642-887 Dumps

Implementing Cisco Service Provider Next-Generation Core Network Services (SPCORE)

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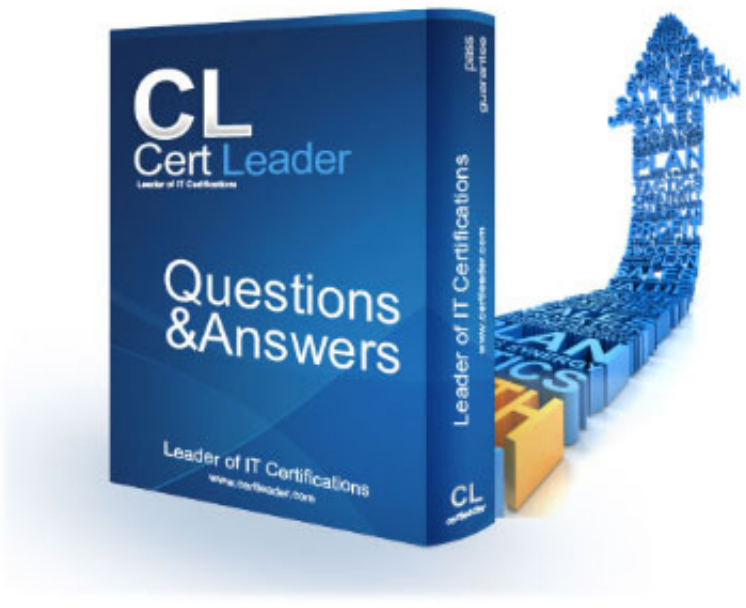


NEW QUESTION 1
Which three steps are required to configure QPPB on Cisco IOS XR routers? (Choose three.)

A. Apply a QPPB route policy to the BGP process using the table-policy command
B. Apply a QPPB route policy to the BGP neighbor using the route-policy command
C. Define a QPPB route policy to match the customer routes, then set the IP precedence or qos-group
D. Define a QPPB route policy to match the customer IP precedence or qos-group markings, then set the BGP community
E. Enable QPPB on an interface using the ipv4 bgp policy propagation input ip-precedence|qos-group destination|source command
F. Enable QPPB on an interface using the ipv4 bgp policy propagation output ip- precedence|qos-group destination|source command

Answer: ACE

Explanation: QoS Policy Propagation via BGP (QPPB), is a mechanism that allows propagation of quality of service (QoS) policy and classification by the sending party based on access lists, community lists and autonomous system paths in the Border Gateway Protocol (BGP), thus helping to classify based on destination instead of source address.

NEW QUESTION 2
In which two Cisco IOS XR configuration modes can mpls ldp igp sync be configured? (Choose two.)

A. config-ldp
B. config-if
C. config-ospf-ar
D. config-ospf
E. config-isis

Answer: CD

NEW QUESTION 3
When configuring class-based WRED on Cisco routers, which WRED parameter is not user configurable on a Cisco IOS XR but is user configurable on a Cisco IOS and IOS XE?

A. the ingress or egress direction where the class-based WRED policy will be applied
B. the maximum threshold
C. the minimum threshold
D. the mark probability denominator

Answer: D

Explanation: Comparison of Cisco IOS QoS and Cisco IOS-XR QoS
The Cisco IOS-XR software implementation of QoS is basically the same as the QoS implementation on Cisco IOS software, with the following exceptions:
•On Cisco IOS-XR software, the bandwidth command can be configured only in egress policies.
•The following changes have been made to the class-map command on Cisco IOS-XR software:
–Supports 4K per logical router.
–Maximum number of match criteria configurable in one class map is eight.
•When a class is marked as high priority using the priority command on Cisco IOS-XR software, we recommend that you configure a policer to limit the priority traffic. Limiting the priority traffic will ensure that the priority traffic does not starve all of the other traffic on the line card. Use the police command to explicitly configure the policer.
•On Cisco IO-XR software, only one conform-action, exceed-action, or violate-action command can be configured at a time. To configure traffic policing, use the police command.
•On Cisco IOS-XR software, policy modifications cannot be made on existing policies. Use the policy-map command to remove the policy from all attached interfaces, delete the policy map, and redefine a new policy.
•When configuring a policy map on Cisco IOS-XR software, the maximum number of classes configurable in one policy map is 16, which includes both Level 1 and Level 2 classes. To configure a policy map, use the policy-map command.
•When WRED is configured on Cisco IOS-XR software, the mark probability in the random- detect command is not configurable—it is always set to 1.
•When the random-detect exp command is used on Cisco IOS-XR software, the exponential weighting constant is not configurable and will be programmed automatically by Cisco IOS-XR software.
•When access control lists (ACLs) are used in QoS class maps, the underlying deny or permit actions associated with access control entries (ACEs) are ignored. ACEs are used as a classification mechanism in order to provide appropriate QoS behavior as specified in class maps. Use ACLs that include ACEs with permit actions only.

NEW QUESTION 4
Which three mechanisms are used to implement MPLS TE? (Choose three.)

A. tunnel interface
B. CSPF
C. RSVP
D. LDP
E. MP-BGP

Answer: ABC

Explanation: Constrained-Based Shortest Path First (CSPF).
Resource Reservation Protocol - Traffic Engineering is an extension of the resource reservation protocol (RSVP) for traffic engineering.

NEW QUESTION 5
Which method is used to mark traffic matched by class-map MY_CLASS as Expedited Forwarding?

A. set ip dscp cs7
B. set dscp cs7
C. set dscp 46
D. set dscp 45

Answer: C

NEW QUESTION 6
Refer to the exhibit.

```
PE1 (config)#class-map Custom1
PE1 (config-cmap)#match a11
PE1 (config)#policy-map QoSCustom1
PE1 (config-pmap)#class QoSCustom1
PE1 (config-pmap-c)#set mpls experimental 0
PE1 (config) # interface Gig1/0/0
PE1 (config-if) # xconnect 172.16.1.1 350 encapsulation mpls
PE1 (config-if) # service-policy input Custom1
```

A network engineer who is working for an ISP wants to override the QoS that comes from the customer. The engineer wants to set a QoS value of 5 for all traffic. What are two reasons why the configuration is not working? (Choose two.)

A. The service-policy command should point to the service policy, not to the class map
B. The set command should reference CoS instead of MPLS EXP bits
C. The service-policy configuration should be set as output
D. The policy-map configuration needs to reference class-map Custom1
E. The number 350 in the xconnect command should appear after the encapsulation type

Answer: AD

NEW QUESTION 7
Which two values are class-selector DSCP values? (Choose two.)

