

Telecom Switches Routers Interview Questions And Answers Guide.



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Telecom Switches Routers Job Interview Preparation Guide.

Question # 1

Most networks employ devices for routing services. Routers work at which OSI layers?

Answer:-

Application layer
Presentation layer
Session layer
Transport layer
Network layer - Routers
Datalink layer - Switches
Physical layer - Hub

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Question # 2

Which devices discriminates between multicast and unicast packets?

Answer:-

multicast packet deals with and routers suppose a group of machines have the same ip address like 60.4.4.4 so router can send the packet to that network but here the every node will take care to deliver the packets to target (multiple routers) there is no need that grand parent(main sender) will take care of all family members wether they got the food(data packets) here the grand children (which is not directly with sender) food(data packets) send by his children of grand parent(which is directly connected with the sender) so here router send the data to packets and all the nodes send the packets to the a physical address link up with that ip unicast also deals with routers it will deals with one-to-one connection every parent have the direct relation with child

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Question # 3

What is Auto-Negotiation function?

Answer:-

Auto-negotiation is a mechanism that takes control of the cable when a connection is established to a network device. Auto-negotiation detects the various modes that exist in the device on the other end of the wire, and advertises its own abilities to automatically configure the highest performance mode of interoperation. Auto-negotiation automatically switches to the correct technology, such as 10BASE-T, 100BASE-TX, or a corresponding Full Duplex mode. Once the highest performance common mode is determined, Auto-negotiation passes control of the cable to the appropriate technology and becomes transparent until the connection is broken.

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Question # 4

What are the differences between an Ethernet switch and a hub?

Answer:-

In a hub, a frame is passed along or "broadcast" to every one of its ports. It doesn't matter that the frame is only destined for one port. The hub has no way of distinguishing which port a frame should be sent to. Passing it along to every port ensures that it will reach its intended destination. This places a lot of traffic on the network and can lead to poor network response times. Additionally, a 10/100Mbps hub must share its bandwidth with each and every one of its ports. So when only one PC



is broadcasting, it will have access to the maximum available bandwidth. If, however, multiple PCs are broadcasting, then that bandwidth will need to be divided between all of those systems, which will degrade performance.

A switch, on the other hand, keeps a record of the MAC addresses of all the devices connected to it. With this information, a switch can identify which system is sitting on which port. So when a frame is received, it knows exactly which port to send it to, which significantly increases network response times. And, unlike a Hub, a 10/100Mbps switch will allocate a full 10/100Mbps to each of its ports. So regardless of the number of PCs transmitting, users will always have access to the maximum amount of bandwidth. It's for these reasons

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Question # 5

What is causing Location Update(LU) delay when a roamer try to latch to a visited network?

Answer:-

Due to various reasons for Lu problems:

1. Routing of GT mismatch at Visited network/visited MSC
2. IMSI analysis want to given properly in all the vis MSC's
3. Verify IMSI, IMSIINDICATOR, TON, NRD, SRD, SAD, DIA, PLMN NAME
4. No traffic is given current point code, where GT configured
5. HLR defintion at Home plmn country is wrong
6. HLR end not allowed given PLMN in roaming profile
7. HLR end GT mismatch
8. customer not having sufficient roaming services
9. customer not having authentication
10. customer handest's network id is disabled

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Question # 6

Is a cross-over cable needed to connect the EZ serial switch to another hub or some type of device?

Answer:-

Cross Cabling is used to connect to similar devices in a network. Here Cross-over cable is used to connect EZ Serial Switch to Same type of device which is similar and not to hub.

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Question # 7

Does the EZ serial switch have a user configuration interface like a router?

Answer:-

No, the EZ serial switch does not have a user configuration interface because there is no need for a user to configure an EZ serial switch to have a LAN/WAN based connection. All the changes should be applied under the Operating System itself.

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Question # 8

What is the IP address of the switch?

Answer:-

The switch can obtain its IP configuration automatically using one of the following protocols:

- ?Bootstrap Protocol (BOOTP)
- ?Dynamic Host Configuration Protocol (DHCP)
- ?Reverse Address Resolution Protocol (RARP)

The switch makes BOOTP, DHCP, and RARP requests only if the sc0 interface IP address is set to 0.0.0.0 when the switch boots up. This address is the default for a new switch or a switch whose configuration file has been cleared using the clear config all command. BOOTP, DHCP, and RARP requests are only broadcast out the sc0 interface.

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Question # 9

What is the Difference between Router and Switch?

Answer:-



ROUTER interconnecting on layer 3, and SWITCH does it on layer 2.
ROUTER can access to different LANs, versus that the SWITCH can work only in the same LAN.
ROUTER changes the MAC addresses when pass from one LAN to another, versus that the SWITCH can't change it.
ROUTER do "look" on the IP address, versus that the SWITCH don't care form the IP address,
SWITCH "look" on IP address as regular Data inside the frame.
ROUTER is defining the border of Broadcast Domain; versus that SWITCH define the border of Collision Domain.

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Question # 10

Does a switch have the ability to send IP addresses?

