

Computer Networks

What is a Network?

A (computer) network is two or more computers, connected by wires (or a wireless connection) so they can exchange information.

Why Network?

1. Sharing Files & Data – A network allows computers to share files with other computers on the network.
2. Sharing Physical Resources – You can configure certain resources, such as printers or hard drives, to be shared among computers on the network.
3. Sharing Programs – You can run programs on a local computer, but the programs are installed on a remote computer.

Definitions: Client & Server

Server: A computer that contains resources to share is called a server.

Client: A computer that makes use of shared resources from the server is a client.

Some examples of Shared Resources

- text & data files
- media (audio/video)
- storage
 - network drive
 - cloud services
- shared printer

Client – Server Networks

The most common network arrangement is client-server. There are server computers that provide resources, and client computers use those resources.

The entire internet is the best example of this. Personal computers connect to various web sites (servers) and retrieve resources (information, files, programs).

Peer-to-Peer Networks

In a peer-to-peer network, each computer acts as a server and a client. They offer resources, and also use resources of other computers.

This is the most common network in very small networks (e.g., homes). Home computers generally share files (e.g., movies & music) with each other, so they are sometimes clients and sometimes servers.

On a large scale, this type of network is most common in file sharing (e.g., bitTorrent).