Types of Broadcasting :-

i) Telephone broadcasting (1881-1931)
ii) Radio broadcasting (from 1906)
iii) Cable Radio (also called "Cable FM" from 1928)
iv) Television Broadcasting (1930)
v) Web Broadcasting (from 1993)

List of Over-the-air broadcaster

i) BBC
ii) ITV
iii) Sky YQ
iv) NBC
v) CBS

vi) Fox
vii) The CW
viii) CTV
ix) GLOBAL
x) The Radio tv/fm etc.

Network Architecture is the design of a communication network. It is a framework for specification of a network's physical components and their functional organisation and configuration, it operational principal and procedures as well as data formats in its operation. Network architecture refers to the layout of the network consisting of the hardware, software, connectivity, communication protocols and mode of transmission such as Wired or Wireless.

Protocol :-

A protocol is a set of rules that governs the communications between computers on a network. In other words, protocol is a set of rules that enables network device to initialise within a network. It provides the rule for of network for providing or recieving services within a network or when computer communicate with each other needs to be a set of rules and instructions that each computer follow. A specific set of communication rules are called Protocol.

There are 2 types of Protocol that are :-

i) H/W Protocol :-

Hardware directly deals with network device within a network. All physical layer and data link layer are hardware protocol.

Ex. :- ATM, IEEE 802.1, etc.

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ii) S/W Protocol :-

Software Protocol deals with application software within a network from network layer

to application layer. Layer is covered by Software Protocol.

Ex. — FTP, TCP/IP, etc.

FTP (File Transfer Protocol) :-

It is the standard mechanism provided by TCP/IP, for copying a file from one host to another. Transferring files from one computer to another is one of the most common tasks expected from the network in or internet working environment. FTP is used to file transfer b/w inter-network nodes. FTP is peer-to-peer protocol, it has ability to transfer file b/w dissimilar host because it uses a file structure that is OS-independent.

SMTP (Simple Mail Transfer Protocol) :-

It is a TCP/IP protocol that specify how computers exchange email. It works with post office protocol. It is used to upload mail directly from the client to an intermediate host but only computers constantly connected such as internet service provides to the internet can use SMTP to recieve mail.

TCP/IP (Transmission Control Protocol/Internet Protocol)

TCP and IP are two distinct computer network protocol. When 2 computers follow the same protocol, the same set of rules and they can understand each other and exchange data. TCP & IP are so commonly used together however that TCP/IP has become standard terminology for referring to this suite of protocols. TCP divides a message or file into packets that are transmitted over the internet and then reassembled when they reach their destination. IP is responsible for the address of each packet so it is sent into the correct destination. TCP/IP technically apply to network communication where the TCP transport is used to deliver data accross IP networks. It is also called Connection-Oriented Protocol.

HTTP (Hyper Text Transfer Protocol):-

It is used to manage the link b/w one hypertext document to another. It is the mechanism that opens the related documents when we select a hypertext link, no matter where that documents reside on the web. Web documents are made for formatting and linbing with HTML and web server uses HTTP to deliver webpages. It works equally well on standalone computers

LAN, WAN and the global internet on all major desktop computing platform (UNIX, OS, PC etc).

ICMP (Internet Control Message Protocol) :-

ICMP is a network protocol useful in internet protocol network management and administration. It is a required element of IP implementation. ICMP is a control protocol meaning that it doesn't carry application data, but rather information about the status of the network itself. ICMP can be used to error in the communication of network application & network congestion. ICMP also supports track route that can identify the intermediate host b/w a given source and destination.

Point-to-Point Protocol :-

P2P supports the transmission of network packets over a serial P2P link by specifying mechanism for incapsulating network protocols such as internet protocol, internetwork packet exchange. Its encapsulation is based on the high level data link control derived from the mainframe environment. A typical dial-up station using P2P protocol is completely

automated and require no realtime user input. It has four stages :-

i) Link establishment

ii) User authentication

iii) Call back

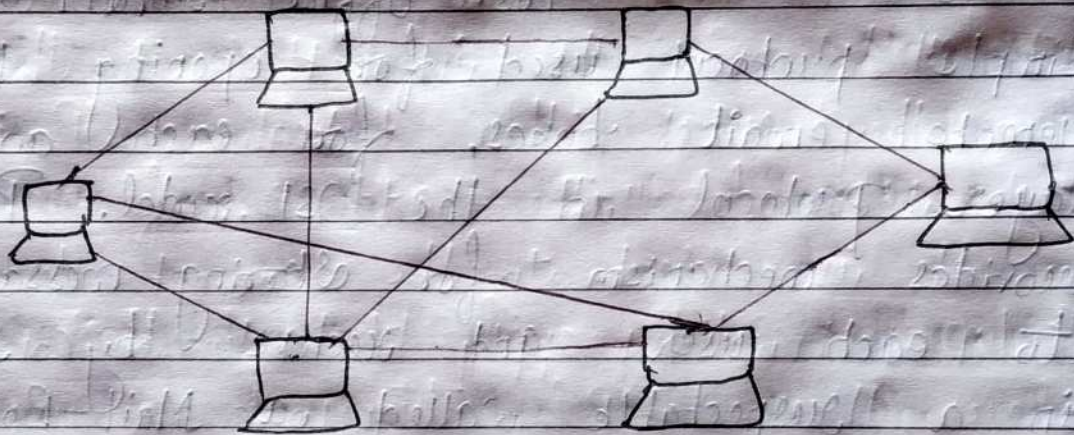iv) Configuration.

POP (Post Office Protocol) :-

Post Office Protocol is a simple protocol used for opening the remote email boxes, for each an application layer protocol in the OSI model. POPv3 provides mechanism for storing messages sent to each user and recieve by SMTP in a respectable called a Mail-Box. When we retrieve a message from a POPv3 server, a POP3 client establishes a transmission-control protocol session using TCP. A series of POP3 commands :-

a) Start :- waiting to be retrieved.

b) list :- determine the size of each msg.

c) retrieve :- Retrieve individual msg.

d) quit :- End of POP3 session.

Peer-to-Peer Process :-

In this architecture, all the computers within a network are equal.

There is no any administration over here. All the resource sharing is based on mutual understanding b/w users. It is very less square network and doesn't deal routine within a network for avoiding congestion. There may be some limited no. of clients connected in this architecture. Generally, this architecture is used where there security is issue.

DNS (Domain Name System)

DNS is a distributed database system that works at the transport layer to provide name to address mapping for client applications. Domain Name System are internet's equivalent of a Phonebook. They maintain a directory of domain name and translate them to I/P adresses. This is necessary because although domain names are easy for people to remember, computers or machines access

website based on I/P adresses. In the internet, the domain name space is divided into two different section :-

i) Generic domain name
ii) Country domain name

i) Generic domain name :—

It defines registered host acc. to their generic behaviour. Each node defines a domain name which is an index to the domain name space database. These labels describe the organisation types are listed below :-

Label	Description
Com	Commercial Organisation
edu	Educational Institution
gov	Government Institution
int	International Institution
mil	Military Groups
org	Non-Profit Organisation
net	Network Support Center

ii) Country Domain Name :-

It follows the same format as the generic domain name but uses two character country abbreviations in place of three

character organisational abbreviations.

Label	Description
in	India
sa	South Africa
uk	United Kingdom
us	United States