Interview Questions

MAC Sublayer

Q1. What happens in Pure Aloha if Collison occurs? **(Tech Mahindra)**
Answer: In pure ALOHA, the TRM is continuous. As long as a station features a frame available, it'll ship the frame. If a collision occurs and therefore the frame becomes corrupted; as a result, the sender waits its random time before retransmitting.

Q2. Which has the most negligible amount probability for collisions Pure aloha or slotted? **(Redington India)**
Answer: Pure aloha can reduce collisions by waiting random time before retransmitting; this indeed refuses collisions. On the other hand, Slotted Aloha cuts the number of collisions in half, doubling efficiency using discrete time slots.

Q3. What's a collision domain? **(Mindtree)**
Answer: The collision domain is the part of the network where packet collisions may occur. When two devices send data packets on the shared network segment at the same time, conflicts arise. Data packet conflicts, both devices must send data packets again, thereby reducing network efficiency. Conflicts often occur in a hub environment because every port on the hub is in the same collision domain. However, each port is located on a bridge, switch, or router in a separate conflict domain.

Q4. When do collisions happen on a network? **(L&T Infotech)**
Answer: A network collision occurs when two or more devices plan to transmit data over a network at an equivalent time. For instance, if two computers on an Ethernet network send data at an identical moment, the info will "collide" and not finish transmitting. This is often why most networking protocols confirm that packets are received before sending additional data.

Q5. The way to avoid collisions during a network? **(Infosys)**

Answer: A collision can only occur at the physical layer within the OSI model. When multiple devices share traditional media at the physical layer, which happens once you have multiple devices connected with a hub, there's an opportunity that you will have a collision. The switch acts sort of a multiport bridge that, yes, bridges two collision domains. What happens with the introduction of the bridge? The bridge breaks the network into two or more pieces, with each bit being a separate collision domain. Fewer network devices during a collision reduce the prospect of a collision, a bit like fewer cars on the street minimize the possibility of an accident.