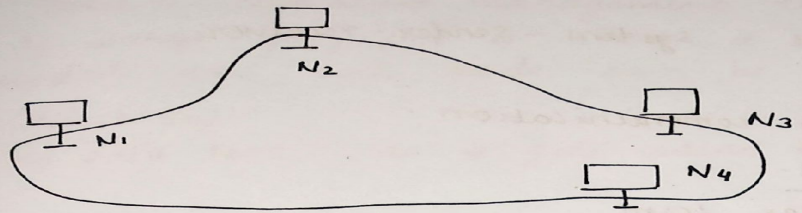
COMPUTER NETWORK
LECTURE-2
07/01/21

COMPUTER - NETWORKING

4/1/20



- Network is vast than internet
- Internet is a part of Network.

- Computer Network is a process in which computer Network Components are used in connecting network for comp communication.

- Data is communicated from one system to another system.
  It is of two types -
  ① Wired
  ② Wireless.

- Communication - Two way
- Data communication or transfer - One way

NETWORKING is a process of connecting computers using network component (guided media / unguided media) and standard communication protocol

Guided Media - Cable

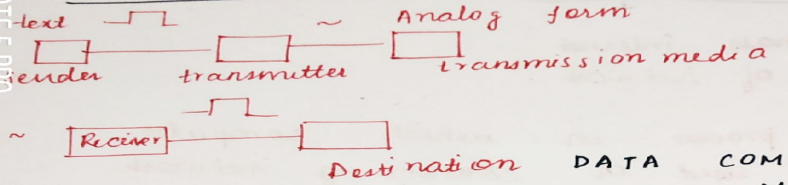
Physical Medium - Cable

- Computer - node - host - system - sender - receiver

Protocol

Set of rules for data communication.

Data Communication -

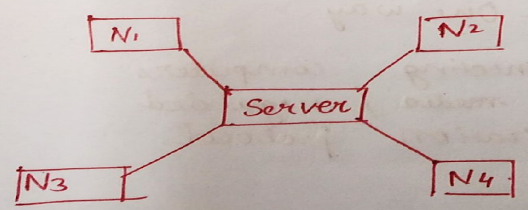


DATA COMMUNICATION MODEL

Signals - Data Communication
Analog and

Write Data communication -
Primary System
Secondary system

Advantages of CN -



(1) We know through acknowledgement thro whether data is transferred or not.

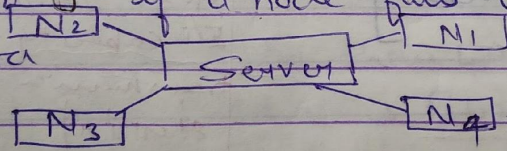
Advantage of Computer Network :-

Number of node are in Group. So they can share resources

(1) Resource sharing

(2) If a large programe is there it is Brak into Module and each node has part of its module then it same time & money

(3) Reliability :- No data loss, Reliability is high as ever if a node fails data is not lost because data



is found on server

Any node has file and failure occurs so Data is not lost. Since Data is Kept in Server

(4) It provides Central controls and allocation of Network resources.

5) It provide Network with maximum Performance with low cost.

Disadvantage :-

1) Security problem : Unauthorised person can access data. A Server can destroy all the Computer

2) If Server is Block then network get clocked or block.

3) Privacy Problem : Any unauthorized person can read your file. Privacy is not

(2) Their is centralised management through CN.
(3) If large program is there, it is broken into module and each node can be executed
(4) Reliability -
No data loss, as it gets saved to server

Drawback -
- Server fails, entire network fails.
- unauthorised accessing can be done (Privacy issue / security issue)

Authentication -
Valid / invalid
We verify whether we are user of any system

Authorisation
We need authentication to access any file / Process.
↓
Process access kar rahe hain, hamare authorization me hai ya nahi

Application -
E-Commerce
Laptop
Mobile

Type of Communication Connection
① Point to point
② Multi point

2. DATA TRANSMISSION

Data transmission occurs between transmitter and receiver over some transmission medium. Transmission media may be classified as guided or unguided. In both cases, communication is in the form of electromagnetic waves. With guided media, the waves are guided along a physical path; examples of guided media are twisted pair, coaxial cable, and optical fiber. Unguided media provide a means for transmitting electromagnetic waves but do not guide them: examples are propagation through air, vacuum and sea water.

The term direct link is used to refer to the transmission path between two devices in which signals propagate directly from transmitter to receiver with no intermediate devices, other than amplifiers or repeaters used to increase signal strength. A guided transmission medium is point-to-point if, first, it provides a direct link between two devices and, second, those are the only two devices sharing the medium [Figure 1.5(a)].

Point-to-Point Transmission Configuration [Fig 1.5(b)]

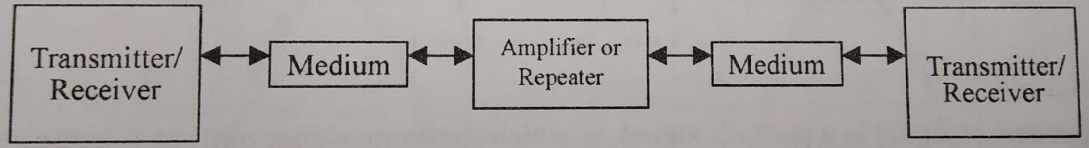


Fig. 1.5 (a)

In a multi-point configuration, more than two devices share the same medium [Figure 1.5(b)].

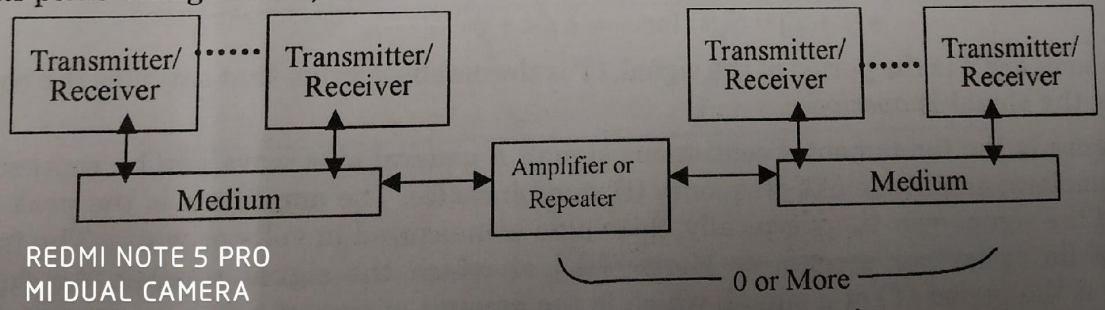


Fig. 1.5 (b). Multi-Point Transmission Configuration