Cisco

QoS

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QoS (642-642) Printables

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Product ID: 12022
Production Date: November 15, 2011
Total Questions: 145

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Chapter 1
IP QoS Fundamentals

1. What is the overall "goal" of achieving a converged network?Select the best answer.

   - ❍ A. Allowing different types of traffic to send traffic as needed.
   - ❍ B. The ease of decoupling converged applications back into nonintegrated networks.
   - ❍ C. Limiting latency to a maximum of 120 ms.
   - ❍ D. Insuring voice traffic is given the highest priority.

Find the Answer p. 58

2. What are the characteristics of converged traffic?Choose three:

   - ❑ A. SMTP is time sensitive.
   - ❑ B. Constant small-packet voice flow competes with bursty data flow.
   - ❑ C. Voice and video are time sensitive.
   - ❑ D. Brief outages must be acceptable on parts of the network.
   - ❑ E. Brief outages are not acceptable.

Find the Answer p. 58

3. When does delay get to the point where voice calls suffer from "talker overlap"?Select the best answer.

   - ❍ A. Greater than 120 ms.
   - ❍ B. Greater than 300 ms.
   - ❍ C. Less than 250 ms.
   - ❍ D. Greater than 250 ms.

Find the Answer p. 58


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4. What voice problem is caused by the signal reflecting the speakers voice from the remote side phone back into the speakers ear?Select the best answer.

- ❍ A. Call disconnect
- ❍ B. Echo
- ❍ C. Jitter
- ❍ D. Variation of delay

Find the Answer p. 58

5. What are the four main problems facing converged enterprise networks?Choose four:

- ❑ A. Bandwidth capacity
- ❑ B. End-to-end Delay
- ❑ C. Lack of network management
- ❑ D. Multicast convergence times
- ❑ E. Jitter
- ❑ F. Packet loss

Find the Answer p. 58

6. Using the given exhibit, where is the potiential bottleneck located?Select the best answer.

- ❍ A. Segment 2
- ❍ B. Segment 3 and 4
- ❍ C. Segment 1
- ❍ D. Segment 3
- ❍ E. Segments 1 and 4
- ❍ F. None of the these.

Find the Answer p. 58

Exhibit(s):

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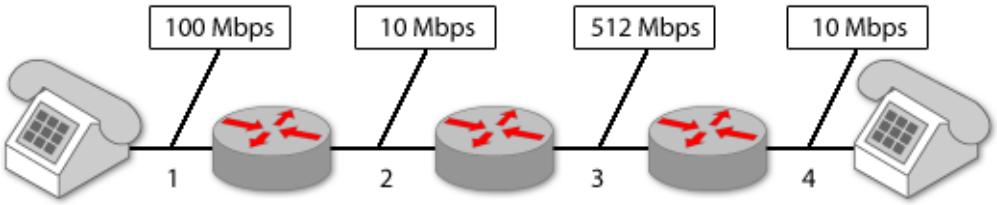

7. What are the four ways to increase available bandwidth?Choose four:

- ❑ A. Turn on rapid spanning-tree.
- ❑ B. Upgrade the bandwidth of the link.
- ❑ C. Forward the most important packets first.
- ❑ D. Covert all routing protocols to either EIGRP or OSPF.
- ❑ E. Compress L2 payload of frames.
- ❑ F. Compress IP packet headers.

Find the Answer p. 58

8. Which of the following is NOT a mechanism to provide bandwidth guarentees?Select the best answer.

- ❍ A. Priority queuing.
- ❍ B. High-latency queuing.
- ❍ C. Weighted fair queuing.
- ❍ D. Class-based weighted fair queuing.

Find the Answer p. 58

9. When implementing compression on a link to increase bandwidth in a virtual sense, what do you need to watch out for?Select the best answer.

- ❍ A. Link congestion.
- ❍ B. Queuing mechanisms will not work with compression enabled.
- ❍ C. Increased delay on the link.
- ❍ D. Traffic must be tunneled for routing protocols to work.

Find the Answer p. 58


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10. When is header compression optimal?Select the best answer.

- ❍ A. When IP packets carry large payloads.
- ❍ B. When the majority of traffic is UDP.
- ❍ C. When header compression is combined with LLQ.
- ❍ D. When IP packets carry small payloads.

Find the Answer p. 58

11. Which of the following is not a type of network delay?Select the best answer.

- ❍ A. Serialization delay.
- ❍ B. Processing delay.
- ❍ C. Weighted fair queuing.
- ❍ D. Propagation delay.
- ❍ E. Queuing delay.

Find the Answer p. 58

12. What type of delay depends on the following factors?CPU speedIP switching mode usedInterface features configured on input/output of an interfaceSelect the best answer.

- ❍ A. Processing delay.
- ❍ B. Queuing delay.
- ❍ C. Propagation delay.
- ❍ D. Serialization delay.

Find the Answer p. 58


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13. What issue arises when implementing payload compression on a network?Select the best answer.

- ❍ A. Compression uses algorithms that increase queuing. Time sensitive packets can be impacted.
- ❍ B. Compression uses algorithms that add to delay. Time sensitive packets can be impacted.
- ❍ C. Compression uses algorithms that add to delay. Compressed packets are larger and take longer to process.
- ❍ D. Some routing protocols do not support payload compression.

Find the Answer p. 58

14. What type of drops occur when the output queue is full?Select the best answer.

- ❍ A. Input queue drop.
- ❍ B. Ignore drops.
- ❍ C. Tail drops.
- ❍ D. Overrun drops.

Find the Answer p. 58

15. Why do time sensitive applications typically not use TCP?Select the best answer.

- ❍ A. TCP does not adjust to network congestion.
- ❍ B. TCP does not have the ability to retransmit packets.
- ❍ C. TCP has mechanisms that adjust to network congestion which can cause problems to time-sensitive streams.
- ❍ D. TCP cannot be compressed.

Find the Answer p. 58


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16. Which is NOT a method to prevent drops of sensitive applications?Select the best answer.

- ❍ A. Increase link capacity.
- ❍ B. Prioritize time sensitive data.
- ❍ C. Traffic policing.
- ❍ D. Windowing.

Find the Answer p. 58

17. What congestion prevention mechanism delays packets instead of dropping them?Select the best answer.

- ❍ A. Traffic policing
- ❍ B. Traffic shaping
- ❍ C. Custom queuing
- ❍ D. Weighted random early detection (WRED)

Find the Answer p. 58

18. When will a router drop packets due to CPU congestion?Select the best answer.

- ❍ A. Frame errors
- ❍ B. Input queue drop
- ❍ C. Overrun
- ❍ D. Ignore

Find the Answer p. 58


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Chapter 2
IP QoS Components

1. What three things does QoS provide?Choose three:

   - ❑ A. Dedicated bandwidth.
   - ❑ B. Controlled Jitter and latency.
   - ❑ C. Improved data loss.
   - ❑ D. Increase bandwidth.

Find the Answer p. 59

2. Which of the following is NOT a step involved to implement QoS on a Network?Select the best answer.

   - ❍ A. Group traffic into classes.
   - ❍ B. Identify traffic and requirements.
   - ❍ C. Divide traffic into TCP and UDP.
   - ❍ D. Define QoS policies to treat traffic differently on the network.

Find the Answer p. 59

3. What percent of packet loss is acceptable for voice?Select the best answer.

   - ❍ A. 0 percent packet loss. Voice cannot tolerate any loss.
   - ❍ B. 2 percent packet loss.
   - ❍ C. 1 percent packet loss.
   - ❍ D. 2-3 percent packet loss one-way.

Find the Answer p. 59


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4. In regards to video bandwidth requirements, what is the equation to calculate minimum bandwidth requirements?Select the best answer.

- ❍ A. Video stream bandwidth + 20%
- ❍ B. Video stream bandwidth + 25%
- ❍ C. Video stream bandwidth + 56 Kbps.
- ❍ D. 384 Kbps + 25%

Find the Answer p. 59

5. If a 384 Kbps video stream is sent across your network, how much bandwidth do you need to set a side at a minimum?Select the best answer.

- ❍ A. 384 Kbps
- ❍ B. 440 Kbps
- ❍ C. 460 Kbps
- ❍ D. 512 Kbps

Find the Answer p. 59

6. What two methods of QoS implementation does Cisco recommend?Choose Two:

- ❑ A. Through the command-line interface (CLI)
- ❑ B. Graphical user interface (GUI)
- ❑ C. Modular QoS Command-line interface (MQC)
- ❑ D. AutoQoS

Find the Answer p. 59


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7. Why does Cisco no longer recommend the CLI method of implementing QoS?Select the best answer.

- ❍ A. The CLI is limited in what QoS methods can be implemented.
- ❍ B. The CLI method is non-modular and prone to implementation errors.
- ❍ C. When configuring using CLI, you can introduce additional latency on the configured interfaces.
- ❍ D. CLI is the preferred method to configure QoS.

Find the Answer p. 59

8. What command enables qos for VoIP traffic?Select the best answer.

- ❍ A. Switch(config)# auto qos voip
- ❍ B. Switch(config-if)# auto qos voip
- ❍ C. Switch(config-if)# auto qos
- ❍ D. Switch(config)# auto qos

Find the Answer p. 59

9. Which MIBs are used to manage and monitor QoS?Choose two:

- ❑ A. Class-based QoS MIB
- ❑ B. WFQ MIB
- ❑ C. AutoQoS MIB
- ❑ D. NBAR MIB

Find the Answer p. 59


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10. What transport layer protocol is used for voice traffic?Select the best answer.

- ❍ A. TCP
- ❍ B. MPLS
- ❍ C. HTTP
- ❍ D. UDP

Find the Answer p. 59

11. What are the components of a QoS policy?Choose three:

- ❑ A. Identify requirements.
- ❑ B. Differentiate between authenticated and unauthenticated traffic.
- ❑ C. Define network-wide policies.
- ❑ D. Classify network traffic.

Find the Answer p. 59

12. What two QoS tools allow a network to guarantee quality for a particular service?Choose two:

- ❑ A. WRED
- ❑ B. RSVP
- ❑ C. LLQ
- ❑ D. Dynamic Queuing

Find the Answer p. 59


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13. Why does IntServ and RSVP not scale well?Select the best answer.

- ❍ A. IntServ supports admission control that allows the network to "reject" new RSVP sessions if there is not enough bandwidth.
- ❍ B. RSVP does not support layer 3 devices.
- ❍ C. In order to provide end-to-end bandwidth guarantees, the maximum number of layer 3 hops is limited to 8.
- ❍ D. Once the number of RSVP connections surpasses bandwidth, it can no longer guarantee service.

Find the Answer p. 59

14. What are the characteristics of the DiffServ model?Choose three:

- ❑ A. Guaranteed bandwidth.
- ❑ B. Near-guaranteed bandwidth.
- ❑ C. Establishes QoS end-to-end prior to any data being sent.
- ❑ D. Provides QoS on a hop-by-hop basis.
- ❑ E. Highly sailable.
- ❑ F. Limited scalability.

Find the Answer p. 59

15. What is the term for the prioritization, protection and isolation of traffic based on markings?Select the best answer.

- ❍ A. Classification and marking
- ❍ B. Congestion Avoidance
- ❍ C. Link efficiency
- ❍ D. Congestion management

Find the Answer p. 59


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16. What QoS tool includes packet compression?Select the best answer.

- ❍ A. Classification
- ❍ B. Link efficiency
- ❍ C. Congestion avoidance
- ❍ D. IP Precedence

Find the Answer p. 59

17. Which of the following is NOT a factor to recognize and classify traffic?Choose two:

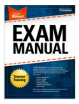
- ❑ A. Source TCP/UDP port
- ❑ B. Destination TCP/UDP port
- ❑ C. Source IP address
- ❑ D. Destination IP address
- ❑ E. DSCP value
- ❑ F. IP Precedence

Find the Answer p. 59

18. Using compressed RTP (cRTP), A typical 40 byte RTP header can be compressed into what?Choose two:

- ❑ A. Two bytes if CRC is not transmitted.
- ❑ B. Four bytes if CRC is not transmitted.
- ❑ C. Four bytes if CRC is transmitted.
- ❑ D. Six bytes.

Find the Answer p. 59

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Chapter 3
Modular QoS CLI and Auto-QoS

1. Which of the following are benefits of using QPM to configure QoS?Choose two.

   - ❑ A. The ability to dynamically change QoS policies base on traffic analysis.
   - ❑ B. The ability to analyze traffic throughput by application or service to better classify traffic.
   - ❑ C. Simplifies QoS configuration by automatically classifying traffic according to pre-defined classes.
   - ❑ D. QPM can provision QoS for defined groups of interfaces.

Find the Answer p. 60

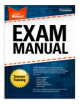
2. Using the class map configuration exhibit, which of the following statements are true?Choose two.

   - ❑ A. The packet must match all three criteria to be placed in the preplogic1 class-map.
   - ❑ B. Any one criteria should be matched to be placed in the preplogic1 class-map.
   - ❑ C. If the packet is matched in the access-list 101, the packet is placed in the preplogic1 class-map.
   - ❑ D. If the packet is not matched in the access-list 101, the packet is placed in the preplogic1 class-map.

Find the Answer p. 60

Exhibit(s):

```
Router(config)# class-map match-any preplogic1
Router(config-cmap)# match protocol ip
Router(config-cmap)# match qos-group 4
Router(config-cmap)# match not access-group 101
```

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3. What QoS tool is used to define what QoS features should be applied?Select the best answer.

- ❍ A. policy-map
- ❍ B. class-map
- ❍ C. service-policy
- ❍ D. match access-group

Find the Answer p. 60

4. When is an interface considered "low speed" when configuring AutoQoS?Select the best answer.

- ❍ A. Any half-duplex connection.
- ❍ B. Any interface less than or equal to 1.544 Mbps.
- ❍ C. Any interface less than 100 Mbps.
- ❍ D. Any interface less than 768 kbps.

Find the Answer p. 60

5. When the following command is executed:Switch(config-if)# quto qos cisco-phoneHow does the switch identify the end device as a Cisco IP phone?Select the best answer.

- ❍ A. The switch checks the CoS QoS field to verify the identity of the end-device.
- ❍ B. The switch checks the IP packet header to verify the identity of the end-device.
- ❍ C. The switch uses CDP to detect the Cisco IP phone.
- ❍ D. The switch assumes that a Cisco IP phone is attached to that specific port.

Find the Answer p. 60

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6. Which of the following does AutoQoS voip automatically do when used to configure a LAN interface?Choose two:

- ❑ A. Enforces trust boundary.
- ❑ B. Provides SNMP and syslog alerts for packet drops.
- ❑ C. Enables custom queuing.
- ❑ D. Configures queue admission criteria.

Find the Answer p. 60


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Chapter 4
Classification and Marking

1. What IOS feature assists with classifying applications that use dynamic ports?Select the best answer.

   - ❍ A. Class-based Weighted Fair Queuing (CBWFQ)
   - ❍ B. Traffic shaping
   - ❍ C. Network-based application recognition (NBAR)
   - ❍ D. Traffic policing

   Find the Answer p. 61

2. Which of the following is NOT a step for defining a QoS policy traffic class?Select the best answer.

   - ❍ A. Set a maximum bandwidth limit.
   - ❍ B. Assign priorities to each class.
   - ❍ C. Set a minimum bandwidth limit.
   - ❍ D. Set a minimum CPU threshold on the router.
   - ❍ E. Use QoS technologies to manage congestion.

   Find the Answer p. 61

3. What type of QoS model provides the following?high QoS to IP packetsPacket delivery is guaranteedCan limit the scalability of the networkSelect the best answer.

   - ❍ A. DiffServ
   - ❍ B. IntServ
   - ❍ C. Best-effort
   - ❍ D. Default

   Find the Answer p. 61


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4. Generally speaking, at what layer of the OSI model are CoS and ToS used?Choose two:

- ❑ A. CoS is used at layer 3.
- ❑ B. ToS is used at layer 3.
- ❑ C. CoS is used at layer 2.
- ❑ D. ToS is used at layer 2.

Find the Answer p. 61

5. If an IP packet is using DSCP and is sent across an MPLS network, where can the QoS information reside?Select the best answer.

- ❍ A. The DSCP is copied and placed into the MPLS ToS field.
- ❍ B. The DSCP field is copied and placed into the MPLS experimental field.
- ❍ C. The IP Precedence is copied and placed into the MPLS experimental field.
- ❍ D. The IP Precedence is copied and placed into the cRTP field.

Find the Answer p. 61

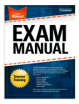
6. Using the given configuration sample, what packets will be assigned to the class map "FastEthernet"Select the best answer.