A. 001001
B. 000111
C. 111000
D. 100000
E. 000001

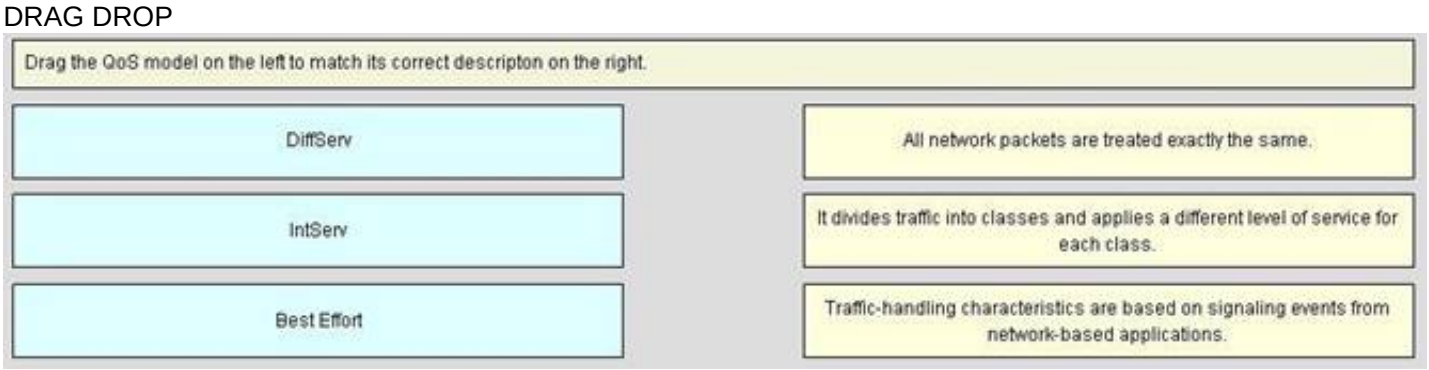
Answer: CD

NEW QUESTION 8
Within the service provider core network, which two QoS mechanisms are typically deployed on the P routers? (Choose two.)

A. LLQ
B. traffic policing and remarking
C. WRED
D. traffic shaping
E. traffic classification and markings
F. link fragmentation and interleaving

Answer: AC

NEW QUESTION 9
DRAG DROP



Answer:

Explanation: All network packets are treated exactly the same—Best Effort
It divides traffic classes and applies a different level of service for each class--Diffserv Traffic-handling characteristics are based on signaling events from network-based applications-- intServ
All network packets are treated exactly the same-- Best Effort
It divides traffic classes and applies a different level of service for each class-- Diffserv Traffic-handling characteristics are based on signaling events from network-based applications-- intServ

NEW QUESTION 10
The network architecture team is proposing to enable Cisco MPLS TE over the entire
service provider core network. Which two options are benefits of Cisco MPLS TE that affect their decision? (Choose two.)

A. Cisco MPLS TE optimizes network resources.
B. Cisco MPLS TE data flows independent from the underlying IGP.
C. Cisco MPLS TE increases the data forwarding rate.
D. Cisco MPLS TE tunneling does not require maintenance.
E. Cisco MPLS TE offers network resource reservation, which removes any need for QoS MQC policies.

Answer: AB

NEW QUESTION 10
Refer to the exhibit. Which configuration error prevents this traffic-shaping policy from working?

```
policy-map WAN
class class_A
shape average 512000 32000
!
interface serial 4/0
service-policy input WAN
```

A. The WAN interface is starting to drop packets because no queuing mechanism is implemented.
B. Traffic-shaping policies are applied only in the outbound direction.
C. The class_A configuration shape peak is used to maximize the serial interface performances.
D. The service-policy command is applied only on logical or channeled interfaces.

Answer: B

NEW QUESTION 12
An engineer wants to extend the trust boundary to a Cisco IP Phone. Which protocol should be used?

A. CDP
B. CoS
C. ToS
D. 802.1Q

Answer: A

NEW QUESTION 15
On Cisco routers, which QoS marker is only locally significant?

A. DSCP
B. MPLS EXP
C. IP precedence
D. QoS group
E. discard eligible (DE)

Answer: D

NEW QUESTION 16
In Cisco IOS, what must be configured to ensure that an MPLS TE tunnel becomes active?

A. layer 3 addressing on the tunnel, to establish bidirectional communication over the tunnel
B. the tunnel for autoroute, to ensure proper installation into the forwarding plane
C. a path-option configuration, for either dynamic or explicit paths
D. the tunnel with a minimum bandwidth value, to properly calculate CSPF

Answer: A

NEW QUESTION 19
Which QoS mechanism is used for congestion avoidance?

A. LLQ
B. CBWFQ
C. WRED
D. LFI
E. traffic policing

Answer: C

NEW QUESTION 21

Which option shows how a class map is implemented that matches only packets originating from the network 10.0.0.0/8, which are not marked as VoIP on Cisco IOS XE?

A)

```
ip access-list standard 10 permit 10.0.0.0 0.0.0.255
class-map match-all
match access-group 10
match not ip dscp ef
```

B)

```
ip access-list standard 10 permit 10.0.0.0 255.255.255.0
class-map match-any
match access-group 10
match not ip dscp ef
```

C)

```
ip access-list standard 10 permit 10.0.0.0 0.0.0.255
class-map match-all
match access-group 10
match not qos-group 1
```

D)

```
ip access-list standard 10 permit 10.0.0.0 0.255.255.255
class-map match-all
match access-group 10
match not ip dscp ef
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer: B

NEW QUESTION 23
Which two fields are in the traffic engineering topology database? (Choose two.)

A. TE-metric
B. IGP metric
C. link delay
D. LSP setup priority
E. LDP authentication

Answer: AD

NEW QUESTION 27
Refer to the Cisco IOS XR policy-map configuration exhibit.