Answer:-

A switch takes the ip address and passes it through to the other computer, whether that other computer has Dynamically assigned it to its client or otherwise.

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Question # 11

How to network the computers together with the switch?

Answer:-

Give each computer a static ip address in same range if just connecting machines together.
With OS , the likes of server 2003, the server has fixed ip and the clients obtain via DHCP their ip at the login to domain.

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Question # 12

How to use l2trace in a cisco switch using a VLAN distinct to VLAN 1?

Answer:-

(Config)#trace mac mac-address.

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Question # 13

Which is a type of hub that forwards packets to an appropriate port based on the packets address?

Answer:-

Short for port-switching hub, a special type of hub that forwards packets to the appropriate port based on the packet's address. Conventional hubs simply rebroadcast every packet to every port. Since switching hubs forward each packet only to the required port, they provide much better performance. Most switching hubs also support load balancing, so that ports are dynamically reassigned to different LAN segments based on traffic patterns. Some newer switching hubs support both traditional Ethernet (10 Mbps) and Fast Ethernet (100 Mbps) ports. This enables the administrator to establish a dedicated, Fast Ethernet channel for high-traffic devices such as servers.

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Question # 14

Why is it that SMS/MO receives a sent and delivered acknowledgement but MT is not receiving the message?

Answer:-

MT stands for mobile terminated, which means the message originated from mobileStorm and was ultimately sent (terminated) at the end users cell phone. MO stands for mobile originated, which means the end user created the message or replied to a message via their cell phone. Mobile-Terminated SMS (Short Message Service) The capability for a mobile phone to receive short text messages. MT-SMS is usually accompanied by MO-SMS, which is the ability to send and reply to such messages.

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Question # 15

What is the Difference Between Routers, Switches and Hubs?

Answer:-

Routers connect different Networks .Routers can bring



different Networks together.

Switches bring different computers in Network together and for fast use of Internet Access. The provided Bandwidth by ISP is provided to all computers in network.

Hubs divide the Bandwidth provided by ISP and will provide the slow Internet Access.

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Question # 16

Will the switches work with both a PC/OS XP and a MAC/OS 9 if the uplink connection will be to a router?

Answer:-

Yes it will work. Its least bothered of pc/os it may be any os. what it needs is MAC address of pcs. switch is a intelligent device which keeps ur pcs in one network to communicate each other.

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Question # 17

Explain Bridging?

Answer:-

Bridging is a forwarding technique used in packet-switched computer networks. Unlike routing, bridging makes no assumptions about where in a network a particular address is located. Instead, it depends on flooding and examination of source addresses in received packet headers to locate unknown devices. Once a device has been located, its location is recorded in a table where the MAC address is stored so as to preclude the need for further broadcasting. The utility of bridging is limited by its dependence on flooding, and is thus only used in local area networks.

Bridging generally refers to Transparent bridging or Learning bridge operation which predominates in Ethernet. Another form of bridging, Source route bridging, was developed for token ring networks.

A network bridge connects multiple network segments at the data link layer (Layer 2) of the OSI model. In Ethernet networks, the term bridge formally means a device that behaves according to the IEEE 802.1D standard. A bridge and switch are very much alike; a switch being a bridge with numerous ports. Switch or Layer 2 switch is often used interchangeably with bridge.

Bridges are similar to repeaters or network hubs, devices that connect network segments at the physical layer (Layer 1) of the OSI model; however, with bridging, traffic from one network is managed rather than simply rebroadcast to adjacent network segments. Bridges are more complex than hubs or repeaters. Bridges can analyze incoming data packets to determine if the bridge is able to send the given packet to another segment of the network.

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Question # 18

What are the differences between broadband router and Ethernet switch?

Answer:-

A switch, keeps a record of the MAC addresses of all the devices connected to it. With this information, a switch can identify which system is sitting on which port. So when a frame is received, it knows exactly which port to send it to, which significantly increases network response times.

And, unlike a Hub, a 10/100Mbps switch will allocate a full 10/100Mbps to each of its ports. So regardless of the number of PCs transmitting, users will always have access to the maximum amount of bandwidth. It's for these reasons why a switch is considered to be a much better choice than a hub.

Routers are completely different creatures. Where a hub or switch is concerned with transmitting frames, a router's job, as its name implies, is to route packets to other networks until that packet ultimately reaches its destination. One of the key features of a packet is that it not only contains data, but the destination address of where it's going.

A router is typically connected to at least two networks, commonly two LANs or WANs or a LAN and its ISP's network (ex. your pc or workgroup and EarthLink). Routers are located at gateways, the places where two or more networks connect. Using headers and forwarding tables, routers determine the best path for forwarding the packets. Routers use protocols such as ICMP to communicate with each other and configure the best route between any two hosts.

A router will typically include a 4-to-8 port Ethernet switch (or hub) and a Network Address Translator (NAT). In addition, they usually include a Dynamic Host Configuration Protocol (DHCP) server, Domain Name Service (DNS) proxy server and a hardware firewall to protect the Local Area Network (LAN) from malicious intrusion from the Internet.



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