- ❍ A. Any traffic leaving FastEthernet 1/0 or 2/0.
- ❍ B. Any traffic entering a FastEthernet port on the router.
- ❍ C. Any traffic entering a FastEthernet 1/0 or 2/0 on the router.
- ❍ D. This is not a valid match statement.

Find the Answer p. 61

Exhibit(s):

```
class-map match-any FastEthernet
    match input-interface FastEthernet 1/0
    match input-interface FastEthernet 2/0
```

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7. What DSCP numerical value corresponds with the DSCP class of "ef"?Select the best answer.

- ❍ A. 8
- ❍ B. 46
- ❍ C. 56
- ❍ D. 0

Find the Answer p. 61

8. Given the following class-map, what DSCP values will it match on?class-map preplogic1match ip dscp af31 cs3 efChoose two.

- ❑ A. 24
- ❑ B. 8
- ❑ C. 26
- ❑ D. 38

Find the Answer p. 61

9. Class-based marking supports all of the following EXCEPT which of the following?Select the best answer.

- ❍ A. Source or destination IP address.
- ❍ B. IP precedence
- ❍ C. IP DSCP
- ❍ D. MPLS experimental bits
- ❍ E. Frame Relay DE bit
- ❍ F. QoS group

Find the Answer p. 61


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10. Given the partial configuration in the exhibit, what needs to be added for the "high-ports" to be given a DSCP value of 0?Select the best answer.

- ❍ A. class-map low-ports
  match not access-group 100
- ❍ B. class-map high-ports
  set DSCP 0
- ❍ C. class-map high-ports
  match access-group 101
- ❍ D. class-map high-ports
  match not access-group 100

Find the Answer p. 61

Exhibit(s):

```
class-map low-ports
   match access-group 100

policy map set-dscp
   class low-ports
      set dscp af21

   class high-ports
      set dscp 0

access-list 100 permit tcp any any lt 1024
access-list 100 permit tcp any lt 1024 any

interface fa0/1
   service-policy input set-dscp
```

11. At what layers of the OSI model does NBAR function?Select the best answer.

- ❍ A. Layers 2-4
- ❍ B. Layers 3-7
- ❍ C. Layers 1-7
- ❍ D. Layers 4-7

Find the Answer p. 61


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12. What can be done to add additional NBAR rules to a router configured with an already existing feature set?Select the best answer.

- ❍ A. You must upgrade the router IOS. Each IOS version includes an updated NBAR feature set.
- ❍ B. You can either upgrade the version of IOS or load an external PDLM.
- ❍ C. You must load the PDLM externally.
- ❍ D. You can either upgrade the version of IOS or TFTP the NBAR service separately.
- ❍ E. You can TFTP the NBAR service separately from IOS.

Find the Answer p. 61

13. What must be enabled prior to configuring NBAR?Select the best answer.

- ❍ A. CDP
- ❍ B. IGMP snooping.
- ❍ C. CEF
- ❍ D. Link-state routing protocol.

Find the Answer p. 61


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14. How does QoS pre-classify work to provide classification to IPSec and GRE tunnels?Choose two:

- ❑ A. With IPSec tunnels, the ToS in the IP packet header is copied to the IPSec packet header. This allows classification and adjustment of traffic based on class services.
- ❑ B. With IPSec tunnels, the Router reads the ToS in the encapsulated IP packet header. This allows classification and adjustment of traffic based on class services.
- ❑ C. With GRE tunnels, the ToS in the IP packet header is copied to the GRE packet header. This allows classification and adjustment of traffic based on class services.
- ❑ D. With GRE tunnels, the Router reads the ToS in the encapsulated IP packet header. This allows classification and adjustment of traffic based on class services.

Find the Answer p. 61

15. Which of the following is NOT a restriction when configuring QoS for VPN's?Select the best answer.

- ❍ A. The QoS feature can only be enabled on IP packets.
- ❍ B. Because the ToS field is inserted into the IPSec packet, the traffic is more likely to be compromised.
- ❍ C. If the packet is fragmented, only the first fragment is pre-classified.
- ❍ D. The only queuing strategy that can be applied is FIFO.

Find the Answer p. 61

16. What is a limitation to QoS policy propagation through BGP (QPPB)?Select the best answer.

- ❍ A. QPPB uses BGP attributes to advertise CoS.
- ❍ B. A route map is used to translate BGP information into a QoS group.
- ❍ C. QPPB can only classify and mark inbound packets.
- ❍ D. Access-lists are not used to propagate QPPB.

Find the Answer p. 61


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17. The QPPB feature has which of the following enhancements?Choose two:

- ❑ A. Source and destination lookup.
- ❑ B. QoS group ID.
- ❑ C. QoS pre-classify.
- ❑ D. Transparent BGP marking.

Find the Answer p. 61

18. How does enabling QoS policy propagation through BGP affect BGP routing?Select the best answer.

- ❍ A. Depending on how the BGP packet gets classified, it may be rerouted.
- ❍ B. QoS and BGP work together to classify and route IP traffic.
- ❍ C. BGP keeps multiple instances of the routing table to route classified traffic appropriately.
- ❍ D. QoS features work independently of BGP routing.

Find the Answer p. 61

19. When Cisco express forwarding (CEF) is enabled, what two tables are built?Select two.

- ❑ A. MAC address to port map table.
- ❑ B. Adjacency table.
- ❑ C. Full BGP routing table.
- ❑ D. Forwarding information base.

Find the Answer p. 61


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20. How are entries in the forwarding information base (FIB) table changed?Select the best answer.

- ❍ A. The entries are change-triggered.
- ❍ B. The entries are static.
- ❍ C. The entries are packet-triggered.
- ❍ D. The entries are manually updated.

Find the Answer p. 61

21. What IOS command applies a route-map to the BGP routes for QPPB?Select the best answer.

- ❍ A. set ip qos-group <qos-group #>
- ❍ B. table-map <route-map name>
- ❍ C. bgp-policy <soruce | destination> ip-prec-map
- ❍ D. set ip precedence <ip precedence value>

Find the Answer p. 61

22. What is the default behavior of Cisco IP phones when they have a PC attached to it that is sending a ToS value other than 0?Select the best answer.

- ❍ A. By default, the IP phone will trust the ToS value and send it along to the switch.
- ❍ B. By default, the IP phone will not trust the ToS value and rewrite it to a value of 1.
- ❍ C. By default, the IP phone will not trust the ToS value and rewrite it to a value of 0.
- ❍ D. The phone and attached switch verify if the device is trusted and will either trust or rewrite the ToS based on the switch ACL.

Find the Answer p. 61


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23. Which of the following are default QoS settings for a Cisco 3560 switch?Choose two:

- ❑ A. The default port CoS value is 5.
- ❑ B. The default port CoS is 0.
- ❑ C. The default CoS queue assignments are: CoS 6 to 7: Queue 1, CoS 4 to 5: Queue 2 ,CoS 2 to 3: Queue 3, CoS 0 to 1: Queue 4.
- ❑ D. The default port state is "untrusted".
- ❑ E. The default port CoS value is 1.

Find the Answer p. 61

24. Which command displays the CoS to DSCP and DSCP to CoS mappings?Select the best answer.

- ❍ A. show mls qos all
- ❍ B. show mls qos maps
- ❍ C. show mls qos maps cos-dscp dscp-qos
- ❍ D. show mls qos

Find the Answer p. 62


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Chapter 5
Congestion Management Methods

1. What type of QoS model does the Internet incorporate?Select the best answer.

   - ❍ A. Best-effort
   - ❍ B. IntServ
   - ❍ C. DiffServ
   - ❍ D. BGP

   Find the Answer p. 63

2. What type of traffic was IntServ designed for?Select the best answer.

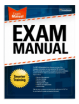
   - ❍ A. Applications running UDP as the transport layer protocol.
   - ❍ B. Applications that require best-effort network requirements.
   - ❍ C. Any voice or video application.
   - ❍ D. Applications that require consistent and dedicated bandwidth.

   Find the Answer p. 63

3. What protocol provides resource admission control for Voice over IP traffic?Select the best answer.

   - ❍ A. IntServ
   - ❍ B. UDP
   - ❍ C. RSVP
   - ❍ D. DiffServ

   Find the Answer p. 63

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4. What causes congestion on a network?Choose three:

- ❑ A. FIB point
- ❑ B. Link speed mismatch point
- ❑ C. Aggregation point
- ❑ D. Confluence point

Find the Answer p. 63

5. What is an issue with priority queuing (PQ)?Select the best answer.

- ❍ A. The highest priority queues can be "starved" if there is too much traffic coming into our out of an interface.
- ❍ B. PQ does not prioritize traffic.
- ❍ C. The lowest priority queues can be "starved" if there is too much traffic coming into our out of an interface.
- ❍ D. PQ prioritizes traffic and places them into a hierarchy.

Find the Answer p. 63

6. What is a limitation of round robin queuing?Select the best answer.

- ❍ A. A queue can suffer from "starvation".
- ❍ B. All queues will be given an equal number of packets across a link.
- ❍ C. If packets are all the same size, one queue will receive a larger percentage of the link bandwidth.
- ❍ D. There is no ability to prioritize a queue if needed.

Find the Answer p. 63


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7. The hardware queuing system of a Cisco router uses which type of queuing?Select the best answer.

- ❍ A. FIFO only.
- ❍ B. The programmable hardware ASIC can be set for any queuing strategy that Cisco supports.
- ❍ C. The programmable hardware ASIC can be configured for FIFO or round robin.
- ❍ D. Round robin only.

Find the Answer p. 63

8. What two circumstances usually occur on a network that require routers to queue up ingress bursts of traffic before sending it out a different interface?Choose two:

- ❑ A. The input interface is faster than the output interface.
- ❑ B. If the output interface is receiving traffic from multiple interfaces.
- ❑ C. If broadcast traffic is over 20% of the link bandwidth.
- ❑ D. If Cisco express forwarding (CEF) is not enabled on the interface.

Find the Answer p. 63

9. What is the software queuing system used for?Select the best answer.

- ❍ A. When each packet is forwarded, it is sent to the software queue first which prioritizes the traffic. It is then forwarded to the hardware queue to be placed on the wire.
- ❍ B. When each packet is forwarded, it is sent to the hardware queue first which prioritizes the traffic. It is then forwarded to the software queue to be placed on the wire.
- ❍ C. When each packet is forwarded, it only goes to the software queue when the hardware queue is full. The software queue helps to prioritize the packets.
- ❍ D. When each packet is forwarded, it only goes to the software queue when any queuing other than FIFO is needed. The software queue helps to prioritize the packets.

Find the Answer p. 63


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10. Why would you typically need to shrink the size of the hardware queue transmit ring?Select the best answer.

- ❍ A. To allow for more "bursty" traffic.
- ❍ B. To prevent drops on a congested link.
- ❍ C. To reduce latency caused by queuing.
- ❍ D. To force packets to use FIFO queuing.

Find the Answer p. 63

11. What are characteristics of custom queuing (CQ)?Choose three:

- ❑ A. Allows up to 16 separate queues.
- ❑ B. Allows up to 8 separate queues.
- ❑ C. Can classify traffic by: source IP, destination IP, IP precedence and DSCP.
- ❑ D. Can classify traffic by: source IP, destination IP TCP/UDP port, IP precedence and DSCP.
- ❑ E. If any queue gets filled up. The first packet to arrive is dropped.
- ❑ F. If any queue gets filled up. The last packet to arrive is dropped.

Find the Answer p. 63

12. If a router interface is configured with WFQ and packets within a specific traffic flow have different ToS values, what could happen?Choose two:

- ❑ A. The first packet may be placed into a queue and subsequent packets with a different ToS value would be dropped.
- ❑ B. The first packet may be placed into a queue and subsequent packets with a different ToS might be put into a different queue.
- ❑ C. The packets might reach the destination out of order.
- ❑ D. The packets will be reordered in the hardware queue prior to being sent out the interface.

Find the Answer p. 63


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13. What two traffic types does WFQ apply a special weight to so they are preferred and are less likely to be waiting in queue?Select the best two.

- ❑ A. RSVP packets.
- ❑ B. System packets.
- ❑ C. IPSec packets.
- ❑ D. GRE packets.

Find the Answer p. 63

14. WFQ is enabled by default on what type of interfaces?Select the best answer.

- ❍ A. Any serial interface.
- ❍ B. Any non-Ethernet interface.
- ❍ C. Any interface less than 2 Mbps.
- ❍ D. Any interface less than 1.544 Mbps.

Find the Answer p. 63

15. What command enables WFQ on an interface and changes the number of messages allowed in the WFQ system to 128?Select the best answer.

- ❍ A. router(config-if)# fair-queue dynamic-queues 128
- ❍ B. router(config)# fair-queue dynamic-queues 128
- ❍ C. router(config-if)# fair-queue cdt 128
- ❍ D. router(config)# fair-queue dynamic-queues 128

Find the Answer p. 63


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16. What is true about the following WFQ command?router(config-if)# hold-queue 800 outSelect the best answer.

- ❍ A. Specifies the maximum number of frames that can be in the interface output queues at any given time. The default is 1000.
- ❍ B. Specifies the maximum number of packets that can be in the interface output queues at any given time. The default is 1024.
- ❍ C. Specifies the maximum number of packets that can be in the interface output queues at any given time. The default is 1000.
- ❍ D. Specifies the maximum number of packets that can be in the interface output queues at any given time. The default is 500.

Find the Answer p. 63

17. Using the supplied exhibit, how many queues is WFQ using for this interface?Select the best answer.

- ❍ A. 16 queues
- ❍ B. 1000 queues
- ❍ C. 64 queues
- ❍ D. 255 queues

Find the Answer p. 63

Exhibit(s):


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```
Serial1/0:0 is up, line protocol is up
  Hardware is Multichannel T1
  Internet address is 192.168.1.1/30
  MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec,
     reliability 255/255, txload 40/255, rxload 8/255
  Encapsulation HDLC, crc 16, Data non-inverted
  Keepalive set (10 sec)
  Last input 00:00:02, output 00:00:00, output hang never
  Last clearing of "show interface" counters 2y34w
  Input queue: 0/75/0/0 (size/max/drops/flushes); Total output drops: 2190237
  Queueing strategy: weighted fair
  Output queue: 0/1000/64/170 (size/max total/threshold/drops)
     Conversations  0/7/16 (active/max active/max total)
     Reserved Conversations 0/0 (allocated/max allocated)
  5 minute input rate 54000 bits/sec, 23 packets/sec
  5 minute output rate 243000 bits/sec, 31 packets/sec
     2138186176 packets input, 574491825 bytes, 0 no buffer
     Received 9812694 broadcasts (0 IP multicast)
     219788 runts, 0 giants, 0 throttles
     2010069 input errors, 212 CRC, 0 frame, 0 overrun, 0 ignored, 98 abort
     2056712984 packets output, 695420022 bytes, 0 underruns
     0 output errors, 0 collisions, 0 interface resets
     0 output buffer failures, 0 output buffers swapped out
     8 carrier transitions
```

18. Given the following partial configuration exhibit, what type of queuing is configured on the interface?Select the best answer.

- ❍ A. WFQ
- ❍ B. FIFO
- ❍ C. CBWFQ
- ❍ D. LLQ

Find the Answer p. 63

Exhibit(s):

```
interface Serial0/0/0
 bandwidth 1544
 ip address 192.168.10.30 255.255.255.252
 no ip mroute-cache
 no fair-queue
```

19. How is traffic defined for class-based WFQ (CBWFQ)?Choose three:

- ❑ A. Traffic can be defined based on protocol type.
- ❑ B. Traffic can be defined based on ACL's.
- ❑ C. Traffic can be defined on input or output interfaces.
- ❑ D. Traffic can be defined on input interfaces.

Find the Answer p. 63

20. What three commands can be used with CBWFQ to configure bandwidth guarantees for a particular class?Select the best three.

- ❑ A. Bandwidth remaining percent <percent>
- ❑ B. Max packet <max number of packets per second>
- ❑ C. Bandwidth <bandwidth>
- ❑ D. Bandwidth percent <percent>

Find the Answer p. 63

21. Which of the following statements is a drawback of CBWFQ?Select the best answer.

- ❍ A. Less granularity and scalability compared to WFQ.
- ❍ B. Not supported by MQC.
- ❍ C. Weights do not guarantee minimum bandwidth for a class.
- ❍ D. Voice traffic can still experience unacceptable delay.

Find the Answer p. 63


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22. What queuing mechanism can provide both guaranteed bandwidth and low latency?Select the best answer.

- ❍ A. WFQ
- ❍ B. CBWFQ
- ❍ C. LLQ
- ❍ D. FIFO

Find the Answer p. 63

23. What are benefits of LLQ?Choose three.

- ❑ A. Consistent configuration and operation across all media types.
- ❑ B. LLQ is the default queuing mechanism for Fast Ethernet and Gigabit Ethernet.
- ❑ C. High priority classes are guaranteed.
- ❑ D. Class criteria can be defined by an ACL.

Find the Answer p. 63

24. Using the partial configuration exhibit given, what percent of bandwidth is guaranteed for packets tagged with an IP precedence of 4?Select the best answer.

- ❍ A. A maximum of 30 percent of the links bandwidth.
- ❍ B. A maximum of 30 percent of the links unused bandwidth.
- ❍ C. A maximum of 20 percent of the links unused bandwidth.
- ❍ D. A maximum of 20 percent of the links bandwidth.
- ❍ E. The traffic is not guaranteed any bandwidth.

Find the Answer p. 64

Exhibit(s):


PRINTABLES www.learnsmartsystems.com 1-800-418-6789 Practice Exams Audio Training Exam Manual Video Training