```
policy-map test
!
class one
priority level 1
!
class two
priority level 2
!
class three
bandwidth percent 60
!
interface GigabitEthernet0/0/0/2
service-policy output test
!
!
```

What is wrong with the policy-map configuration?

A. missing the priority percent command under class one and class two

B. missing the police command under class one and class two
C. missing the police command under class three
D. missing the priority bandwidth command under class one and class two
E. missing the bandwidth command under class one and class two

Answer: B

Explanation: Hierarchical policing is also supported. In such a configuration, both parent and child policies have class-maps containing policing statements, as in the following example:
!
policy-map child class gold
police rate percent 50 conform-action set precedence immediate exceed-action drop
!
!
policy-map parent class match_all
police rate 10000 kbps burst 15000 exceed-action drop service-policy child

NEW QUESTION 30
In Cisco MPLS TE implementations, what can cause the tunnel bandwidth to adjust automatically based on the traffic load in the tunnel?

A. fast reroute
B. admin weight
C. autobandwidth
D. bandwidth subpool

Answer: C

NEW QUESTION 32
The Cisco IOS and IOS XE qos pre-classify command allows which kind of packet classification on IP packets that are encapsulated with GRE and IPsec?

A. allows for packets to be classified based on the ToS byte values before packet encryption
B. allows for packets to be classified based on the ToS byte values after packet encryption
C. allows for packets to be classified based on the packet payload before packet encryption
D. allows for packets to be classified based on the packet payload after packet encryption
E. allows for packets to be classified based on the packet header parameters other than the ToS byte values after packet encryption

Answer: E

NEW QUESTION 34
What is the correct formula for determining the CIR?

A. CIR = Bc/Tc
B. CIR = Bc x Tc
C. CIR = Tc/Bc
D. CIR = Bc + Be
E. CIR = Tc/(Bc+Be)
F. CIR = (Bc+Be)/Tc

Answer: A

Explanation: Committed Information Rate (CIR) – the rate the device will send at (on average) over a one second period.
The default CIR when traffic-shaping is enabled on the interface is 56K. CIR is also referred to as the “target rate”. Since the device is forced to send at the AR, it does not send all of the time (within one second) Â in order to send an average amount of data that equals the CIR.
Minimum CIR (mincir) – the rate the service provider guarantees to accept. Theoretically, the provider will set the DE bit for all traffic above this rate. Mincir is designed to be used in conjunction with adaptive shaping. With adaptive shaping, the router will throttle down in the event of congestion. The router will not throttle down below this value.
Committed Burst (Bc) – the number of committed bits allows to be sent during a given interval. The device sends an average amount of traffic to achieve the CIR. The Bc value defaults to 1/8 of the configured CIR for speeds below 650K. For speeds above that, it is roughly 1/16 of CIR.
Excess Burst (Be) – the number of non-committed bits the router is allowed to send above Bc during the first interval (Tc). The amount of Be “credits” is derived from unused Bc credits in previous intervals. There is no limit to how long Be can “store” unused Bc credits. It is a common misconception that Be can only store credits from the previous interval or the previous second. There is no default Be value.
Committed Rate Measurement Interval (Tc) – the time interval over whic Bc or Bc+Be can be transmitted. The max value is 125 ms and the minimum value is 10 ms.
The Formula
CIR, Tc, and Bc are related mathematically by the following formula:
CIR = Bc/(Tc/1000) Notice the division of Tc by 1000 is used to convert milliseconds into seconds – the common measurement of CIR and Bc.

NEW QUESTION 39
Which message is sent through the desired LSP path by the headend router and is used to determine available resources?

A. PATH
B. TENT
C. RSVP
D. RESV

Answer: A

NEW QUESTION 40
Which option is a Cisco-recommended congestion management or queuing method for real-time traffic for voice and video?

A. CB-WFQ
B. PQ
C. WFQ
D. LLQ

Answer: D

NEW QUESTION 44
A network engineer must design a core network routing domain that supports Cisco MPLS TE. Which two interior gateway protocols represent viable solutions? (Choose two.)

A. Routing Information Protocol version 2
B. Open Shortest Path First
C. Enhanced Interior Gateway Routing Protocol
D. Intermediate-System to Intermediate-System
E. Border Gateway Protocol

Answer: BD

NEW QUESTION 48
Referring to the Cisco IOS XR show command output exhibit, what are three possible reasons that the GigabitEthernet0/1/0/10 LDP IGP sync status is not ready? (Choose three.)

```
RP/0/RSP1/CPU0:ASR9006#sh mpls ldp igp sync
Bundle-Ether9000:
 Sync status: Ready
 Peers:
   192.168.1.25:0 (GR)
GigabitEthernet0/1/0/10:
 Sync status: Not ready
```

A. GigabitEthernet0/1/0/10 is not configured to run LDP.
B. Graceful restart is not configured on the peer.
C. The LDP neighbor on GigabitEthernet0/1/0/10 is not up.
D. The OSPF neighbor on GigabitEthernet0/1/0/10 is not up.
E. LDP is up on GigabitEthernet0/1/0/10, but no label bindings have been received from the peer.
F. GigabitEthernet0/1/0/10 is a member link of Bundle-Ether9000.

Answer: CDE

NEW QUESTION 52
An engineer sets up QoS over MPLS networks. How many classes of traffic can one LSP support?

A. as many as 8, because the EXP field is 3 bits
B. as many as 3, because the EXP field is 3 bits
C. as many as 64, because the DSCP field is 6 bits
D. as many as 6, because the DSCP field is 6 bits

Answer: A

NEW QUESTION 56
An engineer has been tasked to configure a guaranteed 10 Mbps priority queue for traffic matched by class-map VOICE_CLASS on Cisco IOS XR. Which policy must be applied for outgoing traffic on interface FastEthernet 0/0/1?

A. configurepolicy-map VOICE_POLICY class VOICE_CLASSpolice rate 10000 exceed-action drop exitpriority level 1 exitexitinterface FastEthernet 0/0/1service-policy output VOICE_POLICY commit
B. configurepolicy-map VOICE_POLICY class VOICE_CLASS priority percent 10exit exitinterface FastEthernet 0/0/1service-policy output VOICE_POLICY commit
C. configurepolicy-map VOICE_POLICYclass VOICE_CLASS police rate 1000 exceed-action drop exitpriority level 1 exitexitinterface FastEthernet 0/0/1service-policy output VOICE_POLICY commit
D. configurepolicy-map VOICE_POLICY class VOICE_CLASSpolice rate 10 Mbps exceed-action shape exitpriority level 1 exitexitinterface FastEthernet 0/0/1service-policy output VOICE_POLICY commit

Answer: A

NEW QUESTION 58
How many labels does an MPLS packet have, with a bottom-of-stack label set to zero?

A. The packet has no label.
B. The packet has one label.
C. The packet may have one or more labels.
D. The packet has at least two labels.

Answer: D

NEW QUESTION 62
Which four pieces of information are stored for each prefix in the LFIB? (Choose four.)

A. local label
B. outgoing label
C. next-hop IP address
D. outgoing interface
E. incoming interface
F. Layer 2 header rewrite information

Answer: ABCD

Explanation: Forwarding Labeled Packets
LSR forwards the packet based on: Top Label value of the received packet
Corresponding entry in LFIB (LABEL <=> INTERFACE)
#show mpls forwarding-table - will show: local label
outgoing label prefix (network) outgoing interface next-hop

