Switching Techniques

Switching techniques are used for transferring data across network. In large network, there might be multiple path linking the sender and receiver. Information may be switched as it travels through various communication channels.
Three types of Switching techniques:

- Circuit Switching
- Packet Switching
- Message Switching

Circuit Switching

- First the complete physical connection between two computers is established and then the data are transmitted from the source computer to the destination
- When a call is placed the switching equipment within the system seeks out a physical copper path all the way from the sender to the receiver.
- It is must to setup an end-to-end connection between computers before any data can be sent.
- The circuit is terminated when the connection is closed.
- In circuit switching, resources remain allocated during the full length of a communication, after a circuit is established and until the circuit is terminated and the allocated resources are freed.

Packet Switching

- Packet switching introduces the idea of cutting data i.e. at the source entire message is broken in smaller pieces called packets which are transmitted over a network without any resource being allocated.

- Then each packet is transmitted and each packet may follow any rout available and at destination packets may reach in random order.
- At the destination when all packets are received they are merged to form the original message.
- In packet switching all the packets of fixed size are stored in main memory.

Message Switching

- In message Switching, data is first stored by one node then forward to another node to transfer the data to another system.
- In message Switching, data is first stored, then forwarded to the next node
- In Message Switching there is no upper bound on size of packet whereas in Packet Switching each packet is of fixed size.
- In Packet Switching data packets are stored in main memory whereas in Message Switching Message is stored in Hark disk which makes it reducing the access time.