```
class-map voip
  match ip precedence 5
  !
class-map important
  match ip precedence 3 4
  !
class-map semi-important
  match ip precedence 1 2
  !
policy-map Preplogic
  class voip
    priority percent 10
  class important
    priority percent 30
    random-detect
  class semi-important
    priority percent 20
    random-detect
  class class-default
    fair-queue
    random-detect
```

25. Using the partial configuration exhibit given, what percent of bandwidth is guaranteed for packets tagged with an IP precedence of 0?Select the best answer.

- ❍ A. A maximum of 30 percent of the links bandwidth.
- ❍ B. The traffic is not guaranteed any bandwidth.
- ❍ C. A maximum of 20 percent of the links bandwidth.
- ❍ D. A maximum of 20 percent of the links unused bandwidth.
- ❍ E. A maximum of 30 percent of the links unused bandwidth.

Find the Answer p. 64

Exhibit(s):


PRINTABLES www.learnsmartsystems.com 1-800-418-6789 Practice Exams Audio Training Exam Manual Video Training

```
class-map voip
  match ip precedence 5
  !
class-map important
  match ip precedence 3 4
  !
class-map semi-important
  match ip precedence 1 2
  !
policy-map Preplogic
  class voip
    priority percent 10
  class important
    priority percent 30
    random-detect
  class semi-important
    priority percent 20
    random-detect
  class class-default
    fair-queue
    random-detect
```

26. A Catalyst 6500 has the following Rx queue capabilitites:1P1Q4TWhat queue will frames with an IP precedence of 6 go? At what point would they be dropped if the link is congested?Select the best answer.

- ❍ A. The frame would be placed into the priority queue. This traffic is dropped when the receive-queue buffer is at 100 percent.
- ❍ B. This frame will be placed into the standard receive queue. A tail-drop will occur when the receive-queue buffer is 80 percent or more full.
- ❍ C. This frame will be placed into the priority queue. A tail-drop will never occur for this traffic.
- ❍ D. This frame will be placed into the standard receive queue. A tail-drop will occur when the receive-queue buffer is 100 percent full.

Find the Answer p. 64


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27. A 2950 switch is configured for WRR with an expedite queue. Which queue is emptied before any other queues are ever considered?Select the best answer.

- ❍ A. Queue 1
- ❍ B. Queue 2
- ❍ C. Queue 3
- ❍ D. Queue 4

Find the Answer p. 64

28. What does LLQ add to CBWFQ?Select the best answer.

- ❍ A. Special voice classification
- ❍ B. Priority queuing
- ❍ C. Variable bit-rate traffic
- ❍ D. Hardware buffering

Find the Answer p. 64

29. When multiple WAN connections converge into a single LAN uplink connection, what type of congestion is likely to become congested?Select the best answer.

- ❍ A. Bursty traffic.
- ❍ B. Transparent connections.
- ❍ C. Persistent traffic.
- ❍ D. Internet traffic.

Find the Answer p. 64


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Chapter 6
Congestion Avoidance Methods

1. What are two best-practice methods for marking DiffServ packets for classification?Choose two:

   - ❑ A. Mark the packets closest to the edge of the network.
   - ❑ B. Mark the packets closest to the core of the network.
   - ❑ C. Classify data as many times as possible.
   - ❑ D. Classify data as few times as possible.

Find the Answer p. 65

2. Where in the IP header would you find the DiffServ classification field?Select the best answer.

   - ❍ A. FCS
   - ❍ B. TTL
   - ❍ C. DS
   - ❍ D. Len

Find the Answer p. 65

3. What two values does a DSCP identify?Choose two:

   - ❑ A. RFC
   - ❑ B. Behavior aggregates (BA)
   - ❑ C. Per-hop behavior (PHB)
   - ❑ D. Type of service (ToS)

Find the Answer p. 65


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4. How many bits are actually used for DSCP classification in the DiffServe IP header section?Select the best answer.

- ❍ A. 8 bits
- ❍ B. 4 bits
- ❍ C. 6 bits
- ❍ D. 3 bits

Find the Answer p. 65

5. Using the following DSCP value, what IP precedence value will non-DiffServ complient devices utilize?011110Select the best answer.

- ❍ A. IP precedence of 6
- ❍ B. IP precedence of 30
- ❍ C. IP precedence of 3
- ❍ D. IP precedence of 5

Find the Answer p. 65

6. What does it mean when bits 2-4 of the DSCP field are: 000?Select the best answer.

- ❍ A. It means this traffic has the highest priority.
- ❍ B. It identifies the packet as a Class-Selector PHB.
- ❍ C. It means the traffic has a default priority.
- ❍ D. It flags the packet with for DF.

Find the Answer p. 65


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7. When a "traditional" TCP connection is initially established between hosts, what occurs in terms of TCP windowing?Select the best answer.

- ❍ A. When the connection is first established, a very small window size is established. This window size increases exponentially until a limit is reached or the maximum window size of 64 KB is reached.
- ❍ B. When the connection is first established, the TCP window size is set to the maximum 64 KB. The TCP window size will adjust exponentially depending on link speed between the two hosts.
- ❍ C. When the connection is first established, a very small window size is established. This window size increases exponentially until a limit is reached or the maximum window size of 2^30 bytes is reached.
- ❍ D. When the connection is first established, window size of 32 KB is established. This window size increases exponentially until a limit is reached or the maximum window size of 2^30 bytes is reached.

Find the Answer p. 65

8. What TCP congestion mechanism occurs when the TCP sender detects a dropped data segment and shrinks the window size to 1/2 of what it was before the drop was detected?Select the best answer.

- ❍ A. Congestion avoidance.
- ❍ B. TCP time-out
- ❍ C. TCP slow-start
- ❍ D. TCP SYN-ACK

Find the Answer p. 65


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9. What three flaws are reasons to avoid tail drop?Choose three:

- ❑ A. When congestion occurs, tail dropping affects most TCP sessions.
- ❑ B. When congestion occurs, tail dropping affects specific TCP sessions.
- ❑ C. TCP starvation
- ❑ D. No differentiated drop
- ❑ E. Differentiated drop

Find the Answer p. 65

10. What is NOT a true statement about random early detection (RED)?Select the best answer.

- ❍ A. RED has per-flow intelligence to drop specific traffic.
- ❍ B. RED randomly drops packets before a queue is full.
- ❍ C. RED increases drop rate as the average queue size increases.
- ❍ D. TCP sessions shrink their window sizes if RED drops packets from their session.

Find the Answer p. 65

11. Where is WRED applied on a router?Select the best answer.

- ❍ A. WRED is applied on each interface.
- ❍ B. WRED is applied on an interface or class level.
- ❍ C. WRED is applied on an interface, VC or class level.
- ❍ D. WRED is configured at the class level.

Find the Answer p. 65


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12. What command is used to enable DSCP CB-WRED?Select the best answer.

- ❍ A. router(config-pmap-c)# random-detect
- ❍ B. router(config-pmap-c)# random-detect dscp-based
- ❍ C. router(config-if)# random-detect dscp-based
- ❍ D. router(config-if)# random-detect

Find the Answer p. 65

13. What congestion avoidance tool marks packets instead of dropping them when the average queue length exceeds a threshold value?Select the best answer.

- ❍ A. RED
- ❍ B. WRED
- ❍ C. ECN
- ❍ D. random-detect

Find the Answer p. 65

14. What command should be used to enable CB-WRED to use a minimum threshold of 28, a maximum threshold of 36, and a drop probability of 10%? The DSCP value is cs1.Select the best answer.

- ❍ A. random-detect dscp-based cs1 10 28 36
- ❍ B. random-detect dscp-based cs1 28 36 10
- ❍ C. random-detect dscp cs1 10 28 36
- ❍ D. random-detect dscp cs1 28 36 10

Find the Answer p. 65


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Chapter 7
Traffic Policing and Shaping

1. What are the differences between traffic shaping and traffic policing?Choose two:

   - ❑ A. Traffic policing buffers excessive traffic. Traffic bursts are smoothed out through queuing.
   - ❑ B. Traffic policing drops excess traffic in order to control the flow of traffic within the specified rates.
   - ❑ C. Traffic shaping buffers excessive traffic. Traffic bursts are smoothed out through queuing.
   - ❑ D. Traffic shaping drops excess traffic in order to control the flow of traffic within the specified rates.

Find the Answer p. 66

2. What is a traffic-shaping feature that offloads shaping from the main processor to the individual interface processors on high-end Cisco routers?Select the best answer.

   - ❍ A. Distributed traffic-shaping
   - ❍ B. Interleaving
   - ❍ C. FRTS
   - ❍ D. dCEF

Find the Answer p. 66

3. Where is traffic shaping typically implemented?Select the best answer.

   - ❍ A. Access layer
   - ❍ B. Distribution layer
   - ❍ C. Core layer
   - ❍ D. WAN edge
   - ❍ E. Internet edge

Find the Answer p. 66


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4. Where is traffic policing typically implemented?Choose two.

- ❑ A. Access layer
- ❑ B. Distribution layer
- ❑ C. Core layer
- ❑ D. WAN edge
- ❑ E. Internet edge

Find the Answer p. 66

5. The class-based policing feature performs which of the following functions?Choose two:

- ❑ A. Marks packets by setting either L2 or L3 markers.
- ❑ B. Marks packets by setting different L2 or L3 markers, or both.
- ❑ C. Limits the max interface input/output transmission rates based on user defined criteria.
- ❑ D. Limits the max interface input/output transmission rates based on defined algorithms.

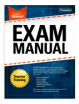
Find the Answer p. 66

6. Using the given partial configuration, which token bucket scheme will be used for the class-based policing setup?Select the best answer.

- ❍ A. The three bucket method.
- ❍ B. The single bucket method.
- ❍ C. CB policing does not used a bucket scheme.
- ❍ D. The two bucket method.

Find the Answer p. 66

Exhibit(s):

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```
class-map web1
  match source-address mac 1111.2222.3333.4444
  !
policy-map PrepLogic
  class web1
    police 512000 conform-action set-prec-transmit 4 exceed-action set-prec-transmit 2
violate-action drop
  !
interface FastEthernet 0/2
  service-policy output PrepLogic
```

7. Which of the following is NOT true regarding class-based shaping?Select the best answer.

- ❍ A. Class-based shaping cannot rate-limit packets.
- ❍ B. Class-based shaping delays packets rather than dropping them.
- ❍ C. Class-based shaping has no marking capabilities.
- ❍ D. Class-based shaping is a version of generic traffic shaping (GTS) using MQC.

Find the Answer p. 66

8. What two methods does class-based shaping use?Choose two:

- ❑ A. Minimum
- ❑ B. Peak
- ❑ C. Limit
- ❑ D. Average

Find the Answer p. 66


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9. What does the "min-rate" command do in terms of configuring frame relay class-based shaping?shape adaptive min-rateSelect the best answer.

- ❍ A. The interface responds to FECN bits by creating test frames in the opposite direction with the FECN bit set.
- ❍ B. Drops the shaping rate to 3/4 of the previous rate but not below the "min-rate" when BECN bits are received on the interface.
- ❍ C. Sets the absolute minimum BECN markings allowed during congestion.
- ❍ D. Sets the absolute minimum FECN markings allowed during congestion.
- ❍ E. Drops the shaping rate to 3/4 of the previous rate but not below the "min-rate" when FECN bits are received on the interface.

Find the Answer p. 66


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Chapter 8
Link Efficiency Mechanisms

1. What is the main purpose of link efficiency mechanisms?Select the best answer.

   - ❍ A. Reducing delay.
   - ❍ B. Reduce jitter.
   - ❍ C. Optimize existing bandwidth.
   - ❍ D. Optimize queue buffers.

   Find the Answer p. 67

2. What is the term used when delay occurs on packets susceptible to increased latency due to large packets (such as FTP) clog up slow WAN links?Select the best answer.

   - ❍ A. HTTP header compression.
   - ❍ B. Queue overload.
   - ❍ C. Buffer overload.
   - ❍ D. Freeze out.

   Find the Answer p. 67

3. What link efficiency mechanism reduces delay and jitter by fragmenting large frames so that smaller frames can be intermixed and are less likely to be delayed?Select the best answer.

   - ❍ A. LLQ
   - ❍ B. LFI
   - ❍ C. CBWFQ
   - ❍ D. Class-based policing

   Find the Answer p. 67


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4. Where is LFI and header compression typically configured? What types of links benefit most?Select the best answer.

- ❍ A. LFI and header compression are typically configured at the WAN edge for WAN links at or below DS3 speeds.
- ❍ B. LFI and header compression are typically configured at the access layer for links at or below 100 Mbps.
- ❍ C. LFI and header compression are typically configured at the WAN edge for WAN links at or below T1/E1 speeds.
- ❍ D. LFI and header compression are typically configured at the access layer for links at or below 10 Mbps.

Find the Answer p. 67

5. With TCP header compression, A typical 20 Byte IP header and 20 byte TCP header can be compressed down to what size?Select the best answer.

- ❍ A. 18-20 bytes
- ❍ B. 18-20 bits
- ❍ C. 3-5 bytes
- ❍ D. 3-5 bits

Find the Answer p. 67

6. What traffic class command enables rtp header compression?Select the best answer.

- ❍ A. compression header ip tcp
- ❍ B. compression header ip tcp rtp
- ❍ C. compression header rtp
- ❍ D. compression header ip rtp

Find the Answer p. 67


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7. Using the show policy-map output given, what kind of efficiency in a percentage value does the interface have when using RTP header compression?Select the best answer.

- ❍ A. 99 percent efficiency.
- ❍ B. 332 percent efficiency.
- ❍ C. 33.2 percent efficiency.
- ❍ D. 3.32 percent efficiency.

Find the Answer p. 67

Exhibit(s):

```
router>show policy-map interface s1/0

Serial1/0
Service-policy output:preplogic1
Class-map: voip1 (match-all)
2239 packets, 132325 bytes
30 second offered rate 1600 bps, drop rate 0 bps
Match:protocol rtp
Queuing
        Strict Priority
        Output Queue: Converstaion 264
        Bandwidth 384 (kbps) Burst 9600 (Bytes)
        (pkts match/bytes matched) 2210/108000
        (total drops/bytes drops) 0/0 compress:
compress:
header ip rtp
UDP/RTP Compression:
Sent: 2210 total, 2209 compressed,
98034 bytes saved, 108000 bytes sent
3.32 efficiency improvement factor
99% hit ratio, five minute mis rate 0 misses/sec, 0 max rate 5000 bps
```

8. What three steps are required to configure MLP with interleaving?Choose three:

- ❑ A. Configure the bandwidth on the interface.
- ❑ B. Enable MPL interleaving on the multilink interface.
- ❑ C. On the multilink interface, configure the maximum fragment delay.
- ❑ D. Enable MLP on an interface using a multilink group interface.

Find the Answer p. 67


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9. If the "ppp multilink fragment delay <delay>" command does not specify a delay time for MLP, what is the default delay used?Select the best answer.

- ❍ A. 10 ms
- ❍ B. 15 ms
- ❍ C. 30 ms
- ❍ D. There is no default delay. It must be configured to enable MLP.

Find the Answer p. 67

10. What factors impact serialization delay?Choose two:

- ❑ A. Link speed
- ❑ B. Buffer size
- ❑ C. CPU utilization
- ❑ D. Packet size

Find the Answer p. 67

11. What is the recommended fragment size for voice traffic?Select the best answer.

- ❍ A. 160 bytes for every 64 kbps of clocking. This will result in a 20-ms serialization delay.
- ❍ B. 80 bytes for every 64 kbps of clocking. This will result in a 10-ms serialization delay.
- ❍ C. 40 bytes for every 64 kbps of clocking. This will result in a 10-ms serialization delay.
- ❍ D. 16 bytes for every 64 kbps of clocking. This will result in a 10-ms serialization delay.