```
Pomerol#show mpls forwarding-table
Local  Outgoing    Prefix           Bytes tag  Outgoing    Next Hop
tag    tag or VC   or Tunnel Id     switched   interface
16     Pop tag     10.1.1.12/30     636        Se3/0       point2point
17     Pop tag     10.10.10.1/32    0          Se3/0       point2point
18     21          10.10.10.4/32    0          Se3/0       point2point
19     Pop tag     10.1.1.0/30      0          Se4/0       point2point
       Pop tag     10.1.1.0/30      0          Se3/0       point2point
20     Pop tag     10.10.10.6/32    612        Se2/0       point2point
21     Pop tag     10.1.1.16/30     0          Se3/0       point2point
22     16          10.10.10.5/32    0          Se3/0       point2point
23     Pop tag     10.10.10.2/32    0          Se4/0       point2point
```

LSR expects packet to come with "top" label being "Local" (from show mpls forwarding- table).
If Outgoing label is "Aggregate", then that means that this is a summary route and more specific lookup is performed.
If LSR cannot find label/interface mapping in LFIB, then it drops the packet. There are several "RESERVED" labels numbered from 0 to 15:
0 - explicit NULL - is used to preserver QoS info through EXP bits. It copies 'ip prec' or DiffServ.
1 - Router alert label - forces LSR to software switch the packet.
3 - Implicit NULL - this label is used for "connected" or "summary" routes. This way LSR signals its neighbors to execute "POP label" operation on "connected" routes. It is called PHP, Penultimate Hop Popping, and is used to make sure that LSR does not perform 2 lookups (label + ip).
14 - OEM alert label - is used for monitoring purpose.
In Cisco IOS, the default range is 16 through 100,000, but can be expanded by using "mpls label range" command.

NEW QUESTION 66
Referring to the Cisco IOS XR configuration exhibit,

```
mpls ldp
label
advertise
disable
for test1 to test2
!
ipv4 access-list test2
10 permit ipv4 any any
ipv4 access-list test1
10 permit ipv4 host 10.1.1.1 any
```

which labels will be advertised by the router with this configuration?

A. Only the label for 10.1.1.1/32 will be advertised to all the LDP peers.
B. Labels for all prefixes will be advertised to the 10.1.1.1 LDP peer.
C. Labels for all prefixes will be advertised to all the LDP peers.
D. No labels will be advertised to any LDP peers.

Answer: A

NEW QUESTION 69
Refer to the exhibit. Based on the raw format of an MPLS header captured by a traffic analyzer, what is the value of the MPLS EXP field?

