

Chapter 14: Quiz – QoS (Answers) CCNPv8 ENCOR

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13. Which statement describes a network that supports QoS?

- The fewest possible devices are affected by a failure.
- The network should be able to expand to keep up with user demand.
- **The network provides predictable levels of service to different types of traffic.**
- Data sent over the network is not altered in transmission.

Explanation: QoS means that the network can deliver services in a predictable, measurable, and, if necessary, guaranteed manner. QoS uses classification and queuing to manage the delivery of data, minimizing delay and packet loss.

14. Which QoS model is very resource intensive and provides the highest guarantee of QoS?

- DiffServ
- best-effort
- **IntServ**
- soft QoS

Explanation: The IntServ QoS model uses resource reservation and admission control mechanisms to schedule network resources.

15. Which DSCP value should be applied to voice traffic?

- AF11
- AF31
- CS1
- **EF**

Explanation: Voice traffic is extremely sensitive to bandwidth delays and jitter and should be marked with Expedited Forwarding (EF) DSCP value to ensure QoS. This marking would give voice traffic a IP equivalent precedence level of 5.

16. What happens when the memory queue of a device fills up and new network traffic is received?

- The network device sends the received traffic immediately.
- **The network device will drop the arriving packets.**

- The network device drops all traffic in the queue.
- The network device queues the received traffic while sending previously received traffic.

Explanation: Packets received by a network device experiencing congestion cannot be transmitted until previous packets have been processed. If the queue is full, the network device will begin to drop packets as new traffic arrives.

17. In network design, which technology can be implemented to prioritize traffic based on its importance and technical requirements?

- STP
- **QoS**
- RTP
- TCP
- VPN

Explanation: Quality of service (QoS) is used in a packet switched environment to provide traffic shaping and policing to achieve service quality in a given network.

18. What functionality is required on routers to provide remote workers with VoIP and videoconferencing capabilities?

- IPsec
- **QoS**
- VPN
- PPPoE

Explanation: Quality of service (QoS) needs to be enabled on routers to provide support for VoIP and videoconferencing. QoS refers to the capability of a network to provide better service to selected network traffic, as required by voice and video applications.

19. What are the three categories of tools that can be used in IP networks to implement QoS? (Choose three.)

- **classification and marking**
- **congestion management**
- **congestion avoidance**
- integrated services
- differentiated services
- best effort

Explanation: Best effort is the default packet forwarding design and provides no QoS. Differentiated services and integrated services are models of applying QoS mechanisms. Classification and marking, congestion management, and congestion avoidance are the three

categories of QoS tools that are applied to IP networks.

20. When using the IP phones, users complain that sound quality is poor and sometimes the voice heard is broken. Which section of the router configuration should the network administrator check in order to find the possible cause?

- access control lists
- interface bandwidth
- **traffic queuing parameters**
- routing protocol update settings

Explanation: If priority queuing is not configured properly in the router configuration, it will cause voice packets to drop because of congestion in the queues. The result will be delay and jitter. The voice traffic needs to be prioritized above application and data traffic.

21. What type of queuing provides the best quality for voice applications?

- custom queuing
- FIFO queuing
- **priority queuing**
- weighted round robin (WRR) queuing

Explanation: Voice applications are very sensitive to bandwidth delays, latency, and jitter and would be most suited to the priority queuing method. Priority queuing (PQ) is a set of four queues (high, medium, normal and low). Because all the queues are served in strict priority order, this makes it suitable for voice applications that need high priority.

22. What role do network devices play in the IntServ QoS model?

- **Network devices ensure that resources are available before traffic is allowed to be sent by a host through the network.**
- Network devices provide a best-effort approach to forwarding traffic.
- Network devices are configured to service multiple classes of traffic and handle traffic as it may arrive.
- Network devices use QoS on a hop-by-hop basis to provide excellent scalability.

Explanation: The IntServ QoS model uses resource reservation to guarantee bandwidth and packet-loss rates from end to end. IntServ uses a connection-oriented approach to ensure that available resources are sufficient in the network for the traffic to have a specific level of QoS.

23. Which QoS model uses the DSCP bits to mark packets and provides 64 possible classes of service?

- IntServ

- best-effort
- **DiffServ**
- FIFO

Explanation: The DiffServ model uses 6-bits known as the DiffServ Code Point (DSCP) bits to mark traffic and offers a maximum of 64 possible classes of service. Diffserv-aware routers can then implement per-hop behaviors (PHBs) that can control packet forwarding based on the specified class of service.

24. Which two statements are true about WRED? (Choose two.)

- **WRED will use the average queue depth of an interface when determining if a packet should be dropped.**
- **WRED uses the IP precedence or DSCP marking of a packet when determining if a packet should be dropped.**
- WRED does not support ECN.
- WRED uses a tail drop system for its queue buffers.
- WRED will drop packets marked AFx1 more aggressively than it will drop packets marked AFx3 from the queue.

Explanation: Weighted random early detection (WRED) is a congestion avoidance mechanism. Different IP precedence and DSCP values each have RED profiles, which determine the probability of packet discard based on the average queue depth of an interface.