Find the Answer p. 67

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12. What are the three Cisco configuration options for LFI?Choose three:

- ❑ A. Standard LFI
- ❑ B. ATM LFI
- ❑ C. Multilink PPP
- ❑ D. FRF.11 Annex C
- ❑ E. FRF.12

Find the Answer p. 67


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Chapter 9
QoS Best Practices

1. Which of the following is NOT a method to classify traffic traffic using DiffServ?Select the best answer.

   - ❍ A. Source/destination IP
   - ❍ B. MAC address
   - ❍ C. Frame relay DE bit
   - ❍ D. IP Precidence
   - ❍ E. Byte count
   - ❍ F. DSCP value

Find the Answer p. 68

2. What layers of the OSI model can be used to classify traffic for QoS?Choose three:

   - ❑ A. Layer 2
   - ❑ B. Layer 4
   - ❑ C. Layer 1
   - ❑ D. Layer 5
   - ❑ E. Layer 3

Find the Answer p. 68

3. When a network is facing ever-increasing congestion, ultimately, what is required to be able to deliver reliable services?Select the best answer.

   - ❍ A. Traffic shaping
   - ❍ B. CBWFQ
   - ❍ C. Bandwidth
   - ❍ D. LLQ

Find the Answer p. 68


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4. The bandwidth requirements for voice calls depends on which of the following?Choose three:

- ❑ A. Packetization interval
- ❑ B. Routing protocol
- ❑ C. Codec
- ❑ D. Number of queues used.
- ❑ E. Layer 2 protocol used.

Find the Answer p. 68

5. What are the best practices for using LLQ with videoconferencing?Choose two:

- ❑ A. The LLQ needs to be set to the video stream rate plus 10 percent.
- ❑ B. The LLQ needs to be set to the video stream rate plus 10 percent.
- ❑ C. LLQ burst should be set to 30 KB per each 384 kbps stream.
- ❑ D. LLQ burst should be set to 60 KB per each 384 kbps stream.

Find the Answer p. 68

6. As a general rule, the LLQ bandwidth provisioned should be what percent of link capacity?Select the best answer.

- ❍ A. < 25%
- ❍ B. < 15%
- ❍ C. < 33%
- ❍ D. < 50%

Find the Answer p. 68


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7. What IP precedence value is recommended for routing protocol traffic?Select the best answer.

- ❍ A. 0 (best effort)
- ❍ B. 4
- ❍ C. 5
- ❍ D. 6

Find the Answer p. 68

8. QoS can provide contractual SLA assurance for everything EXCEPT which of the following?Select the best answer.

- ❍ A. Packet loss
- ❍ B. Equipment mean time between failure (MTBF)
- ❍ C. Delay
- ❍ D. Jitter

Find the Answer p. 68

9. What is the only type of QoS recommended for use in the core?Select the best answer.

- ❍ A. Queuing
- ❍ B. Compression
- ❍ C. Traffic shaping
- ❍ D. Traffic policing

Find the Answer p. 68


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10. As a general rule, where should traffic be classified and marked?Select the best answer.

- ❍ A. In the distribution
- ❍ B. Close to the destination
- ❍ C. In the core
- ❍ D. Close to the source

Find the Answer p. 68

11. On a WAN link between the CE and PE, what type of QoS is typically recommended?Choose three:

- ❑ A. LLQ or CBWFQ
- ❑ B. PQ or WFQ
- ❑ C. Traffic shaping
- ❑ D. Traffic policing
- ❑ E. LFI
- ❑ F. CQ

Find the Answer p. 68

12. What are the QoS requirements for video?Choose three:

- ❑ A. Latency < 120 ms
- ❑ B. Latency < 150 ms
- ❑ C. Jitter < 30 ms
- ❑ D. Jitter < 40 ms
- ❑ E. Loss < 0.5 percent
- ❑ F. Loss < 1 percent

Find the Answer p. 68


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13. How do the QoS requirements for the CE and PE routers differ?Select the best answer.

- ❍ A. Depends on if the PE router is managed by the service provider.
- ❍ B. Depends on the number of queues that are used by the service provider.
- ❍ C. Depends on if the CE router is managed by the service provider.
- ❍ D. Depends on if the service provider is using MPLS.

Find the Answer p. 68

14. When implementing LLQ, the bandwidth guarantees can be specified in all of the following EXCEPT?Select the best answer.

- ❍ A. Kbps
- ❍ B. Percent of available bandwidth.
- ❍ C. Mbps
- ❍ D. Percent of remaining bandwidth available.

Find the Answer p. 68

15. What two behaviors are required for the EF traffic class on a Cisco 2950?Choose two:

- ❑ A. Traffic shaping to a max bandwidth by LLQ.
- ❑ B. Traffic policing to a max bandwidth by LLQ.
- ❑ C. Dropped packets using tail drop.
- ❑ D. Dropped packets using WRED.

Find the Answer p. 68


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Answers: Chapter 1

1. **A**	Review Question p. 2	Detailed Explanation p. 70
2. **B, C, E**	Review Question p. 2	Detailed Explanation p. 70
3. **D**	Review Question p. 2	Detailed Explanation p. 70
4. **B**	Review Question p. 3	Detailed Explanation p. 71
5. **A, B, E, F**	Review Question p. 3	Detailed Explanation p. 71
6. **D**	Review Question p. 4	Detailed Explanation p. 72
7. **B, C, E, F**	Review Question p. 4	Detailed Explanation p. 72
8. **B**	Review Question p. 4	Detailed Explanation p. 73
9. **C**	Review Question p. 4	Detailed Explanation p. 73
10. **D**	Review Question p. 5	Detailed Explanation p. 73
11. **C**	Review Question p. 5	Detailed Explanation p. 74
12. **A**	Review Question p. 5	Detailed Explanation p. 74
13. **B**	Review Question p. 6	Detailed Explanation p. 75
14. **C**	Review Question p. 6	Detailed Explanation p. 75
15. **C**	Review Question p. 6	Detailed Explanation p. 75
16. **D**	Review Question p. 7	Detailed Explanation p. 76
17. **B**	Review Question p. 7	Detailed Explanation p. 76
18. **C**	Review Question p. 7	Detailed Explanation p. 76


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Answers: Chapter 2

1. **A, B, C**	Review Question p. 8	Detailed Explanation p. 78
2. **C**	Review Question p. 8	Detailed Explanation p. 78
3. **C**	Review Question p. 8	Detailed Explanation p. 78
4. **A**	Review Question p. 9	Detailed Explanation p. 79
5. **C**	Review Question p. 9	Detailed Explanation p. 79
6. **C, D**	Review Question p. 9	Detailed Explanation p. 79
7. **B**	Review Question p. 10	Detailed Explanation p. 80
8. **B**	Review Question p. 10	Detailed Explanation p. 80
9. **A, D**	Review Question p. 10	Detailed Explanation p. 80
10. **D**	Review Question p. 11	Detailed Explanation p. 81
11. **A, C, D**	Review Question p. 11	Detailed Explanation p. 81
12. **B, C**	Review Question p. 11	Detailed Explanation p. 81
13. **D**	Review Question p. 12	Detailed Explanation p. 82
14. **B, D, E**	Review Question p. 12	Detailed Explanation p. 82
15. **D**	Review Question p. 12	Detailed Explanation p. 82
16. **B**	Review Question p. 13	Detailed Explanation p. 83
17. **A, B**	Review Question p. 13	Detailed Explanation p. 83
18. **A, C**	Review Question p. 13	Detailed Explanation p. 84


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Answers: Chapter 3

1. **B, D**	Review Question p. 14	Detailed Explanation p. 85
2. **B, D**	Review Question p. 14	Detailed Explanation p. 85
3. **A**	Review Question p. 15	Detailed Explanation p. 85
4. **D**	Review Question p. 15	Detailed Explanation p. 86
5. **C**	Review Question p. 15	Detailed Explanation p. 86
6. **A, D**	Review Question p. 16	Detailed Explanation p. 86


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Answers: Chapter 4

1. **C**	Review Question p. 17	Detailed Explanation p. 88
2. **D**	Review Question p. 17	Detailed Explanation p. 88
3. **B**	Review Question p. 17	Detailed Explanation p. 88
4. **B, C**	Review Question p. 18	Detailed Explanation p. 89
5. **C**	Review Question p. 18	Detailed Explanation p. 89
6. **C**	Review Question p. 18	Detailed Explanation p. 89
7. **B**	Review Question p. 19	Detailed Explanation p. 90
8. **A, C**	Review Question p. 19	Detailed Explanation p. 90
9. **A**	Review Question p. 19	Detailed Explanation p. 90
10. **D**	Review Question p. 20	Detailed Explanation p. 91
11. **D**	Review Question p. 20	Detailed Explanation p. 91
12. **B**	Review Question p. 21	Detailed Explanation p. 91
13. **C**	Review Question p. 21	Detailed Explanation p. 92
14. **A, C**	Review Question p. 22	Detailed Explanation p. 92
15. **B**	Review Question p. 22	Detailed Explanation p. 93
16. **C**	Review Question p. 22	Detailed Explanation p. 93
17. **A, B**	Review Question p. 23	Detailed Explanation p. 93
18. **D**	Review Question p. 23	Detailed Explanation p. 94
19. **B, D**	Review Question p. 23	Detailed Explanation p. 94
20. **A**	Review Question p. 24	Detailed Explanation p. 94
21. **B**	Review Question p. 24	Detailed Explanation p. 95
22. **C**	Review Question p. 24	Detailed Explanation p. 95
23. **B, D**	Review Question p. 25	Detailed Explanation p. 95


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24. **B** Review Question p. 25 Detailed Explanation p. 96


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Answers: Chapter 5

1. **A**	Review Question p. 26	Detailed Explanation p. 97
2. **D**	Review Question p. 26	Detailed Explanation p. 97
3. **C**	Review Question p. 26	Detailed Explanation p. 97
4. **B, C, D**	Review Question p. 27	Detailed Explanation p. 98
5. **C**	Review Question p. 27	Detailed Explanation p. 98
6. **D**	Review Question p. 27	Detailed Explanation p. 98
7. **A**	Review Question p. 28	Detailed Explanation p. 99
8. **A, B**	Review Question p. 28	Detailed Explanation p. 99
9. **C**	Review Question p. 28	Detailed Explanation p. 99
10. **C**	Review Question p. 29	Detailed Explanation p. 100
11. **A, C, F**	Review Question p. 29	Detailed Explanation p. 100
12. **B, C**	Review Question p. 29	Detailed Explanation p. 100
13. **A, B**	Review Question p. 30	Detailed Explanation p. 101
14. **C**	Review Question p. 30	Detailed Explanation p. 101
15. **C**	Review Question p. 30	Detailed Explanation p. 101
16. **C**	Review Question p. 31	Detailed Explanation p. 102
17. **A**	Review Question p. 32	Detailed Explanation p. 102
18. **B**	Review Question p. 32	Detailed Explanation p. 103
19. **A, B, D**	Review Question p. 33	Detailed Explanation p. 103
20. **A, C, D**	Review Question p. 33	Detailed Explanation p. 103
21. **D**	Review Question p. 33	Detailed Explanation p. 104
22. **C**	Review Question p. 34	Detailed Explanation p. 104
23. **A, C, D**	Review Question p. 34	Detailed Explanation p. 104


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24. **A**	Review Question p. 35	Detailed Explanation p. 105
25. **B**	Review Question p. 36	Detailed Explanation p. 105
26. **D**	Review Question p. 36	Detailed Explanation p. 106
27. **D**	Review Question p. 37	Detailed Explanation p. 106
28. **B**	Review Question p. 37	Detailed Explanation p. 106
29. **C**	Review Question p. 37	Detailed Explanation p. 107


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Answers: Chapter 6

1. **A, D**	Review Question p. 38	Detailed Explanation p. 108
2. **C**	Review Question p. 38	Detailed Explanation p. 108
3. **B, C**	Review Question p. 38	Detailed Explanation p. 108
4. **C**	Review Question p. 39	Detailed Explanation p. 109
5. **C**	Review Question p. 39	Detailed Explanation p. 109
6. **B**	Review Question p. 39	Detailed Explanation p. 109
7. **A**	Review Question p. 40	Detailed Explanation p. 110
8. **C**	Review Question p. 40	Detailed Explanation p. 110
9. **A, C, D**	Review Question p. 41	Detailed Explanation p. 110
10. **A**	Review Question p. 41	Detailed Explanation p. 111
11. **C**	Review Question p. 41	Detailed Explanation p. 111
12. **B**	Review Question p. 42	Detailed Explanation p. 112
13. **C**	Review Question p. 42	Detailed Explanation p. 112
14. **D**	Review Question p. 42	Detailed Explanation p. 112


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Answers: Chapter 7

1. **B, C**	Review Question p. 43	Detailed Explanation p. 114
2. **A**	Review Question p. 43	Detailed Explanation p. 114
3. **D**	Review Question p. 43	Detailed Explanation p. 114
4. **A, B**	Review Question p. 44	Detailed Explanation p. 115
5. **B, C**	Review Question p. 44	Detailed Explanation p. 115
6. **D**	Review Question p. 45	Detailed Explanation p. 115
7. **A**	Review Question p. 45	Detailed Explanation p. 116
8. **B, D**	Review Question p. 45	Detailed Explanation p. 116
9. **B**	Review Question p. 46	Detailed Explanation p. 117


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Answers: Chapter 8

1. **C**	Review Question p. 47	Detailed Explanation p. 118
2. **D**	Review Question p. 47	Detailed Explanation p. 118
3. **B**	Review Question p. 47	Detailed Explanation p. 118
4. **C**	Review Question p. 48	Detailed Explanation p. 119
5. **C**	Review Question p. 48	Detailed Explanation p. 119
6. **D**	Review Question p. 48	Detailed Explanation p. 120
7. **B**	Review Question p. 49	Detailed Explanation p. 120
8. **B, C, D**	Review Question p. 49	Detailed Explanation p. 120
9. **C**	Review Question p. 50	Detailed Explanation p. 121
10. **A, D**	Review Question p. 50	Detailed Explanation p. 121
11. **B**	Review Question p. 50	Detailed Explanation p. 121
12. **C, D, E**	Review Question p. 51	Detailed Explanation p. 121


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Answers: Chapter 9

1. **E**	Review Question p. 52	Detailed Explanation p. 123
2. **A, B, E**	Review Question p. 52	Detailed Explanation p. 123
3. **C**	Review Question p. 52	Detailed Explanation p. 123
4. **A, C, E**	Review Question p. 53	Detailed Explanation p. 124
5. **B, C**	Review Question p. 53	Detailed Explanation p. 124
6. **C**	Review Question p. 53	Detailed Explanation p. 124
7. **D**	Review Question p. 54	Detailed Explanation p. 125
8. **B**	Review Question p. 54	Detailed Explanation p. 125
9. **A**	Review Question p. 54	Detailed Explanation p. 125
10. **D**	Review Question p. 55	Detailed Explanation p. 126
11. **A, C, E**	Review Question p. 55	Detailed Explanation p. 126
12. **B, C, F**	Review Question p. 55	Detailed Explanation p. 127
13. **C**	Review Question p. 56	Detailed Explanation p. 127
14. **C**	Review Question p. 56	Detailed Explanation p. 127
15. **B, C**	Review Question p. 56	Detailed Explanation p. 128


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Explanations: Chapter 1

1. Review Question p. 2

Answers: A

Explanation A. Correct - The consolidation of multiple non-integrated networks into a single converged network means that the single network must be able to handle the different traffic characteristics and requirements.

Explanation B. Incorrect - Converged networks are likely to remain a single network.

Explanation C. Incorrect - Depending on the application requirements, converged networks will have different levels of service.

Explanation D. Incorrect - Depending on the application requirements, converged networks will have different levels of service.

PrepLogic Question: 11656-100

2. Review Question p. 2

Answers: B, C, E

Explanation A. Incorrect- SMTP is not a time sensitive protocol. It can wait even several minutes without any undue harm.

Explanation B. Correct - The challenge of a converged network is to allow the small-packet voice data enough available bandwidth to have a steady stream amongst the chunkier data packets traveling on the same wire.

Explanation C. Correct - Voice and video are extremely time sensitive and must have higher priority over other traffic on the network.

Explanation D. Incorrect - Outages must be overcome through proper network redundancy.

Explanation E. Correct - Network redundancy must be designed into the network to eliminate single points of failure.