```
0000 0011 1110 1000 0001 .... .... ....
.... .... .... .... .... 000. .... ....
.... .... .... .... .... ...1 .... ....
.... .... .... .... .... .... 1111 1111
```

A. 1
B. 255
C. 5
D. 29

Answer: C

NEW QUESTION 72
Scenario:

Instructions

Enter the proper CLI commands and analysis the outputs on the Cisco routers to answer the multiple-choice questions.

From the network topology diagram, click on the router icon to gain access to the console of the router.

No console or enable passwords are required.

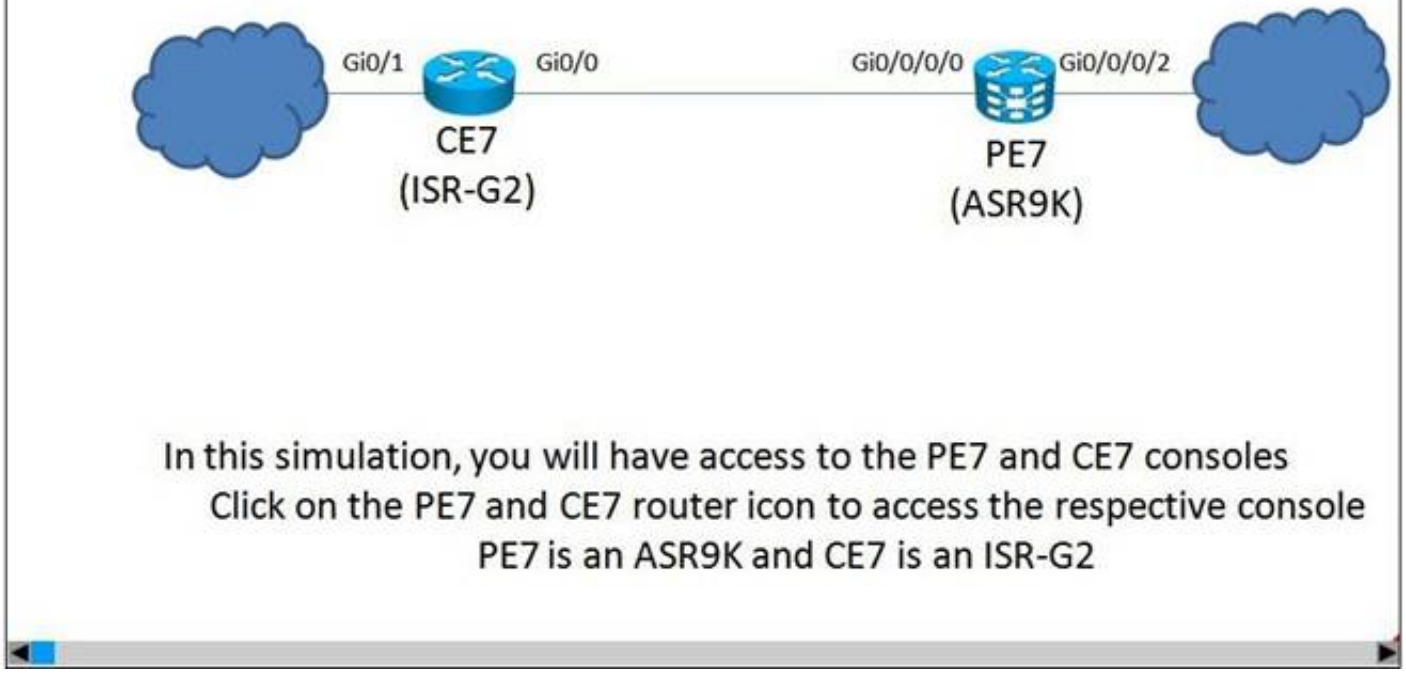
There are four multiple-choice questions with this task. Be sure to answer all four questions before selecting the Next button.

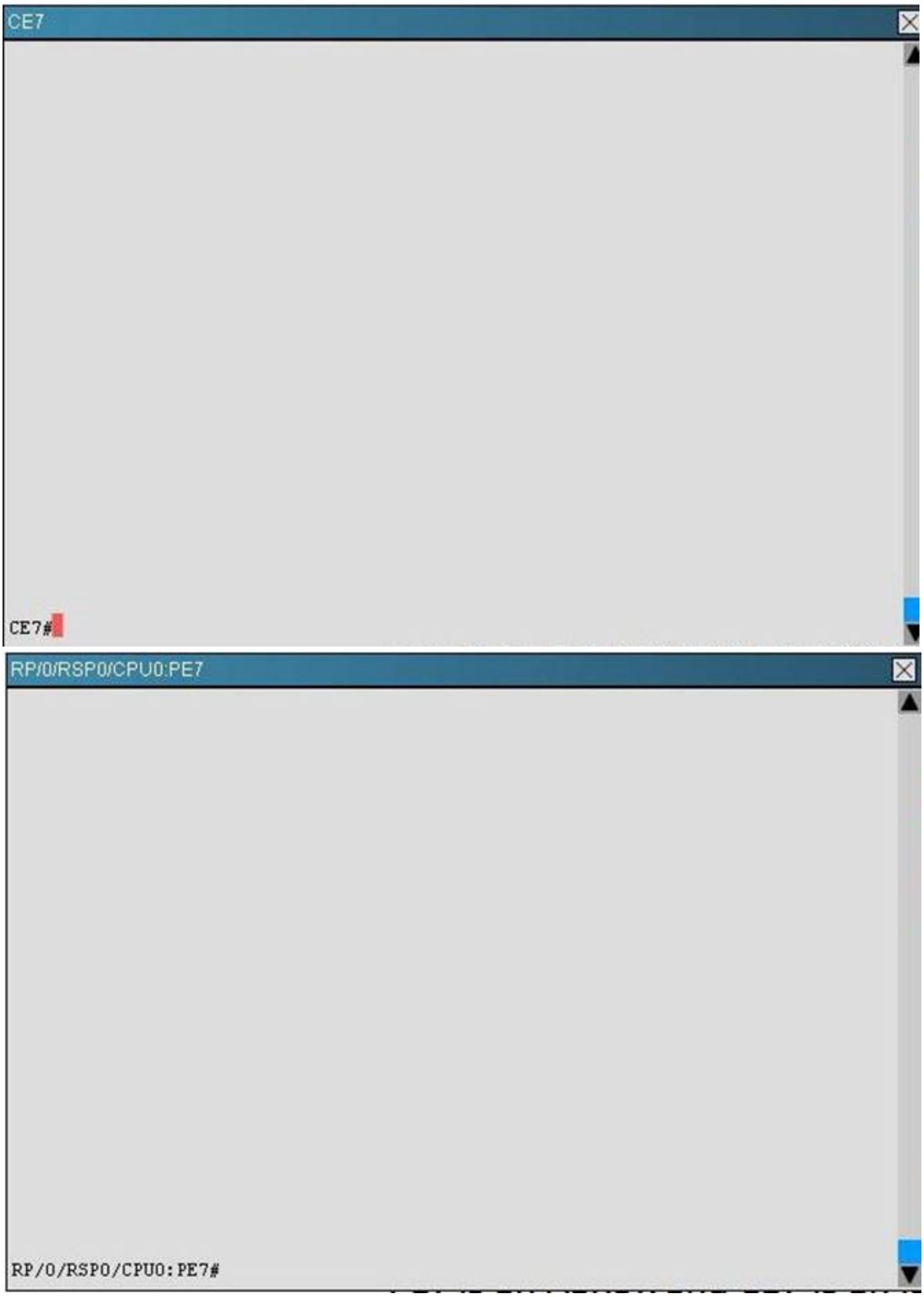
Not all the CLI commands or commands options are supported or required for this simulation.
All the devices in this simulation have been pre-configured and you are not required to enter in any configurations.

Scenario

Referring to the network topology diagram shown in the exhibit, use the proper CLI commands on the CE7 and PE7 routers and interpret the supported CLI commands outputs to answer the four multiple choice questions.

Topology





On CE 7 router, which statement is correct regarding the "QOS-POLICY policy map configurations?

A. Traffic matched bythe"QOS-HTTP-1" class-map is shaped to an average is rate of 2560000 128000bps
B. Traffic matched bythe"QOS1-HTTP-2" class-map will be queued in the low-latency- queue which has a maximum bandwidth guarantee of 64000
C. Traffic matched by the "QOS-FTP-1" class-map can't use more than 256 Kbps under any condition
D. The "QOS-POLICY is applied to the gi0/0 interface in the input direction

Answer: C

Explanation: # show policy-map
show policy-map interface x/y
show running-config policy-map

NEW QUESTION 77
Refer to the exhibit. What happens to the traffic that exceeds the CIR?

A. It is set an EXP value of 5 and transmitted
B. It is set an EXP value of 5 and dropped
C. It is set an EXP value of 0 and transmitted
D. It is set an EXP value of 3 and dropped

Answer: C

NEW QUESTION 81
Which affinity value will be matched by the affinity bit mask of the affinity 0xFF00000A mask 0xFFFF000F command?

A. 0xFFFF000A
B. 0xFF00EEEA
C. 0xFF000000
D. 0x00000000
E. 0x11110001

Answer: B

Explanation: 0xFF00000A 11111111000000000000000000001010
0xFFFF000F 11111111111111110000000000001111
0xFF00EEEA 11111111000000001110111011101010

NEW QUESTION 86
Only based on the Cisco IOS XR policy-map configuration exhibit,

