.

Network Security:

The most important aspect in computer networking is data security. Since many uses are accessing the same data, so we must ensure its proper security. Only authorized persons can access or modify data. Consider the following points that may happen in any organization:

- Some employees may try to change the data concerning their leave record, salaries, performance, appraisals etc.
- Accidental deletion of important data.
- Former employees or some people may try to harm the company's data.



- People outside the company may try to access confidential data.

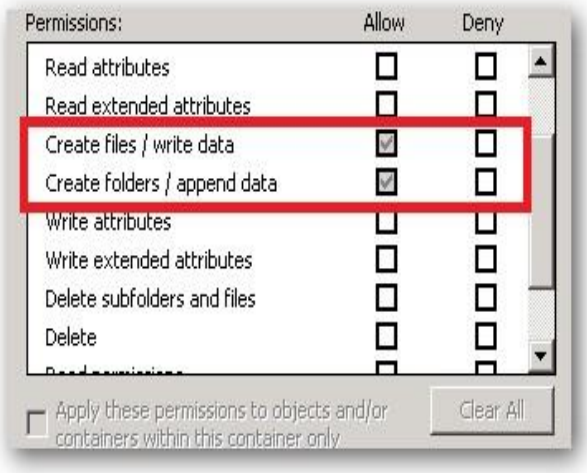
Network security means protecting data andresources from access by unauthorized persons. There are two general levels of network security:

1. Login security:

You are given a unique login name and password.

2. Rights Security:

Based upon your user name, you are given rights like Read-Only Access or Read-Write Access or No Access at all. A combination of rights can also be granted to the same user for different sets of data.



Today we have discussed about

- Networking
- Network Components
- Types of network
- Network Architecture
- Network Security

Stay at Home

Stay Safe

Thank you