PrepLogic Question: 11656-101

3. Review Question p. 2

Answers: D


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Explanation A. Incorrect - The problem typically occurs when delay is greater than 250 ms.

Explanation B. Incorrect - The problem typically occurs when delay is greater than 250 ms.

Explanation C. Incorrect - The problem typically occurs when delay is greater than 250 ms.

Explanation D. Correct - Talker overlap is network delay that creates a "walkie talkie" call effect.

PrepLogic Question: 11656-102

4. Review Question p. 3

Answers: B

Explanation A. Incorrect - Call disconnect is when the calls terminate unexpectedly.

Explanation B. Correct - Echo is when the user can her his own voice reflected back through the remote side speaker.

Explanation C. Incorrect - Jitter is a delay in the delivery of voice packets which result in a "choppy" call.

Explanation D. Incorrect - This is just another term for Jitter.

PrepLogic Question: 11656-103

5. Review Question p. 3

Answers: A, B, E, F

Explanation A. Correct - Large graphics files and increased use of voice/video applications cause bandwidth capacity problems on a converged network.

Explanation B. Correct - The time it takes for a packet to get from one end to the other is a major issue. The delay includes both fixed and variable delay.

Explanation C. Incorrect - Network management has nothing to do with issues facing convergence of networks.

Explanation D. Incorrect - Issues dealing with convergence of enterprise networks deal with capacity and delay.


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Explanation E. Correct - The variation of delay (jitter) can contribute to problems on the converged network.

Explanation F. Correct - Packet loss is typically caused by congestion. The elimination of congestion is very important when converging networks.

PrepLogic Question: 11656-104

6. Review Question p. 4

Answers: D

Explanation A. Incorrect - The bottleneck is the lowest bandwidth segment from end-to-end.

Explanation B. Incorrect - The bottleneck is the lowest bandwidth segment from end-to-end.

Explanation C. Incorrect - The bottleneck is the lowest bandwidth segment from end-to-end.

Explanation D. Correct - Segment 3 has the lowest end-to-end bandwidth.

Explanation E. Incorrect - The bottleneck is the lowest bandwidth segment from end-to-end.

Explanation F. Incorrect - Along any path there is always a potential bottleneck.

PrepLogic Question: 11656-105

7. Review Question p. 4

Answers: B, C, E, F

Explanation A. Incorrect - Enabling RSTP will not increase bandwidth.

Explanation B. Correct - This is the easiest method but also the most costly.

Explanation C. Correct - By prioritizing traffic, you can insure that time-sensitive data is sent before less time sensitive data.

Explanation D. Incorrect - Routing protocols have almost no affect on available bandwidth.

Explanation E. Correct - Layer 2 compression is a way to put more data on the existing links.


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Explanation F. Correct - IP packet compression is a way to put more data on the existing links.

PrepLogic Question: 11656-106

8. Review Question p. 4

Answers: B

Explanation A. Incorrect - Priority queuing is a mechanism to provide bandwidth guarantees.

Explanation B. Correct - There is no such mechanism as high-latency queuing. You would want to use Low-latency queuing (LLQ).

Explanation C. Incorrect - WFQ is a mechanism to provide bandwidth guarantees.

Explanation D. Incorrect - CBWFQ is a mechanism to provide bandwidth guarantees.

PrepLogic Question: 11656-107

9. Review Question p. 4

Answers: C

Explanation A. Incorrect - Compression helps to avoid congestion.

Explanation B. Incorrect - You can still utilize queuing on compressed links.

Explanation C. Correct - Using hardware compression often increases delay because of the complexity of the compression algorithm.

Explanation D. Incorrect - Routing protocols will function without any modification on compressed links.

PrepLogic Question: 11656-108

10. Review Question p. 5

Answers: D

Explanation A. Incorrect - IP header compression is optimal when payloads are small.

Explanation B. Incorrect - IP header compression does not depend on UDP traffic over TCP.

Explanation C. Incorrect - Compression and queuing are two independent methods of


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increasing available bandwidth.

Explanation D. Correct - When payload to header ration is small is when IP header compression is the most optimal.

PrepLogic Question: 11656-109

11. Review Question p. 5

Answers: C

Explanation A. Incorrect - This delay is the amount of time it takes to clock all the bits and put them on the wire.

Explanation B. Incorrect - Processing delay is the time it takes for the router to process the packet from an input interface and queue it up for an output interface.

Explanation C. Correct - WFQ is a specific type of queuing.

Explanation D. Incorrect - This type of delay is caused by the time it takes to physically move electricity or light along the wire. Typically propagation delay can be ignored but it becomes a factor over great distances.

Explanation E. Incorrect - Queuing delay is the time a packet resides in the output queue of a router.

PrepLogic Question: 11656-110

12. Review Question p. 5

Answers: A

Explanation A. Correct - Processing delay is the time it takes for the router to process the packet from an input interface and queue it up for an output interface.

Explanation B. Incorrect - Queuing delay is the time a packet resides in the output queue of a router.

Explanation C. Incorrect - This type of delay is caused by the time it takes to physically move electricity or light along the wire. Typically propagation delay can be ignored but it becomes a factor over great distances.

Explanation D. Incorrect - This delay is the amount of time it takes to clock all the bits and put them on the wire.

PrepLogic Question: 11656-111


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13. Review Question p. 6

Answers: B

Explanation A. Incorrect - Compression does not impact queuing.

Explanation B. Correct - Because compression uses advanced algorithms, it takes additional time to process the packets.

Explanation C. Incorrect - Compression does add to delay but the packets are smaller. The added delay is due to the advanced algorithms used to shrink the packet.

Explanation D. Incorrect - All routing protocols can function properly with payload compression enabled.

PrepLogic Question: 11656-112

14. Review Question p. 6

Answers: C

Explanation A. Incorrect - Input queue drops occur on the input side of the queue.

Explanation B. Incorrect - Ignores occur when the router runs out of buffer space.

Explanation C. Correct - Tail drops are common when the link is congested.

Explanation D. Incorrect - These drops occur when the CPU is congested and does not have free cycles to buffer the packet.

PrepLogic Question: 11656-113

15. Review Question p. 6

Answers: C

Explanation A. Incorrect - TCP in fact does adjust to network congestion by using windowing. The problem is that time sensitive applications can not afford to adjust to congested links by windowing the data which causes slowdowns.

Explanation B. Incorrect - TCP does have retransmit mechanisms built-in. The problem is that many time sensitive applications such as video or voice cannot use packets that are resent.

Explanation C. Correct - Typically time sensitive applications use UDP because this protocol does not use windowing or retransmitting features that do not work well with time sensitive data streams.


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Explanation D. Incorrect - TCP can indeed be compressed.

PrepLogic Question: 11656-114

16. Review Question p. 7

Answers: D

Explanation A. Incorrect - Increasing the link size is a simple but expensive way to reduce congestion for time-sensitive data.

Explanation B. Incorrect - By guaranteeing bandwidth by packet prioritization, you can insure time sensitive data is not dropped.

Explanation C. Incorrect - Traffic policing limits the rate of less important packets.

Explanation D. Correct - Windowing is a method to adjust TCP traffic "send" sizes on congested networks. The problem is that time-sensitive data cannot afford to the slowdown in sent traffic.

PrepLogic Question: 11656-115

17. Review Question p. 7

Answers: B

Explanation A. Incorrect - Policing limits the rate of certain traffic.

Explanation B. Correct - Traffic shaping delays less important packets.

Explanation C. Incorrect - Custom queuing (CQ) prioritizes packets into custom made queues.

Explanation D. Incorrect - WRED drops less important packets to avoid congestion.

PrepLogic Question: 11656-116

18. Review Question p. 7

Answers: C

Explanation A. Incorrect - Frame errors check the CRC for any errors.

Explanation B. Incorrect - These drops occur when the input queue is full.

Explanation C. Correct - Overruns occur when the CPU is congested and cannot assign a free buffer to the packet.


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Explanation D. Incorrect - This occurs when the router runs out of buffer space.

PrepLogic Question: 11656-117


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Explanations: Chapter 2

1. Review Question p. 8

   Answers: A, B, C

   Explanation A. Correct - One goal of QoS is to provide dedicated bandwidth to certain traffic.

   Explanation B. Correct - Controlling jitter and latency is essential to QoS.

   Explanation C. Correct - Improving data loss to high priority traffic is part of QoS.

   Explanation D. Incorrect - QoS helps to provide reliable services without increasing bandwidth.

   PrepLogic Question: 11656-118

2. Review Question p. 8

   Answers: C

   Explanation A. Incorrect - By grouping traffic, you can apply policies to handle different types of data.

   Explanation B. Incorrect - You should look at the network to determine the type of traffic running on the network. Then you can group the traffic into classes.

   Explanation C. Correct - It is not necessary to classify traffic based on TCP or UDP.

   Explanation D. Incorrect - By defining policies, the network adjusts various techniques to give priority traffic more access to the bandwidth.

   PrepLogic Question: 11656-119

3. Review Question p. 8

   Answers: C

   Explanation A. Incorrect - Cisco states that voice traffic can tolerate up to 1% packet loss.

   Explanation B. Incorrect - Cisco states that voice traffic can tolerate up to 1% packet loss.

   Explanation C. Correct - Cisco states that voice traffic can tolerate up to 1% packet


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loss one-way.

Explanation D. Incorrect - Cisco states that voice traffic can tolerate up to 1% packet loss.

PrepLogic Question: 11656-120

4. Review Question p. 9

Answers: A

Explanation A. Correct - A video stream must include a 20% overhead.

Explanation B. Incorrect - A video stream must include a 20% overhead.

Explanation C. Incorrect - A video stream must include a 20% overhead.

Explanation D. Incorrect - Video streams vary depending on the type of video being sent. An additional 20% is required for overhead.

PrepLogic Question: 11656-121

5. Review Question p. 9

Answers: C

Explanation A. Incorrect - The 384 Kbps stream requires a 20% overhead.

Explanation B. Incorrect - The 384 Kbps stream requires a 20% overhead.

Explanation C. Correct - Video stream + 20%.

Explanation D. Incorrect - The 384 Kbps stream requires a 20% overhead.

PrepLogic Question: 11656-122

6. Review Question p. 9

Answers: C, D

Explanation A. Incorrect - While this method is certainly possible, it is not recommended due to the fact that it is time consuming and prone to errors.

Explanation B. Incorrect - This is not a QoS implementation method.

Explanation C. Correct - MQC offers a highly modular way to fine-tune a network. It uses a building block approach that is faster and less prone to errors compared to CLI.


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Explanation D. Correct - AutoQoS - is an automated process to offer consistent voice QoS on most networks.

PrepLogic Question: 11656-125

7. Review Question p. 10

Answers: B

Explanation A. Incorrect - Using the CLI, you can configure any method of QoS that Cisco offers.

Explanation B. Correct - The CLI method used to be the only way to implement QoS. Now with autoQoS and MQC, it makes little sense to configure QoS using CLI.

Explanation C. Incorrect - The CLI method adds no additional latency.

Explanation D. Incorrect - AutoQos and MQC are the recommended methods to configure QoS on Cisco equipment.

PrepLogic Question: 11656-126

8. Review Question p. 10

Answers: B

Explanation A. Incorrect - The auto qos voip command is an interface command.

Explanation B. Correct - The auto qos voip command is an interface command.

Explanation C. Incorrect - The minimum statement required is auto qos voip. This is an interface configuration command.

Explanation D. Incorrect - The minimum statement required is auto qos voip. This is an interface configuration command.

PrepLogic Question: 11656-127

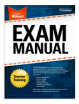
9. Review Question p. 10

Answers: A, D

Explanation A. Correct - Class-based QoS MIB provides statistics for MQC.

Explanation B. Incorrect - This is not a QoS MIB.

Explanation C. Incorrect - This is not a QoS MIB.

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Explanation D. Correct - The NBAR MIB allows you to collect statistics for applications on the network.

PrepLogic Question: 11656-129

10. Review Question p. 11

Answers: D

Explanation A. Incorrect - TCP has windowing and retransmit functions that do not work with voice streams.

Explanation B. Incorrect - MPLS is not a transport protocol.

Explanation C. Incorrect - HTTP is not a transport protocol.

Explanation D. Correct - UDP is the protocol for sending voice. It is ideal for voice because it has no windowing or retransmit capabilities that adversely affect streaming data.

PrepLogic Question: 11656-130

11. Review Question p. 11

Answers: A, C, D

Explanation A. Correct - You must identify what traffic to classify.

Explanation B. Incorrect - This is not a component of a QoS policy.

Explanation C. Correct - Once you classify data, you need to determine how the network treats each class.

Explanation D. Correct - Break out applications into different classes.

PrepLogic Question: 11656-131

12. Review Question p. 11

Answers: B, C

Explanation A. Incorrect - Using RSVP and WRED, you can deliver a controlled-load service but cannot absolutely guarantee QoS.

Explanation B. Correct - RSVP is an IETF standard to dynamically reserve bandwidth for a service.


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Explanation C. Correct - LLQ sets up packet classification. Combined with RSVP, you can guarantee QoS for a particular class of traffic.

Explanation D. Incorrect - Dynamic queuing is not a type of queuing.

PrepLogic Question: 11656-136

13. Review Question p. 12

Answers: D

Explanation A. Incorrect - This is actually a benefit of IntServ and RSVP.

Explanation B. Incorrect - RSVP can function on layer 3 devices.

Explanation C. Incorrect - The limitations of IntServ/RSVP is not affected by the number of L3 hops.

Explanation D. Correct - Because RSVP requires per-flow guarantees, once it reaches the limit of a link along the path, it no longer becomes useful.

PrepLogic Question: 11656-137

14. Review Question p. 12

Answers: B, D, E

Explanation A. Incorrect - DiffServ can provide an "almost guaranteed" bandwidth service.

Explanation B. Correct - DiffServ bridges the gap between best-effort and IntServ. It provides a near-guaranteed bandwidth to classes of data streams.

Explanation C. Incorrect - DiffServ provides QoS on a hop-by-hop basis.

Explanation D. Correct - QoS is independently determined at each hop along the path.

Explanation E. Correct - DiffServe is nearly limitless in scalability.

Explanation F. Incorrect - DiffServe is nearly limitless in scalability.

PrepLogic Question: 11656-139

15. Review Question p. 12

Answers: D


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Explanation A. Incorrect - This is the identification and splitting of traffic flows into separate classes.

Explanation B. Incorrect - Congestion avoidance discards packets based on classification markings to avoid network congestion.

Explanation C. Incorrect - Link efficiency deals with methods to eliminate delay and jitter.

Explanation D. Correct - Congestion management prioritizes and protects specific traffic based on classification markings.

PrepLogic Question: 11656-146

16. Review Question p. 13

Answers: B

Explanation A. Incorrect - Packet classification is a way to identify a particular type of traffic.

Explanation B. Correct - The goal of link efficiency is to get as much out of a finite amount of bandwidth as possible.

Explanation C. Incorrect - Congestion avoidance discards packets to avoid network congestion.

Explanation D. Incorrect - IP Precedence is a method to classify traffic.

PrepLogic Question: 11656-147

17. Review Question p. 13

Answers: A, B

Explanation A. Correct - TCP and/or UDP ports cannot be used to classify traffic.

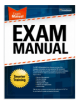
Explanation B. Correct - TCP and/or UDP ports cannot be used to classify traffic.

Explanation C. Incorrect - Source and destination IP can be used to classify traffic.

Explanation D. Incorrect - Source and destination IP can be used to classify traffic.

Explanation E. Incorrect - DSCP can be used to classify traffic.

Explanation F. Incorrect - IP Precedence can be used to classify traffic.

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PrepLogic Question: 11656-148

18. Review Question p. 13

Answers: A, C

Explanation A. Correct - An RTP header can go from 40 bytes to 2 with CRC disabled.

Explanation B. Incorrect - An RTP header can go from 40 bytes to 2 with CRC disabled.

Explanation C. Correct - An RTP header can go from 40 bytes to 4 with CRC enabled.

Explanation D. Incorrect - An RTP header can go from 40 bytes to 4 with CRC enabled and to two if CRC is not sent.

PrepLogic Question: 11656-149

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Explanations: Chapter 3

1. Review Question p. 14

   Answers: B, D

   Explanation A. Incorrect - QPM does not have the ability to dynamically modify QoS policies.

   Explanation B. Correct - Using CiscoWorks, you can easily analyze your network to see what applications are being used in order to better classify them.

   Explanation C. Incorrect - The QPM does not classify traffic automatically. Instead it helps you get an understanding as to what traffic is traversing the network so you can classify them.

   Explanation D. Correct - Administrators can group interfaces together and apply the same QoS policies to ease configuration and management.