```
policy-map policy_A
 class test
   bandwidth 1000000
   random-detect dscp AF11 10000 20000
   random-detect dscp AF41 12000 24000
```

which statement is correct?

A. All DSCP AF41 marked packets will be dropped when the average queue length reaches 12,000 packets.
B. DSCP AF11 marked packets will be randomly dropped when the average queue length reaches 10,000 packets.
C. DSCP AF11 and AF41 marked packets are guaranteed a minimum bandwidth of 1 Mb/s.
D. DSCP AF11 and AF41 marked packets are guaranteed a maximum bandwidth of 1 Mb/s.

Answer: B

NEW QUESTION 91
Implementing IPoDWDM interfaces on Cisco CRS routers eliminates the need for which network component?

A. ROADM
B. external transponders
C. electrical-optical-electrical converters
D. electrical cross-connect

Answer: B

Explanation: IP over DWDM (IPoDWDM) is a technology used in telecommunications networks to integrate IP Routers and Switches in the OTN (Optical Transport Network).

NEW QUESTION 92
A service provider recently defined new SLA services that provide QoS transparency over MPLS DiffServ-TE services. Which two tunneling modes provide QoS transparency? (Choose two.)

A. short pipe mode
B. uniform mode
C. pipe mode with an explicit NULL LSP
D. pipe mode without a explicit NULL LSP
E. best effort mode

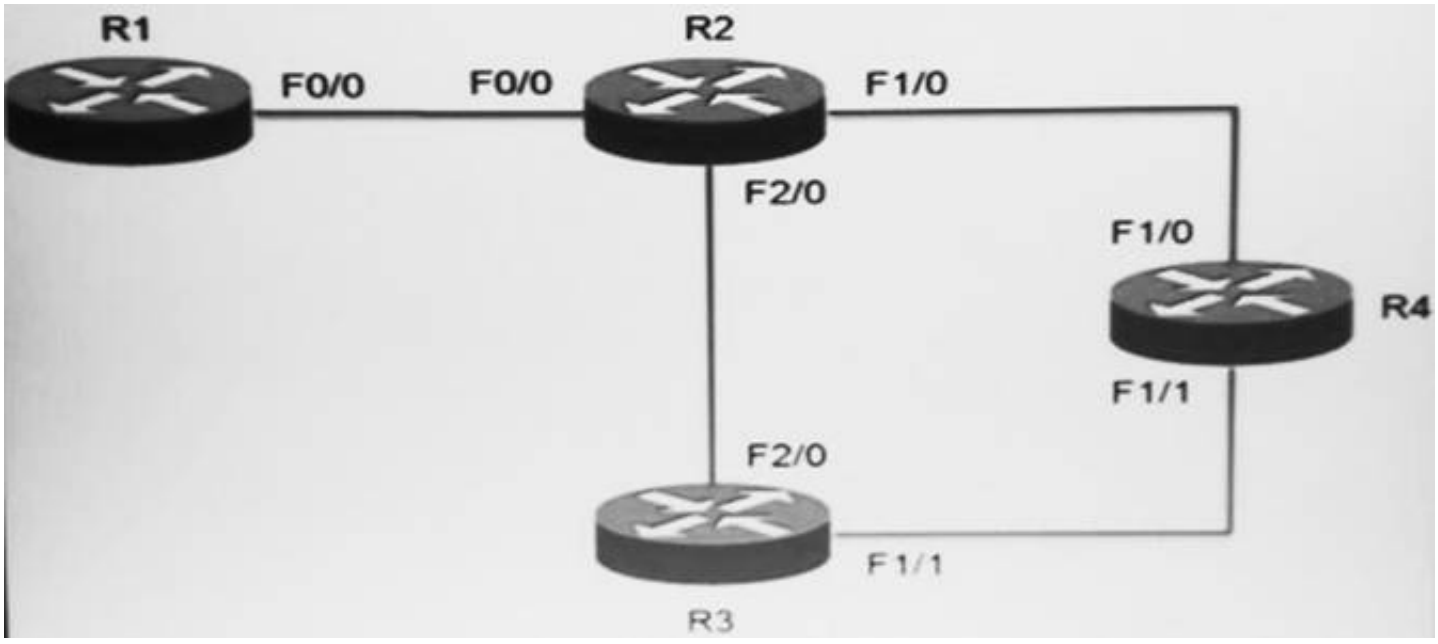
Answer: AC

NEW QUESTION 97
Which driver uses an IntServ QoS model in an MPLS TE enabled service provider network?

A. DSCP, which requires signaling across the provider network
B. RSVP, which enables bandwidth guarantees across a provider network
C. RSVP, which enables per-hop behavior across a provider network
D. DSCP, which enables bandwidth guarantees across a provider network

Answer: B

NEW QUESTION 102
Refer to the exhibit.



MPLS TE Tunnel 138 has a headend R1 and a tailend R4, and uses path R1-R2-R4 as the primary LSP. The path R1-R2-R3-R4 should be implemented as a backup LSP in case the R2-R4 link fails. To which interface should the appropriate configuration be applied to accomplish this?

A)

```
R3
int Fa2/0
mpls traffic-eng backup-path tunnel 100
```

B)

```
R2
int Fa0/0
mpls traffic-eng backup-path tunnel 100
```

C)

```
R2
int Fa1/0
mpls traffic-eng backup-path tunnel 100
```

D)

```
R3
int Fa1/1
mpls traffic-eng backup-path tunnel 100
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer: C

NEW QUESTION 105

An engineer must configure a policy on a Cisco IOS XE router that achieves the following: Traffic 2 Mbps or less is transmitted
Traffic between 2 Mbps and 3 Mbps is marked with IP Precedence 4 Traffic that exceeds 3 Mbps is dropped
Which configuration achieves this policy?

A.
```
configure terminal
policy-map POLICE
 class class-default
  police 2000000
   conform-action transmit
    exceed-action 3000000 set-prec-transmit 4
   violate-action drop
  exit
 exit
exit
interface FastEthernet 0/0/0
 service-policy input POLICE
```

B.
```
configure terminal
policy-map POLICE
 class class-default
  police rate 2000000 pir 3000000
   conform-action transmit
    exceed-action set-prec-transmit 4
   violate-action drop
  exit
 exit
exit
interface FastEthernet 0/0/0
 service-policy input POLICE
```

C.
```
configure terminal
policy-map POLICE
 class class-default
  police cir 2000000 pir 3000000
   conform-action transmit
    exceed-action set-prec-transmit 4
   violate-action drop
  exit
 exit
exit
interface FastEthernet 0/0/0
 service-policy input POLICE
```

D.
```
configure terminal
policy-map POLICE
 class class-default
  police cir 2000000 pir 3000000
   conform-action transmit
    exceed-action set-dscp AF4
   violate-action drop
  exit
 exit
exit
interface FastEthernet 0/0/0
 service-policy input POLICE
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer: C

NEW QUESTION 106
Which option describes what happens when a labelled packet with a TTL of 1 is received by an LSR?

A. The packet is forwarded on to the next router where its TTL expires and from where an ICMP "time exceeded" message is generated and routed back to the source.
B. The packet is dropped and an ICMP "time exceeded" message is IP routed back to the sender.
C. The packet is dropped and an ICMP "time exceeded" message is label-switched from the expiring router back on a new path toward the source.
D. The packet is dropped and an ICMP "time exceeded" message is label-switched from the expiring router on the same label switched path toward the destination and then back to the originating source.
E. The packet is forwarded on to the next router where its TTL expires and from where an ICMP "time exceeded" message is generated and label switched back to the source.

Answer: D

NEW QUESTION 108

Refer to the exhibit.

