# Key Milestones in Evolution of Internet

- 1950's
  - ARPA (Advanced Research Project Agency)
    - US Defense organization, few computers which are located in different parts of the country were provided with some sort of connectivity, so that they can communicate among themselves.
- 1970-
  - ARPANET creates precursor to Transmission Control Protocol
    - not exactly TCP, a preliminary protocol which through subsequent refinements and modification became finally the TCP as we see today.

### 1971

- Universities added to net
  - Defense funded research used to take place in the universities
- Telnet and FTP are available
  - Telnet- you can start a remote session on a different computer sitting on your own computer
  - FTP you can transfer a file or group of files between two machines.

## • 1972

First electronic mail message sent

#### 1973-

ARPANET connected to England and Norway

#### 1974-

• TCP starts being used for communicating across a system of networks

## 1982-

US DoD starts building defense data networks based on ARPANET technology

#### • 1983.

- ARPANET splits into ARPANET and MILNET(some additional security requirements)
- Internet now in place
  - started to actually take a shape as we see it today
- TCP/IP standardized

#### 1986-

- NSF (National Science Foundation) implements NSFNET; a system of regional networks of routers connected over a backbone network.
  - Routers belonging to the different regional networks were strongly connected among themselves, and this constituted what is called a backbone network.

### 1991

- Archie and Gopher released
  - FTP became very popularly (command based)
  - People started to keep a large number of resources on the different FTP servers and with FTP you can connect to that server and download the whatever resource you want.
  - It is very similar to world wide web that we see today.
  - At that time, Big FTP catalogs were published
    - These documents are located in this FTP server
    - Connect there and see if you can find out

#### Archie

- was developed as an FTP search engine
- It returns list of FTP sites, where you could possibly get that resource.

# Gopher

- more intelligent version of Archie
- shows document in category and sub-category view
- covered both FTP sites and non FTP sites also

#### • 1992-

 Internet links more than 17,000 networks in 33 countries; 3 million hosts

## 1993-

World wide web application is launched

## 1995-

- ISPs started offering services
  - earlier you had to build your own network and it as your responsibility to get your network connected to the internet backbone
  - now there are ISPs, they will provide you connection and it would be there responsibility to get your network connected to the internet backbone.
- About 30 million users.

## • 2021-

- 584 (ISPs) in India as of 30 september, 2021.
- Jio, Airtel, Vi, BSNL as major ISPs