   PrepLogic Question: 11656-128

2. Review Question p. 14

   Answers: B, D

   Explanation A. Incorrect - Because the "match-any" statement is used, only one criteria must be matched.

   Explanation B. Correct - Because the "match-any" statement is used, only one criteria must be matched.

   Explanation C. Incorrect - Because the "match not" command is used. Any packet matched by ACL 101 is not considered for preplogic1 class-map.

   Explanation D. Correct - Because the "match not" command is used. Any packet not matched by ACL 101 is placed in the preplogic1 class-map.

   PrepLogic Question: 11656-150

3. Review Question p. 15

   Answers: A

   Explanation A. Correct - The policy-map defines the "what will be done with the traffic".


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Explanation B. Incorrect - The class-map breaks the traffic into different classes.

Explanation C. Incorrect - The service policy is used to attach a traffic policy to an interface.

Explanation D. Incorrect - This is a class-map statement that checks a packet against an ACL.

PrepLogic Question: 11656-151

4. Review Question p. 15

Answers: D

Explanation A. Incorrect - An interface is considered low-speed if it is less than or equal to 768 kbps.

Explanation B. Incorrect - An interface is considered low-speed if it is less than or equal to 768 kbps.

Explanation C. Incorrect - An interface is considered low-speed if it is less than or equal to 768 kbps.

Explanation D. Correct - An interface is considered low-speed if it is less than or equal to 768 kbps.

PrepLogic Question: 11656-152

5. Review Question p. 15

Answers: C

Explanation A. Incorrect - CDP is used to identify the end-device.

Explanation B. Incorrect - CDP is used to identify the end-device.

Explanation C. Correct - Cisco discover protocol (CDP) is used to verify the identity of the end-device.

Explanation D. Incorrect - CDP is used to identify the end-device.

PrepLogic Question: 11656-153

6. Review Question p. 16

Answers: A, D


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Explanation A. Correct - AutoQoS on the LAN enforces a trust boundary.

Explanation B. Incorrect - This is enabled for the WAN but not the LAN.

Explanation C. Incorrect - Custom queuing is not enabled when AutoQoS is used.

Explanation D. Correct - AutoQoS on the LAN maps CoS values.

PrepLogic Question: 11656-154


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Explanations: Chapter 4

1. Review Question p. 17

   Answers: C

   Explanation A. Incorrect - CBWFQ is a queuing mechanism that provides support for user-defined traffic classes.

   Explanation B. Incorrect - Traffic shaping is a method to delay packets in order to prevent congestion.

   Explanation C. Correct - NBAR can recognize many applications that support dynamic ports.

   Explanation D. Incorrect - Traffic policing limits the rates of less important data stream to prevent congestion.

   PrepLogic Question: 11656-123

2. Review Question p. 17

   Answers: D

   Explanation A. Incorrect - Setting a max bandwidth limit is part of defining a QoS policy.

   Explanation B. Incorrect - You need to prioritize each class defined to determine which traffic is more important.

   Explanation C. Incorrect - Setting a max bandwidth limit is part of defining a QoS policy.

   Explanation D. Correct - QoS policies do not involve CPU thresholds of routers.

   Explanation E. Incorrect - Once the policy is defined, it needs to be enforced using a QoS technology.

   PrepLogic Question: 11656-124

3. Review Question p. 17

   Answers: B

   Explanation A. Incorrect - DiffServ provides the greatest amount of scailability and flexibility when implementing QoS.


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Explanation B. Correct - IntServ provides a special QoS for a period of time to specific traffic. It does limit scalability however.

Explanation C. Incorrect - This model does not apply any QoS to traffic.

Explanation D. Incorrect - This is not a QoS model.

PrepLogic Question: 11656-132

4. Review Question p. 18

Answers: B, C

Explanation A. Incorrect - CoS is used at layer 2.

Explanation B. Correct - ToS is used at L3.

Explanation C. Correct - CoS is used at layer 2.

Explanation D. Incorrect - ToS is used at L3.

PrepLogic Question: 11656-155

5. Review Question p. 18

Answers: C

Explanation A. Incorrect - Only the first 3 bits of the DSCP field (IP Precedence) is copied to the "MPLS experimental field" of the MPLS header.

Explanation B. Incorrect - Only the first 3 bits of the DSCP field (IP Precedence) is copied to the "MPLS experimental field" of the MPLS header.

Explanation C. Correct - The first 3 bits of DSCP are copied to the MPLS experimental filed if the service provider enables the feature.

Explanation D. Incorrect - The first 3 bits of the DSCP field (IP Precedence) is copied to the "MPLS experimental field" of the MPLS header.

PrepLogic Question: 11656-156

6. Review Question p. 18

Answers: C

Explanation A. Incorrect - It will match on any traffic coming into fa1/0 or fa2/0.

Explanation B. Incorrect - It will match on any traffic entering fa1/0 or fa2/0.

Explanation C. Correct - It will match on any traffic entering fa1/0 or fa2/0.

Explanation D. Incorrect - It will match on any traffic entering fa1/0 or fa2/0.

PrepLogic Question: 11656-157

7. Review Question p. 19

Answers: B

Explanation A. Incorrect - DSCP of 8 is the DSCP class name "cs1".

Explanation B. Correct - A DSCP value of 46 has the DSCP class name "ef".

Explanation C. Incorrect - DSCP of 56 is the DSCP class name "cs7".

Explanation D. Incorrect - DSCP of 0 is the DSCP class name "default".

PrepLogic Question: 11656-158

8. Review Question p. 19

Answers: A, C

Explanation A. Correct - DSCP of 24 corresponds with the class name cs3.

Explanation B. Incorrect - DSCP of 8 corresponds with the class name cs1.

Explanation C. Correct - DSCP of 26 corresponds with the class name af31.

Explanation D. Incorrect - DSCP of 38 corresponds with the class name af43.

PrepLogic Question: 11656-159

9. Review Question p. 19

Answers: A

Explanation A. Correct - You can classify packets based on source or destination IP but cannot mark packets.

Explanation B. Incorrect - IP precedence can be used for marking.

Explanation C. Incorrect - DSCP can be used for marking.


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Explanation D. Incorrect - MPLS experimental bits can be used for marking.

Explanation E. Incorrect - Frame Relay DE bits can be used for marking.

Explanation F. Incorrect - The QoS group can be used for marking.

PrepLogic Question: 11656-160

10. Review Question p. 20

Answers: D

Explanation A. Incorrect - A new class-map called "high-ports" needs to be created.

Explanation B. Incorrect - The "set" command is not valid within the class-map.

Explanation C. Incorrect - There is not access-list 101.

Explanation D. Correct - The "match not" statement will classify all traffic not belonging to access-list 100 into the high-ports class-map.

PrepLogic Question: 11656-161

11. Review Question p. 20

Answers: D

Explanation A. Incorrect - NBAR performs at layers 4-7.

Explanation B. Incorrect - NBAR performs at layers 4-7.

Explanation C. Incorrect - NBAR performs at layers 4-7.

Explanation D. Correct - NBAR identifies applications from L4 to 7.

PrepLogic Question: 11656-162

12. Review Question p. 21

Answers: B

Explanation A. Incorrect - While this is one method, you can also load an external PDLM to add additional rules.

Explanation B. Correct - These are the two methods to add new functionality to NBAR.


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Explanation C. Incorrect - While this is one method, you can also upgrade the version of IOS to add feature rules.

Explanation D. Incorrect - You cannot load a separate instance of the NBAR service without upgrading the entire IOS.

Explanation E. Incorrect - You cannot load a separate instance of the NBAR service without upgrading the entire IOS.

PrepLogic Question: 11656-163

13. Review Question p. 21

Answers: C

Explanation A. Incorrect - CDP does not need to be enabled for NBAR to function.

Explanation B. Incorrect - IGMP snooping does not need to be enabled for NBAR to function.

Explanation C. Correct - Cisco Express Forwarding (CEF) must be enabled for NBAR protocol discovery to work.

Explanation D. Incorrect - NBAR does not require a link-state routing protocol.

PrepLogic Question: 11656-164

14. Review Question p. 22

Answers: A, C

Explanation A. Correct - The IPSec packet header can have the ToS inserted into it.

Explanation B. Incorrect - Because the original IP packet is encapsulated in IPSec, the router has no way of reading the ToS. Using QoS pre-classify, the ToS is copied from the IP packet header and inserted to the IPSec or GRE tunnel header prior to encapsulation.

Explanation C. Correct - The IPSec packet header can have the ToS inserted into it.

Explanation D. Incorrect - Because the original IP packet is encapsulated in a GRE packet, the router has no way of reading the ToS. Using QoS pre-classify, the ToS is copied from the IP packet header and inserted to the IPSec or GRE tunnel header prior to encapsulation.

PrepLogic Question: 11656-166


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15. Review Question p. 22

Answers: B

Explanation A. Incorrect - Only IP packets can have QoS applied.

Explanation B. Correct - The traffic is no more vulnerable to compromise than non-QoS traffic.

Explanation C. Incorrect - This is typical QoS behavior on non-tunneled QoS traffic that is fragmented. Subsequent fragments might receive different classifications.

Explanation D. Incorrect - Only FIFO can be applied because the device on the other end is expecting to receive packets in order.

PrepLogic Question: 11656-167

16. Review Question p. 22

Answers: C

Explanation A. Incorrect - This is a feature of QPPB.

Explanation B. Incorrect - This is how QPPB functions.

Explanation C. Correct - Only inbound packets are marked.

Explanation D. Incorrect - This is a benefit of QPPB. There is no need to maintain complex ACLs.

PrepLogic Question: 11656-168

17. Review Question p. 23

Answers: A, B

Explanation A. Correct - QPPB can specify whether the IP precedence level or QoS group ID is obtained from the source or destination IP in the routing table.

Explanation B. Correct - An internal group ID can be configured that can be used for WFQ or policing.

Explanation C. Incorrect - Pre-classify is for providing QoS markings over a VPN tunnel.

Explanation D. Incorrect - QPPB does not offer transparent BGP marking.


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PrepLogic Question: 11656-169

18. Review Question p. 23

Answers: D

Explanation A. Incorrect - BGP only provides a method to transport QoS. It has no affect on BGP routing tasks.

Explanation B. Incorrect - BGP only provides a method to transport QoS. It has no affect on BGP routing tasks.

Explanation C. Incorrect - BGP only provides a method to transport QoS. It has no affect on BGP routing tasks.

Explanation D. Correct - BGP only provides the transport of QoS classification.

PrepLogic Question: 11656-170

19. Review Question p. 23

Answers: B, D

Explanation A. Incorrect - This is a CAM table. CEF does not build this type of table.

Explanation B. Correct - The adjacency table lists all of the required next hops on output interfaces.

Explanation C. Incorrect - CEF does not specifically track BGP routes.

Explanation D. Correct - The FIB lists all paths to all reachable networks.

PrepLogic Question: 11656-171

20. Review Question p. 24

Answers: A

Explanation A. Correct - When something changes in the IP routing table, it is reflected in the FIB.

Explanation B. Incorrect - The FIB table is not static but is change-triggered.

Explanation C. Incorrect - The FIB is changed when the routing table changes. This is a change-triggered event.

Explanation D. Incorrect - The FIB is dynamically updated when the routing table


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changes. This is a change-triggered event.

PrepLogic Question: 11656-172

21. Review Question p. 24

Answers: B

Explanation A. Incorrect - This statement is used to set a QoS group for a route-map.

Explanation B. Correct - This command applies the QoS route-map to the BGP routes. This command is configured within the BGP routing sub-commands.

Explanation C. Incorrect - This statement configures interfaces for packet marking.

Explanation D. Incorrect - This command sets the precedence value in a route-map.

PrepLogic Question: 11656-173

22. Review Question p. 24

Answers: C

Explanation A. Incorrect - The phone will NOT trust the ToS value of the attached device and the phone will change the value to 0.

Explanation B. Incorrect - The phone will NOT trust the ToS value of the attached device and the phone will change the value to 0.

Explanation C. Correct - The phones will not trust the ToS of devices directly attached and passing traffic through the phone.

Explanation D. Incorrect - The phone will NOT trust the ToS value of the attached device and the phone will change the value to 0.

PrepLogic Question: 11656-174

23. Review Question p. 25

Answers: B, D

Explanation A. Incorrect - The default CoS is 0.

Explanation B. Correct - The default CoS is 0.

Explanation C. Incorrect - The values are as follows: CoS 6 to 7: Queue 4, CoS 4 to 5: Queue 3, CoS 2 to 3: Queue 2, CoS 0 to 1: Queue 1.


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Explanation D. Correct - This is the correct default port state.

Explanation E. Incorrect - The default CoS is 0.

PrepLogic Question: 11656-175

24. Review Question p. 25

Answers: B

Explanation A. Incorrect - The "all" is not needed in the command.

Explanation B. Correct - This command will display both mappings.

Explanation C. Incorrect - You only need to type in "show mls qos maps".

Explanation D. Incorrect - You need to type "maps".

PrepLogic Question: 11656-177


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Explanations: Chapter 5

1. Review Question p. 26

Answers: A

Explanation A. Correct - The internet does not guarantee delivery of packets.

Explanation B. Incorrect - The Internet uses a best-effort model.

Explanation C. Incorrect - The Internet uses a best-effort model.

Explanation D. Incorrect - BGP is a routing protocol and not a QoS model.

PrepLogic Question: 11656-133

2. Review Question p. 26

Answers: D

Explanation A. Incorrect - Not all UDP traffic requires IntServ.

Explanation B. Incorrect - IntServ is for applications that are highly sensitive to congestion and need guaranteed bandwidth.

Explanation C. Incorrect - Not all voice or video applications require absolute bandwidth guarantees that IntServ offers.

Explanation D. Correct - IntServ guarantees bandwidth to delay-sensitive applications.

PrepLogic Question: 11656-134

3. Review Question p. 26

Answers: C

Explanation A. Incorrect - While IntServ does provide this, it is a model and not a protocol. The correct answer is RSVP.

Explanation B. Incorrect - RSVP reserves resources. UDP is a transport protocol.

Explanation C. Correct - RSVP accepts bandwidth reservations for certain traffic on the network.

Explanation D. Incorrect - DiffServ is a QoS model.


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PrepLogic Question: 11656-135

4. Review Question p. 27

Answers: B, C, D

Explanation A. Incorrect - This is not a point of congestion.

Explanation B. Correct - Link speed mismatches are when larger pipes (i.e. 1000 Mbps).

Explanation C. Correct - Congestion can occur at points where multiple links feed into a single link.

Explanation D. Correct - Congestion can occur at points where multiple flows come together on the same path.

PrepLogic Question: 11656-178

5. Review Question p. 27

Answers: C

Explanation A. Incorrect - The lowest priority queues can be starved.

Explanation B. Incorrect - PQ is assigned a priority and placed in a hierarchy.

Explanation C. Correct - The lowest priority queues can be starved.

Explanation D. Incorrect - This is a benefit of PQ.

PrepLogic Question: 11656-179

6. Review Question p. 27

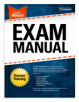
Answers: D

Explanation A. Incorrect - Because one packet is taken from each queue in order, no single queue will ever suffer from starvation.

Explanation B. Incorrect - This is how round robin queues function.

Explanation C. Incorrect - If packets in one queue are larger than the other queues, that queue will have a larger percentage of bandwidth.

Explanation D. Correct - Because round robin queuing sends the same amount of packets in each queue, there is no way to allow one queue to send more packets than the

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others.

PrepLogic Question: 11656-180

7. Review Question p. 28

Answers: A

Explanation A. Correct - The hardware queuing system always uses FIFO. The software queuing system schedules the packets using configured QoS requirements.

Explanation B. Incorrect - The hardware queuing system always uses FIFO.

Explanation C. Incorrect - The hardware queuing system always uses FIFO.

Explanation D. Incorrect - The hardware queuing system always uses FIFO.

PrepLogic Question: 11656-181

8. Review Question p. 28

Answers: A, B

Explanation A. Correct - Going from a larger pipe to a smaller pipe can cause traffic to be queued up.

Explanation B. Correct - A great example of this is a WAN aggregation router.

Explanation C. Incorrect - This is not a reason that routers typically queue data.

Explanation D. Incorrect - This is not a reason that routers typically queue data.

PrepLogic Question: 11656-182

9. Review Question p. 28

Answers: C

Explanation A. Incorrect - Packets are only sent to the software queue when the hardware queue is full.

Explanation B. Incorrect - Packets are only sent to the software queue when the hardware queue is full. The software queue helps to prioritize traffic.

Explanation C. Correct - Packets are only sent to the software queue when the hardware queue is full. The software queue helps to prioritize traffic.