```
MPLS_Router_A

Interface Gi 0/0/0
"link to MPLS_PE_C"
mpls ip


Interface Gi 0/0/1
"Link facing customer_A CE"
IP access-group X in

!
mpls ldp advertise-labels for 80 to 81

!
access-list 80 permit 10.100.0.0 0.0.0.255
access-list 81 permit any

ip access-list X deny top any any eq 646
ip access-list X permit ip any any
```

You are about to implement security features, including this configuration, within the MPLS network of a large MPLS service provider. How does the router distribute the labels to its neighbors?

A. All network 10.100.0.0/24 labels are sent to all TDP neighbors
B. All network 10.100.0.0/16 labels are sent to all LDP neighbors
C. All network 10.100.0.0/24 labels are sent to all LDP neighbors
D. All network 10.100.0.0/24 labels are sent to all LDP and TDP neighbors

Answer: C

NEW QUESTION 109
Which two characteristics describe the difference between MPLS QoS pipe and short-pipe models? (Choose two)

A. Short-pipe mode does not need MPLS usage, but pipe mode does.
B. In short-pipe mode, the egress LSR uses the tunneled PHB marking, but in pipe mode, the egress LSR uses the LSP PHB marking.
C. Pipe mode does guarantee that the tunneled packet marking remains unchanged, but short-pipe does not.
D. In short-pipe mode, the egress LSR uses the LSP PHB marking, but in pipe mode, the egress LSR uses the tunneled PHB marking.
E. Short-pipe mode can be implemented on MPLS networks regardless of the MPLS PHP mechanism usage.

Answer: BE

NEW QUESTION 110
What is an important requirement with MPLS applications like Layer 3 MPLS VPNs?

A. All the PE routers loopback addresses should be summarized to reduce the number of routing table entries in the core routers.
B. Targeted hellos are required between all the PE routers.
C. An end-to-end LSP is required between the PE routers.
D. The LSPs that are built between the PE routers must be symmetrical (bidirectional).

Answer: C

NEW QUESTION 111
Which option shows how a network engineer implements QPPB marking of incoming traffic on a router that is connected to a VoIP SP (AS62000, BGP community 60000:1) and to a data services service provider (AS61000, BGP community 61000:1) on Cisco IOS XE?
A)

```
ip bgp-community new-format
 ip community-list 1 permit 60000:1
 ip as-path access-list 1 permit ^(61000_)+$
route-map mark-voip-data 10
  match community 1
  set ip precedence 5
route-map mark-voip-data 20
  match as-path 1
  set ip precedence 0
router bgp 300
  table-map mark-voip-data
interface GigabitEthernet 0/1
  description Link-to-VOIP-SP
  bgp-policy source ip-prec-map
interface GigabitEthernet 0/2
  description Link-to-Data-SP
  bgp-policy source ip-prec-map
```

B)

```
ip cef
 ip bgp-community new-format
 ip community-list 1 permit 60000:1
 ip as-path access-list 1 permit ^(61000_)+$
route-map mark-voip-data 10
  match community 1
  set ip precedence 5
route-map mark-voip-data 20
  match as-path 1
  set ip precedence 0
router bgp 300
  table-map mark-voip-data
interface GigabitEthernet 0/1
  description Link-to-VOIP-SP
  bgp-policy source ip-prec-map
interface GigabitEthernet 0/2
  description Link-to-Data-SP
  bgp-policy source ip-prec-map
```

C)

```
ip cef
 ip bgp-community new-format
 ip community-list 1 permit 60000:1
 ip as-path access-list 1 permit ^(61000_)+$
route-map mark-voip-data 10
  match community 1
  set ip precedence 5
route-map mark-voip-data 20
  match as-path 1
  set ip precedence 0
router bgp 300
  table-map mark-voip-data
interface GigabitEthernet 0/1
  description Link-to-VOIP-SP
  bgp-policy source ip-prec-map
interface GigabitEthernet 0/2
  description Link-to-Data-SP
  bgp-policy destination ip-prec-map
```

D)

```
ip cef
ip community-list 1 permit 61000:1
 ip as-path access-list 1 permit ^(60000_)+$
route-map mark-voip-data 10
  match community 1
  set ip precedence 5
route-map mark-voip-data 20
  match as-path 1
  set ip precedence 0
router bgp 300
  table-map mark-voip-data
interface GigabitEthernet 0/1
  description Link-to-VOIP-SP
  bgp-policy source ip-prec-map
interface GigabitEthernet 0/2
  description Link-to-Data-SP
  bgp-policy source ip-prec-map
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer: C

NEW QUESTION 116
A service provider experiences routing issues in a customer MPLS network. The customer has two sites that are connected over its core. Which feature can be used for troubleshooting?

A. disabling of Cisco Express Forwarding, to enable the use of LSP Ping and LSP Traceroute to verify the IP routing path
B. redistribution between the BGP IPv4 and VPNv4 address families, to use labels to forward the customer packets
C. LSP Ping, to confirm that the label-switched path is used for transport
D. traceroute, to verify the label-switched path that is used for point-to-multipoint

Answer: C

NEW QUESTION 119
Which four options describe the functions of the control world in an AToM environment? (Choose four.)

A. It carries generic and Layer 2 payload-specific information.
B. It prevents fragmentation and reassembly.
C. It preserves the sequence of the transported frames.
D. It is responsible for padding all packets.
E. It is responsible for padding the small packets.
F. It enables proper load balancing without packet desequencing independent of L2VPN packet content.
G. It enables an optimal path for the L2VPN packet content to follow through the MPLS backbone.
H. It carries Layer 2 payload-specific information.

