

COMPUTER NETWORK

A communication system for connecting computers/hosts.

- A computer network is a number of computers (also known as nodes) connected by some communication lines.
- Two computers connected to the network can communicate with each other through the other nodes if they are not directly connected.
- Some of the nodes in the network may not be computers at all but they are network devices(Like switches, routers etc.) to facilitate the communication.

Uses of the computer Network

- Exchange of information between different computers. (File sharing)
- Interconnected small computers in place of large computers.
- Communication tools (voice , video)
- Some applications and technologies are examples of Distributed system. (Railway reservation system, Distributed databases etc).

Advantages of Computer Network?

- Better communication
- Better connectivity
- Better sharing of Resources
- Bring people together

Network supporting the way we live

Communication is almost as important to us as our reliance on air, food, water and shelter. The methods that we used to share the information are constantly changing and evolving. As with every advance in communication technology, the creation and interconnection of data network is having a profound effect. These days computer networks have evolved to carry voice, video streams, text and graphics between many different types of devices.

The immediate nature of communications over the Internet encourages the formation of global communities. These communities foster social interaction that is independent of location or time zone.

Examples of Todays popular communication tools.

1. Instant messaging
2. Weblogs
3. wikis
4. Podcasting
5. Collaboration tools
6. Facebook
7. Twitter

Networks Supporting the way we learn

communication, collaboration and engagement are fundamental building blocks of education. institutions are

continually striving to enhance these processes to maximize the dissemination of knowledge. Robust and reliable networks support and enrich student learning experiences.

Traditional Learning Process:

1. Text book
2. Instructor

these are limited in type of format and the timing of the presentation. In contrast, on-line courses can contain voice, data, and video, and are available to the students at any time from any place. on line distance learning has removed geographic barriers and improved student opportunity.

- course-ware
- collaboration
- References
- Administration

Network supporting the way we work:

Remote Access: Business application can be accessed remotely as if employees were on site.

Multiple Resources: workers in any location can reach each other and access multiple resources on the network.

Network supporting the way we play:

on-line games

Types of Computer Network:

LAN	WAN
Connects host within a relatively small geographical area. <ul style="list-style-type: none"> • Same Building • Same room • Same Campus 	Hosts may be widely dispersed. <ul style="list-style-type: none"> • Across Campuses • Across Cities/countries/continent
Faster	Slower
Cheaper	Expensive
Under a control of single ownership.	Not under a control of a single person.
Typical Speeds: 10 Mbps to 10Gbps	Typical Speed: 64 Kbps to 8 Mbps

Historical Events:

- 1948 first commercial computer installed UNIVAC 1
- 1958 First U.S communication satellite.
- 1964 SABRE airline reservation system packet switching network (Proposed by RAND).
- 1969 ARPANET first packet switching network beings operation.
- 1971 frist computer chip
- 4 bit, 2,300 transistors
- 1972 Ethernet specifications formulatated
- 1974 introduces SNA
- 1975 Altair 8800 first commercial micocomputer sold as kit.
- 1975 Paul Allan/Bill Gates wrote a BASIC language interpreter for the Altair, they formed Microsoft.

- 1976 Wozniak and jobs built Apple I and formed Apple computer company.
- 1979 Visicalc first commercial spread sheet introduced.
- 1981 IBM introduces IBM PC one floppy
- 1983 TCP/IP becomes the official protocol on ARPANET.
- 1984 Apple introduced GUI with Apple Macintosh.
- 1986 Laptop PC.

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