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Explanation D. Incorrect - Packets are only sent to the software queue when the hardware queue is full. It has nothing to do with the queuing mechanism used.

PrepLogic Question: 11656-183

10. Review Question p. 29

Answers: C

Explanation A. Incorrect - If your network has a great deal of "bursty" traffic, you would want a larger hardware queue.

Explanation B. Incorrect - By shrinking the hardware queue, you are increasing the chance of dropped traffic.

Explanation C. Correct - The larger the transmit ring, the more latency is introduced due to queuing.

Explanation D. Incorrect - Shrinking the size of the hardware queue will not force the packets to use FIFO.

PrepLogic Question: 11656-184

11. Review Question p. 29

Answers: A, C, F

Explanation A. Correct - CQ can have up to 16 queues.

Explanation B. Incorrect - CQ can have up to 16 queues.

Explanation C. Correct - These are the methods of classification.

Explanation D. Incorrect - CQ cannot classify based on TCP or UDP ports.

Explanation E. Incorrect - CQ uses tail drop.

Explanation F. Correct - CQ uses tail drop.

PrepLogic Question: 11656-185

12. Review Question p. 29

Answers: B, C

Explanation A. Incorrect - Subsequent packets with a different ToS value might be put into a different queue.


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Explanation B. Correct - WFQ is based on the identity of flows. Typically the ToS values are the same for a flow but sometimes it is different. Packets for a single flow might be placed in different queues which can reach the destination out of order.

Explanation C. Correct - If the traffic must be sent in order, problems can occur.

Explanation D. Incorrect - If the packets end up in different queues, they'll be sent out of order.

PrepLogic Question: 11656-186

13. Review Question p. 30

Answers: A, B

Explanation A. Correct - RSVP assigned packets are given a weight of 6.

Explanation B. Correct - System packets (such as CDP) are given a weight of 128.

Explanation C. Incorrect - IPSec packets are not given special weights in WFQ.

Explanation D. Incorrect - GRE packets are not given special weights in WFQ.

PrepLogic Question: 11656-187

14. Review Question p. 30

Answers: C

Explanation A. Incorrect - WFQ is enabled by default on any interface less than 2 Mbps.

Explanation B. Incorrect - WFQ is enabled by default on any interface less than 2 Mbps.

Explanation C. Correct - WFQ is enabled by default on any interface less than 2 Mbps.

Explanation D. Incorrect - WFQ is enabled by default on any interface less than 2 Mbps.

PrepLogic Question: 11656-188

15. Review Question p. 30

Answers: C

Explanation A. Incorrect - The dynamic-queues statement adjusts the number of


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dynamic queues for best-effort flows.

Explanation B. Incorrect - The dynamic-queues statement adjusts the number of dynamic queues for best-effort flows. The command is also an interface command and not a global configuration command.

Explanation C. Correct - This is the proper configuration command.

Explanation D. Incorrect - The command is also an interface command and not a global configuration command.

PrepLogic Question: 11656-189

16. Review Question p. 31

Answers: C

Explanation A. Incorrect - It specifies the max number of packets, not frames.

Explanation B. Incorrect - The default hold-queue limit for WFQ is 1000.

Explanation C. Correct - The hold-queue specifies the max number of packets held in a queue at any one time.

Explanation D. Incorrect - The default hold-queue limit for WFQ is 1000.

PrepLogic Question: 11656-190

17. Review Question p. 32

Answers: A

Explanation A. Correct - The total number of conversations is 16:

Conversations 0/7/16 (active/max active/max total)

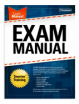
Explanation B. Incorrect - The max number of WFQ queues is 16. There have been 7 concurrent queues used since the last time the interface was cleared.

Conversations 0/7/16 (active/max active/max total)

Explanation C. Incorrect - The max number of WFQ queues is 16.

Conversations 0/7/16 (active/max active/max total)

Explanation D. Incorrect - The max number of WFQ queues is 16.

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Conversations 0/7/16 (active/max active/max total)

PrepLogic Question: 11656-191

18. Review Question p. 32

Answers: B

Explanation A. Incorrect - Typically, WFQ would be enabled on this interface because it is less than 2 Mbps. But the "no fair-queue" command forces the interface to use FIFO.

Explanation B. Correct - When WFQ is disabled, the interface defaults to FIFO.

Explanation C. Incorrect - When WFQ is disabled, the interface defaults to FIFO.

Explanation D. Incorrect - When WFQ is disabled, the interface defaults to FIFO.

PrepLogic Question: 11656-192

19. Review Question p. 33

Answers: A, B, D

Explanation A. Correct - Traffic is defined by protocol.

Explanation B. Correct - ACL's can be used to define traffic classes.

Explanation C. Incorrect - Traffic can only be defined coming inbound on the interface.

Explanation D. Correct - Input interfaces are used to define classes for CBWFQ.

PrepLogic Question: 11656-193

20. Review Question p. 33

Answers: A, C, D

Explanation A. Correct - Use this command to allocate a portion of unused bandwidth at any given moment.

Explanation B. Incorrect - This is not a valid command.

Explanation C. Correct - This command statically assigns a bandwidth amount to a class.


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Explanation D. Correct - This command allocates a percentage of overall bandwidth to a class.

PrepLogic Question: 11656-195

21. Review Question p. 33

Answers: D

Explanation A. Incorrect - CBFWQ offers more granularity and scalability.

Explanation B. Incorrect - MQC support the configuration of CBWFQ.

Explanation C. Incorrect - CBWFQ does guarantee a minimum bandwidth.

Explanation D. Correct - CBWFQ is still a queuing strategy which adds unacceptable latency for voice calls.

PrepLogic Question: 11656-196

22. Review Question p. 34

Answers: C

Explanation A. Incorrect - WFQ has no way to guarantee bandwidth.

Explanation B. Incorrect - While CBWFQ can guarantee bandwidth, it cannot guarantee low delay.

Explanation C. Correct - LLQ provides both guaranteed bandwidth and low latency to select applications.

Explanation D. Incorrect - FIFO does not guarantee bandwidth at all.

PrepLogic Question: 11656-197

23. Review Question p. 34

Answers: A, C, D

Explanation A. Correct - Configuration is the same on all media types.

Explanation B. Incorrect - LLQ is not a default queuing mechanism for Fast or Gig Ethernet interfaces.

Explanation C. Correct - LLQ provides guaranteed bandwidth and low latency.


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Explanation D. Correct - An ACL can define LLQ class criteria.

PrepLogic Question: 11656-198

24. Review Question p. 35

Answers: A

Explanation A. Correct - Packets with a precedence of 4 will be placed into the "important" class.

Explanation B. Incorrect - The bandwidth percent is for calculated for the entire bandwidth of the link and not just unused bandwidth.

Explanation C. Incorrect - The packet will be in the "important" class. Bandwidth percent is also calculated from the entire link bandwidth and not just unused bandwidth.

Explanation D. Incorrect - The packet will be in the "important" class.

Explanation E. Incorrect - The packet will be in the "important" class. It is guaranteed a max of 30% of the links bandwidth.

PrepLogic Question: 11656-199

25. Review Question p. 36

Answers: B

Explanation A. Incorrect - Packets with a precedence of 0 will be placed into the "class-default" class. It does not have guaranteed bandwidth.

Explanation B. Correct - The packet will be in the "class-default" class. It does not have guaranteed bandwidth.

Explanation C. Incorrect - Packets with a precedence of 0 will be placed into the "class-default" class. It does not have guaranteed bandwidth.

Explanation D. Incorrect - Packets with a precedence of 0 will be placed into the "class-default" class. It does not have guaranteed bandwidth. Also, the bandwidth percent is for calculated for the entire bandwidth of the link and not just unused bandwidth.

Explanation E. Incorrect - Packets with a precedence of 0 will be placed into the "class-default" class. It does not have guaranteed bandwidth. Also, the bandwidth percent is for calculated for the entire bandwidth of the link and not just unused bandwidth.


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PrepLogic Question: 11656-200

26. Review Question p. 36

Answers: D

Explanation A. Incorrect - The priority queue is reserved for voice traffic (IP precedence 5).

Explanation B. Incorrect - The frame will be placed into the standard receive queue but the trail drop won't begin until the buffer is 100 percent full.

Explanation C. Incorrect - The priority queue is reserved for voice traffic (IP precedence 5).

Explanation D. Correct - The frame will be placed into the standard receive queue and the trail drop starts when the buffer is 100 percent full.

PrepLogic Question: 11656-201

27. Review Question p. 37

Answers: D

Explanation A. Incorrect - Queue 4 is serviced first.

Explanation B. Incorrect - Queue 4 is serviced first.

Explanation C. Incorrect - Queue 4 is serviced first.

Explanation D. Correct - Queue 4 is serviced first.

PrepLogic Question: 11656-202

28. Review Question p. 37

Answers: B

Explanation A. Incorrect - LLQ does not specifically add voice classification.

Explanation B. Correct - Strict priority queuing is what LLQ adds to CBWFQ.

Explanation C. Incorrect - LLQ does not add variable bit-rate traffic.

Explanation D. Incorrect - LLQ adds no special hardware features compared to CBWFQ.


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PrepLogic Question: 11656-203

29. Review Question p. 37

Answers: C

Explanation A. Incorrect - Persistent streams of traffic are more likely to become congested.

Explanation B. Incorrect - This isn't a type of traffic.

Explanation C. Correct - Persistent streams of traffic are more likely to become congested in bottleneck areas.

Explanation D. Incorrect - Internet traffic is not more likely to be more congested compared to other types of traffic. The key is that persistent traffic is more likely to see congestion.

PrepLogic Question: 11656-204


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Explanations: Chapter 6

1. Review Question p. 38

Answers: A, D

Explanation A. Correct - By marking packets as close to the edge, core network devices will be able to easily identify the traffic.

Explanation B. Incorrect - You want to mark packets out by the edge.

Explanation C. Incorrect - You want to classify the data as few times as possible.

Explanation D. Correct - Ideally, you want to classify the data just once as it passes through the network.

PrepLogic Question: 11656-140

2. Review Question p. 38

Answers: C

Explanation A. Incorrect - The FCS filed is for frame checking.

Explanation B. Incorrect - The TTL identifies the packet time-to-live.

Explanation C. Correct - The DiffServe (DS) field is where you find the DiffServ classification info. This was formally the ToS byte.

Explanation D. Incorrect - The Len field refers to the IP packet length.

PrepLogic Question: 11656-141

3. Review Question p. 38

Answers: B, C

Explanation A. Incorrect - RFC is a IETF identification.

Explanation B. Correct - The BA groups similar packets together to be applied to the same class of bandwidth.

Explanation C. Correct - The PHB gives the BA's a classification of bandwidth on that particular hop.

Explanation D. Incorrect - ToS is a field where 3 bits were used for IP Precedence.


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This has since been replaced with DSCP.

PrepLogic Question: 11656-142

4. Review Question p. 39

Answers: C

Explanation A. Incorrect - Only 6 bits are used for DSCP. The other 2 bits are used for congestion notification.

Explanation B. Incorrect - 6 bits are used for DSCP. The other 2 bits are used for congestion notification.

Explanation C. Correct - 6 bits are used for DSCP. The other 2 bits are used for congestion notification.

Explanation D. Incorrect - 6 bits are used for DSCP. The other 2 bits are used for congestion notification.

PrepLogic Question: 11656-143

5. Review Question p. 39

Answers: C

Explanation A. Incorrect - The IP precedence will use the 3 leftmost bits of the DSCP field.

Explanation B. Incorrect - The IP precedence will use the 3 leftmost bits of the DSCP field.

Explanation C. Correct - The IP precedence will use the 3 leftmost bits of the DSCP field.

Explanation D. Incorrect - The IP precedence will use the 3 leftmost bits of the DSCP field.

PrepLogic Question: 11656-144

6. Review Question p. 39

Answers: B

Explanation A. Incorrect - When bits 2-4 are set to 0 it identifies the filed as a Class-Selector PHB that provides backward compatibility with IP Precedence.


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Explanation B. Correct - When bits 2-4 are set to 0 it identifies the filed as a Class-Selector PHB that provides backward compatibility with IP Precedence.

Explanation C. Incorrect - When bits 2-4 are set to 0 it identifies the filed as a Class-Selector PHB that provides backward compatibility with IP Precedence.

Explanation D. Incorrect - It identifies the packet as a Class-Selector PHB.

PrepLogic Question: 11656-145

7. Review Question p. 40

Answers: A

Explanation A. Correct - The window size starts out small to insure that a link is not overloaded. The window size is increased until a limit or 64 KB window size is reached.

Explanation B. Incorrect - The TCP window starts out small to insure that a link is not overloaded.

Explanation C. Incorrect - 2^30 bytes is specified in RFC 1323. The question asks for a traditional TCP connection that has a max window size of 65535 (65 KB) bytes.

Explanation D. Incorrect - The TCP window starts out small to insure that a link is not overloaded. 2^30 bytes is specified in RFC 1323. The question asks for a traditional TCP connection that has a max window size of 65535 (65 KB) bytes.

PrepLogic Question: 11656-205

8. Review Question p. 40

Answers: C

Explanation A. Incorrect - This mechanism is called TCP slow-start.

Explanation B. Incorrect - This mechanism is called TCP slow-start.

Explanation C. Correct - This mechanism helps to resend lost data by shrinking the window size.

Explanation D. Incorrect - This mechanism is called TCP slow-start.

PrepLogic Question: 11656-206

9. Review Question p. 41


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Answers: A, C, D

Explanation A. Correct - Because multiple sessions are affected, those sessions back off and restart again. It therefore causes inefficient link utilization compared to only dropping packets of certain TCP sessions.

Explanation B. Incorrect - Tail drop does not differentiate between packets so multiple TCP sessions are affected.

Explanation C. Correct - TCP starvation happens when the buffers are temporarily seized by aggressive flows and normal flows encounter buffer starvation.

Explanation D. Correct - There is no way to differentiate between traffic.

Explanation E. Incorrect - Tail drop has no way to differentiate between priority and non-priority traffic.

PrepLogic Question: 11656-207

10. Review Question p. 41

Answers: A

Explanation A. Correct - RED does not have per-flow intelligence. The thinking is that the most aggressive flows will be the ones arriving on the wire and therefore are more likely to be dropped.

Explanation B. Incorrect - The thinking is that the most aggressive flows will be the ones arriving on the wire and therefore are more likely to be dropped.

Explanation C. Incorrect - RED ramps up drops as the queue sizes increase.

Explanation D. Incorrect - If RED drops a packet from a session, TCP slow-start occurs and cuts the window size in half effectively lowering the transmit rate.

PrepLogic Question: 11656-208

11. Review Question p. 41

Answers: C

Explanation A. Incorrect - WRED can be configured on an interface, VC or class level.

Explanation B. Incorrect - WRED can be configured on an interface, VC or class level.

Explanation C. Correct - WRED can be configured in three different areas.


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Explanation D. Incorrect - WRED can be configured on an interface, VC or class level.

PrepLogic Question: 11656-209

12. Review Question p. 42

Answers: B

Explanation A. Incorrect - This will configure CB-WRED but it will use IP precedence by default. To use DSCP, you must use the "dscp-based" command.

Explanation B. Correct - By default CB-WRED uses IP precedence to classify traffic.

Explanation C. Incorrect - The CB-WRED command is a policy map class command.

Explanation D. Incorrect - The CB-WRED command is a policy map class command. You also need to use the "dscp-based" command.

PrepLogic Question: 11656-210

13. Review Question p. 42

Answers: C

Explanation A. Incorrect - RED relies on dropped packets for congestion avoidance. It does not mark packets to signal a TCP slowdown.

Explanation B. Incorrect - RED relies on weighting flows and then dropping packets for congestion avoidance. It does not mark packets to signal a TCP slowdown.

Explanation C. Correct - Explicit congestion notification (ECN) marks packets when a queue threshold has been reached. It then signals to the end station that it should reduce the window size. This give you congestion avoidance without dropping packets.

Explanation D. Incorrect - This is the command used to enable WRED.

PrepLogic Question: 11656-211

14. Review Question p. 42

Answers: D

Explanation A. Incorrect - The correct command is:

random-detect dscp cs1 28 36 10

Explanation B. Incorrect - The correct command is:


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random-detect dscp cs1 28 36 10

Explanation C. Incorrect - The correct command is:

random-detect dscp cs1 28 36 10

Explanation D. Correct - This is the proper command syntax.

PrepLogic Question: 11656-212


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Explanations: Chapter 7

1. Review Question p. 43

Answers: B, C

Explanation A. Incorrect - This is how traffic shaping works.

