

Switching: In networking, switching refers to the techniques of changing or selecting paths for a frame to travel. Depending upon these techniques, switching is of following three types-

- 1.** Circuit Switching
- 2.** Packet Switching
- 3.** Virtual Circuit Switching

Circuit Switching: The kind of switching in which a dedicated path (circuit) is established right before the communication begins. All the packets belonging to the relevant source and destination follow the same path.

Traditional calling in cellular telephony uses this kind of switching.

This switching is used for best networking experience. Packets do not face delay. The even do not reach out of order.

Packet Switching: This switching works by letting the packets take their own route as they travel in to the network. There is nothing like predefined route. Instead, when packets arrive to a switch or router, they get a very new path thereafter.

Ethernets and other computer networks including the Internet, all use packet switching. Packet switching may cause delay in delivery of packets. Order of delivery may also get damaged.

Virtual circuit switching: This is a fusion of both the switching techniques. Path is established but not reserved at all. Instead, different parts of the path are used by some other routes as well.

ATM (Asynchronous Transfer Mode): ATM is a WAN standard. ATM is a network that has been standardized by IEEE to be used in creating WANs. On the physical level, it uses a gigantic network of high capacity (bandwidth) optical fibre cables to connect LANs of different geographical areas.

ATM works on the virtual circuit switching technology. It uses VCI (Virtual circuit identifiers) to address to the parts of Network. The size of packets in ATM networks is fixed. These fix sized packets are called Cells and hence ATM is sometimes referred to as Cell Switching Network.

ATM is a very versatile network. It can transfer voice data along with text and graphics. In other words, ATM can carry both the circuit and packet data along its physical networking structure.

Assignments:

1. What is switching? Differentiate between Circuit and Packet Switching.
2. Briefly discuss about ATM network.