Interview Questions

Data Link Layer

Q1. What Is a MAC Address? **(Cisco)**

Answer: The MAC (Media Access Control) address is a globally unique address written into the hardware during manufacturing. The MAC address can be a unique value associated with the network adapter. MAC address is also called hardware address or physical address. They uniquely identify the adapter on the LAN. The MAC address is a 12-digit hexadecimal number (48 digits in length).

Q2. What are the 2 sub-layers of the ink layer? **(Dell)**

Answer: The information link layer (Layer 2) of the OSI model actually consists of two sub-layers: the Media Access Control (MAC) sub-layer and the Logical Link Control (LLC) sub-layer. The MAC sublayer controls device interaction. The LLC sublayer handles addressing and multiplexing. The physical addressing of the network connection exists at the information link layer. The information link layer combines bits of data into entities called frames. There are network topologies like Ethernet at the information link layer. Network switches are the most common network equipment at the information link layer.

Q3. What is the function of LLC? **(Cisco)**

Answer: Use the L3 protocol to multiplex/demultiplex to the interface of the above (Layer3) network. When receiving a frame from the lower physical layer, LLC is responsible for observing the L3 protocol type and transmitting the datagram to the correct L3 protocol (demultiplexing) of the upper network layer. LLC can optionally provide reliable frame transmission by the sending node. The sending node numbers each transmitted frame (sequence number), and the receiving node recognizes each received frame (acknowledgment number). Therefore, the sending node retransmits the lost frame. frame.

Q4. What are the MAC modes of shared transmission media? **(Arista)**

Answer: Round Robin, Reservation, and Contention are three ways to share the access medium used by the MAC protocol. In the MAC reservation mode, each station in the network must reserve a time slot for its limited or unlimited time to access the shared medium. In the MAC implementation competition mode, each station in the network can transmit data at the same time regardless of whether there is a conflict.