Explanation B. Correct - Traffic policing drops excess traffic while traffic shaping queues excess traffic.

Explanation C. Correct - Traffic policing drops excess traffic while traffic shaping queues excess traffic.

Explanation D. Incorrect - This is how traffic policing works.

PrepLogic Question: 11656-213

2. Review Question p. 43

Answers: A

Explanation A. Correct - DTS offloads traffic-shaping to the VIP or line card on high-end routers.

Explanation B. Incorrect - Interleaving is a method to transport voice and data over low bandwidth links with minimal latency.

Explanation C. Incorrect - Frame-relay traffic shaping is a method to shape over frame-relay PVCs.

Explanation D. Incorrect - Because dCEF is a distributed processing method of offloading CEF to the VIP on high-end routers.

PrepLogic Question: 11656-215

3. Review Question p. 43

Answers: D

Explanation A. Incorrect - Traffic shaping is typically implemented at the WAN edge.

Explanation B. Incorrect - Traffic shaping is typically implemented at the WAN edge.

Explanation C. Incorrect - Traffic shaping is typically implemented at the WAN edge.


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Explanation D. Correct - Traffic shaping is typically implemented at the WAN edge.

Explanation E. Incorrect - Traffic shaping is typically implemented at the WAN edge.

PrepLogic Question: 11656-216

4. Review Question p. 44

Answers: A, B

Explanation A. Correct - Traffic policing is typically implemented at the access or distribution layer.

Explanation B. Correct - Traffic policing is typically implemented at the access or distribution layer.

Explanation C. Incorrect - Traffic policing is typically implemented at the access or distribution layer.

Explanation D. Incorrect - Traffic policing is typically implemented at the access or distribution layer.

Explanation E. Incorrect - Traffic policing is typically implemented at the access or distribution layer.

PrepLogic Question: 11656-217

5. Review Question p. 44

Answers: B, C

Explanation A. Incorrect - You can set L2, L3 or both markers while using class-based policing.

Explanation B. Correct - You can set L2, L3 or both markers while using class-based policing.

Explanation C. Correct - Class-based policing allows the user to configure maximum transmission rates.

Explanation D. Incorrect - The transmission rates are user configurable.

PrepLogic Question: 11656-218

6. Review Question p. 45


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Answers: D

Explanation A. Incorrect - There is no three bucket method available.

Explanation B. Incorrect - Because the "violate-action" is specified, the two bucket scheme will be used.

Explanation C. Incorrect - Because the "violate-action" is specified, the two bucket scheme will be used. If this were not configured, the policing would use the single bucket method.

Explanation D. Correct - Because the "violate-action" is specified, the two bucket scheme will be used.

PrepLogic Question: 11656-219

7. Review Question p. 45

Answers: A

Explanation A. Correct - Class-based shaping is used to rate-limit traffic.

Explanation B. Incorrect - Shaping delays packets when possible rather than dropping them immediately.

Explanation C. Incorrect - You cannot mark packets with class-based shaping.

Explanation D. Incorrect - Using MQC, class-based shaping is a version of GTS.

PrepLogic Question: 11656-220

8. Review Question p. 45

Answers: B, D

Explanation A. Incorrect - Class-based shaping can used either average or peak shaping methods.

Explanation B. Correct - Class-based shaping can used either average or peak shaping methods.

Explanation C. Incorrect - Class-based shaping can used either average or peak shaping methods.

Explanation D. Correct - Class-based shaping can used either average or peak shaping methods.


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PrepLogic Question: 11656-221

9. Review Question p. 46

Answers: B

Explanation A. Incorrect - This is what the "shape fecn-adapt" command does.

Explanation B. Correct - The min-rate sets an absolute minimum traffic amount for adaptive shaping.

Explanation C. Incorrect - The min-rate places a minimum bandwidth for rate shaping.

Explanation D. Incorrect - The min-rate places a minimum bandwidth for rate shaping.

Explanation E. Incorrect - The min-rate is used when the interface receives BECN bits.

PrepLogic Question: 11656-222


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Explanations: Chapter 8

1. Review Question p. 47

   Answers: C

   Explanation A. Incorrect - Link efficiency mechanisms are a way to optimize the use of existing bandwidth.

   Explanation B. Incorrect - Link efficiency mechanisms are a way to optimize the use of existing bandwidth.

   Explanation C. Correct - Link efficiency mechanisms are a way to optimize the use of existing bandwidth.

   Explanation D. Incorrect - Link efficiency mechanisms are a way to optimize the use of existing bandwidth.

   PrepLogic Question: 11656-223

2. Review Question p. 47

   Answers: D

   Explanation A. Incorrect - Freeze out occurs when certain traffic (such as voice) is delayed by large packets on a slow WAN link.

   Explanation B. Incorrect - Freeze out occurs when certain traffic (such as voice) is delayed by large packets on a slow WAN link.

   Explanation C. Incorrect - Freeze out occurs when certain traffic (such as voice) is delayed by large packets on a slow WAN link.

   Explanation D. Correct - Freeze out occurs when certain traffic (such as voice) is delayed by large packets on a slow WAN link.

   PrepLogic Question: 11656-224

3. Review Question p. 47

   Answers: B

   Explanation A. Incorrect - Link fragmentation and interleaving fragments the frames and serializes the stream so traffic (like VoIP) can be interweaved.

   Explanation B. Correct - Link fragmentation and interleaving fragments the frames and


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serializes the stream so traffic (like VoIP) can be interweaved.

Explanation C. Incorrect - Link fragmentation and interleaving fragments the frames and serializes the stream so traffic (like VoIP) can be interweaved.

Explanation D. Incorrect - Link fragmentation and interleaving fragments the frames and serializes the stream so traffic (like VoIP) can be interweaved.

PrepLogic Question: 11656-225

4. Review Question p. 48

Answers: C

Explanation A. Incorrect - LFI and header compression are most beneficial for WAN links that are T1/E1 and lower.

Explanation B. Incorrect - LFI and header compression are most beneficial for WAN links that are T1/E1 and lower. They are typically configured at the WAN edge.

Explanation C. Correct - LFI and header compression are most beneficial for WAN links that are T1/E1 and lower. They are typically configured at the WAN edge.

Explanation D. Incorrect - LFI and header compression are most beneficial for WAN links that are T1/E1 and lower. They are typically configured at the WAN edge.

PrepLogic Question: 11656-226

5. Review Question p. 48

Answers: C

Explanation A. Incorrect - Header compression typically reduces 40 bytes of IP/TCP headers to 3-5 bytes.

Explanation B. Incorrect - Header compression typically reduces 40 bytes of IP/TCP headers to 3-5 bytes.

Explanation C. Correct - Header compression typically reduces 40 bytes of IP/TCP headers to 3-5 bytes.

Explanation D. Incorrect - Header compression typically reduces 40 bytes of IP/TCP headers to 3-5 bytes.

PrepLogic Question: 11656-227


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6. Review Question p. 48

Answers: D

Explanation A. Incorrect - This enables TCP header compression.

Explanation B. Incorrect - This is an invalid command.

Explanation C. Incorrect - This is an invalid command.

Explanation D. Correct - This is the proper command to enable RTP header compression.

PrepLogic Question: 11656-228

7. Review Question p. 49

Answers: B

Explanation A. Incorrect - The efficiency factor of 3.32 means a 332 percent efficiency improvement.

Explanation B. Correct - The efficiency factor of 3.32 means a 332 percent efficiency improvement.

Explanation C. Incorrect - The efficiency factor of 3.32 means a 332 percent efficiency improvement.

Explanation D. Incorrect - The efficiency factor of 3.32 means a 332 percent efficiency improvement.

PrepLogic Question: 11656-229

8. Review Question p. 49

Answers: B, C, D

Explanation A. Incorrect - This is not a step to configure MLP with interleaving.

Explanation B. Correct - This command enable the interleaving of fragments within the multilink.

Explanation C. Correct - The maximum fragment delay helps to specify the maximum desired fragment size for each interleaved frame. The max delay equals max fragment delay * interface bandwidth.

Explanation D. Correct -This is the first command that needs to be configured to enable MLP.


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PrepLogic Question: 11656-230

9. Review Question p. 50
Answers: C

Explanation A. Incorrect - The default delay for MLP is 30 ms.

Explanation B. Incorrect - The default delay for MLP is 30 ms.

Explanation C. Correct - The default delay for MLP is 30 ms.

Explanation D. Incorrect - The default delay for MLP is 30 ms.

PrepLogic Question: 11656-231

10. Review Question p. 50
Answers: A, D

Explanation A. Correct - Link speed and packet size influence serialization delay.

Explanation B. Incorrect - Link speed and packet size influence serialization delay.

Explanation C. Incorrect - Link speed and packet size influence serialization delay.

Explanation D. Correct - Link speed and packet size influence serialization delay.

PrepLogic Question: 11656-232

11. Review Question p. 50
Answers: B

Explanation A. Incorrect - This is not the recommended fragment size for voice traffic.

Explanation B. Correct - This is the Cisco recommended fragment size for voice.

Explanation C. Incorrect - This is not the recommended fragment size for voice traffic.

Explanation D. Incorrect - This is not the recommended fragment size for voice traffic.

PrepLogic Question: 11656-233

12. Review Question p. 51
Answers: C, D, E


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Explanation A. Incorrect - The three options are: Multilink PPP, FRF.12 and FRF.11 Annex C.

Explanation B. Incorrect - The three options are: Multilink PPP, FRF.12 and FRF.11 Annex C.

Explanation C. Correct - The three options are: Multilink PPP, FRF.12 and FRF.11 Annex C.

Explanation D. Correct - The three options are: Multilink PPP, FRF.12 and FRF.11 Annex C.

Explanation E. Correct - The three options are: Multilink PPP, FRF.12 and FRF.11 Annex C.

PrepLogic Question: 11656-234


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Explanations: Chapter 9

1. Review Question p. 52

Answers: E

Explanation A. Incorrect - This is a method to classify traffic using DiffServ.

Explanation B. Incorrect - This is a method to classify traffic using DiffServ.

Explanation C. Incorrect - This is a method to classify traffic using DiffServ.

Explanation D. Incorrect - This is a method to classify traffic using DiffServ.

Explanation E. Correct - Byte count is not a method to classify traffic using DiffServ.

Explanation F. Incorrect - This is a method to classify traffic using DiffServ.

PrepLogic Question: 11656-235

2. Review Question p. 52

Answers: A, B, E

Explanation A. Correct - Layer 2 you can use QoS to classify traffic based on VLAN info.

Explanation B. Correct - Layer 4 you can use QoS to classify traffic based on port info.

Explanation C. Incorrect - Layer 1 parameters can't be used to classify traffic for QoS.

Explanation D. Incorrect - Layer 5 parameters can't be used to classify traffic for QoS.

Explanation E. Correct - Layer 3 you can use QoS to classify traffic based on IP address info.

PrepLogic Question: 11656-236

3. Review Question p. 52

Answers: C

Explanation A. Incorrect - A certain point is reached where no QoS technique will be substituted for additional bandwidth.

Explanation B. Incorrect - A certain point is reached where no QoS technique will be substituted for additional bandwidth.


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Explanation C. Correct - A certain point is reached where no QoS technique will be substituted for additional bandwidth.

Explanation D. Incorrect - A certain point is reached where no QoS technique will be substituted for additional bandwidth.

PrepLogic Question: 11656-237

4. Review Question p. 53

Answers: A, C, E

Explanation A. Correct - The packetization period plays a roll in the overall bandwidth requirement for voice traffic.

Explanation B. Incorrect - This does not have any affect on the bandwidth requirements for voice.

Explanation C. Correct - Different codecs carry varying payload sizes.

Explanation D. Incorrect - This does not have any affect on the bandwidth requirements for voice.

Explanation E. Correct - The layer 2 protocol determines the different sizes of overhead required.

PrepLogic Question: 11656-238

5. Review Question p. 53

Answers: B, C

Explanation A. Incorrect - The video stream rate plus 20 percent.

Explanation B. Correct - This provides sufficient overhead.

Explanation C. Correct - This provides sufficient bandwidth for a 384 kbps stream.

Explanation D. Incorrect - The rate only needs to be 30 KB per 384 kbps stream.

PrepLogic Question: 11656-239

6. Review Question p. 53

Answers: C

Explanation A. Incorrect - The Correct amount is < 33%


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Explanation B. Incorrect - The Correct amount is < 33%

Explanation C. Correct - While this is a general rule, typically you do not want to allocate more than 33% of your bandwidth. If you are significantly higher, you should increase bandwidth.

Explanation D. Incorrect - The Correct amount is < 33%

PrepLogic Question: 11656-240

7. Review Question p. 54

Answers: D

Explanation A. Incorrect - IP routing traffic is extremely important. Cisco recommends you tag this traffic with an IP precedence of 6.

Explanation B. Incorrect - IP routing traffic is extremely important. Cisco recommends you tag this traffic with an IP precedence of 6.

Explanation C. Incorrect - IP routing traffic is extremely important. Cisco recommends you tag this traffic with an IP precedence of 6.

Explanation D. Correct - IP routing traffic is extremely important. Cisco recommends you tag this traffic with an IP precedence of 6.

PrepLogic Question: 11656-241

8. Review Question p. 54

Answers: B

Explanation A. Incorrect - QoS can provide contractual assurance for this parameter.

Explanation B. Correct - QoS does not assure that hardware will remain functional. To insure MTBF, you need to add redundancy into your network.

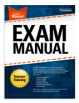
Explanation C. Incorrect - QoS can provide contractual assurance for this parameter.

Explanation D. Incorrect - QoS can provide contractual assurance for this parameter.

PrepLogic Question: 11656-242

9. Review Question p. 54

Answers: A

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Explanation A. Correct - Typically, only queuing is required in the core.

Explanation B. Incorrect - Typically there is plenty of bandwidth in the core so compression is not recommended.

Explanation C. Incorrect - Typically there is plenty of bandwidth in the core so compression is not recommended.

Explanation D. Incorrect - Typically there is plenty of bandwidth in the core so compression is not recommended.

PrepLogic Question: 11656-243

10. Review Question p. 55

Answers: D

Explanation A. Incorrect - Traffic should be classified and marked as close to the source as possible.

Explanation B. Incorrect - Traffic should be classified and marked as close to the source as possible.

Explanation C. Incorrect - Traffic should be classified and marked as close to the source as possible.

Explanation D. Correct - Traffic should be classified and marked as close to the source as possible.

PrepLogic Question: 11656-244

11. Review Question p. 55

Answers: A, C, E

Explanation A. Correct - These queuing mechanisms are typically the best in service provider WAN environments.

Explanation B. Incorrect - The best queuing mechanisms for this environment are LLQ or CBWFQ.

Explanation C. Correct - Traffic shaping is typically recommended for service provider WAN environments.

Explanation D. Incorrect - Traffic shaping is typically recommended for service provider WAN environments.


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Explanation E. Correct - LFI is recommended on service provider WAN links.

Explanation F. Incorrect - The best queuing mechanisms for this environment are LLQ or CBWFQ.

PrepLogic Question: 11656-245

12. Review Question p. 55

Answers: B, C, F

Explanation A. Incorrect - Latency should be < 150 ms.

Explanation B. Correct - Latency should be < 150 ms.

Explanation C. Correct - Jitter should be < 30 ms.

Explanation D. Incorrect - Jitter should be < 30 ms.

Explanation E. Incorrect - Loss should not exceed 1 percent.

Explanation F. Correct - Loss should not exceed 1 percent.

PrepLogic Question: 11656-246

13. Review Question p. 56

Answers: C

Explanation A. Incorrect - It depends on if the CE router is managed by the service provider.

Explanation B. Incorrect - It depends on if the CE router is managed by the service provider.

Explanation C. Correct - It depends on if the CE router is managed by the service provider.

Explanation D. Incorrect - It depends on if the CE router is managed by the service provider.

PrepLogic Question: 11656-247

14. Review Question p. 56

Answers: C


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Explanation A. Incorrect - This is one of the ways to specify the bandwidth amount.

Explanation B. Incorrect - This is one of the ways to specify the bandwidth amount.

Explanation C. Correct - You cannot specify bandwidth guarantees in Mbps.

Explanation D. Incorrect - This is one of the ways to specify the bandwidth amount.

PrepLogic Question: 11656-248

15. Review Question p. 56

Answers: B, C

Explanation A. Incorrect - The traffic is policed to a max bandwidth by LLQ.

Explanation B. Correct - The traffic is policed to a max bandwidth by LLQ.

Explanation C. Correct - This is the default behavior for dropping packets.

Explanation D. Incorrect - The default behavior is tail dropping.

PrepLogic Question: 11656-249


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