Answer: ACEF

NEW QUESTION 120
Which affinity and mask value will match the link affinity that has 0x0F in the first 8 bits and 0x01 in the last 8 bits, and the middle 16 bits can be any value?

A. affinity 0x0F000001 mask 0x0F000001
B. affinity 0x0F000001 mask 0x00000000
C. affinity 0x0F000001 mask 0x11111111
D. affinity 0x0F000001 mask 0x11000011
E. affinity 0x0F000001 mask 0xFF0000FF
F. affinity 0x0F000001 mask 0x00FFFF00

Answer: E

NEW QUESTION 122
Which two interface types can support qos pre-classify (Choose two.)

A. virtual templates
B. tunnel interfaces
C. FastEthernet
D. FDDI

Answer: BC

NEW QUESTION 123
A network operations center requests support to configure a Cisco MPLS TE tunnel on a Cisco IOS XR router. Which command sets a specific bandwidth required to the corresponding Cisco MPLS TE tunnel?

A. rsvpinterface interface-path-id bandwidth bandwidth
B. interface tunnel-te tunnel_id!bandwidth bandwidth
C. interface tunnel-te tunnel_id!signaled-bandwidth bandwidth
D. mpls traffic-engauto-bw collect frequency value!

Answer: C

NEW QUESTION 126
Which item is not available to be used for QoS classification in Cisco IOS XR?

A. MAC SA
B. protocol
C. inner EXP
D. discard-class
E. QoS-group
F. VLAN

Answer: C

NEW QUESTION 128
Scenario:

Instructions

Enter the proper CLI commands and analysis the outputs on the Cisco routers to answer the multiple-choice questions.

From the network topology diagram, click on the router icon to gain access to the console of the router.

No console or enable passwords are required.

There are **four** multiple-choice questions with this task. Be sure to answer all **four** questions before selecting the Next button.

Not all the CLI commands or commands options are supported or required for this simulation.

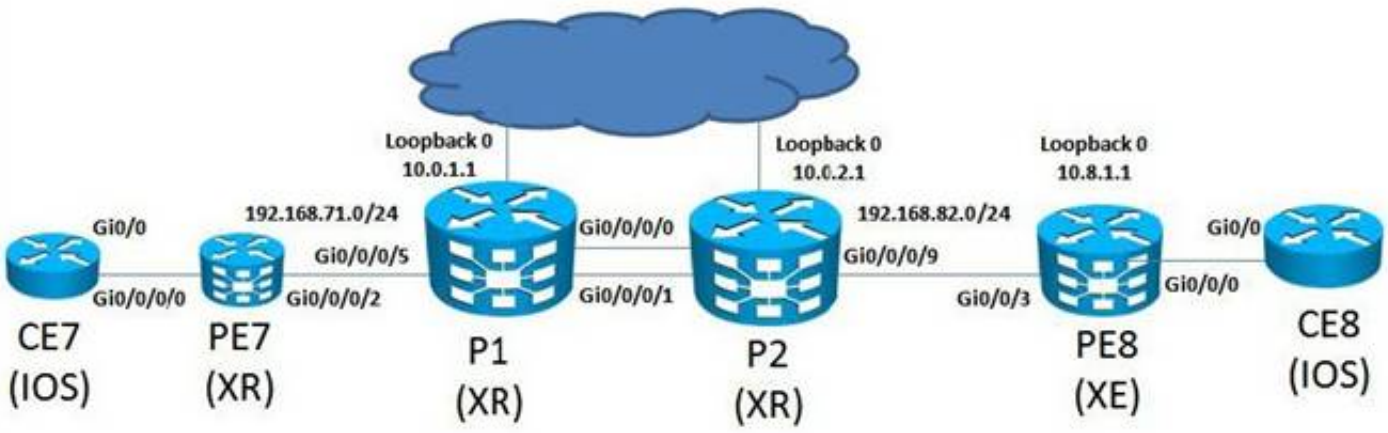
For example, the show running-config command is NOT supported in this simulation.

All the devices in this simulation have been pre-configured and you are not required to enter in any configurations.

Scenario

Referring to the network topology diagram shown in the exhibit, use the proper CLI commands on the PE8 and P2 routers and interpret the supported CLI commands outputs to answer the four multiple choice questions.

Topology



In this simulation, you will only have access to the PE8 and P2 consoles
Click on the PE8 and P2 router icon to access the respective console
PE8 is an ASR1K and P2 is an ASR9K

PE8

PE8#

From the PE8 router, how many total prefixes for have an incoming local label assigned (including the imp-null)?

A. 45
B. 21
C. 66
D. 22

Answer: B

Explanation: On PE8 issue: show mpls ip binding summary and look at "assigned in labels". That value is the correct answer NOT "learned out label".

```
Router# show mpls forwarding-table

Local  Outgoing      Prefix            Bytes label Outgoing      Next Hop
Label  Label or VC   or Tunnel Id      switched  interface
26     No Label      10.253.0.0/16     0         Et4/0/0       10.27.32.4
28     1/33          10.15.0.0/16      0         AT0/0.1       point2point
29     Pop Label     10.91.0.0/16      0         Hs5/0         point2point
       1/36          10.91.0.0/16      0         AT0/0.1       point2point
30     32            10.250.0.97/32    0         Et4/0/2       10.92.0.7
       32            10.250.0.97/32    0         Hs5/0         point2point
34     26            10.77.0.0/24      0         Et4/0/2       10.92.0.7
       26            10.77.0.0/24      0         Hs5/0         point2point
35     No Label[T]   10.100.100.101/32 0         Tu301         point2point
36     Pop Label     10.1.0.0/16       0         Hs5/0         point2point
       1/37          10.1.0.0/16       0         AT0/0.1       point2point
--------------------------------------------------------------------------------
Router# show mpls ldp bindings

  10.0.0.0/8, rev 9
        local binding:  label: imp-null
        remote binding: lsr: 10.10.0.55:0, label: 17
        remote binding: lsr: 10.66.0.66:0, label: 18
        remote binding: lsr: 10.0.0.44:0, label: imp-null
  172.16.0.0/8, rev 17
        local binding:  label: 19
        remote binding: lsr: 10.0.0.55:0, label: imp-null
        remote binding: lsr: 10.66.0.66:0, label: 16
        remote binding: lsr: 10.0.0.44:0, label: imp-null
  192.168.0.66/32, rev 19
        local binding:  label: 20
        remote binding: lsr: 10.0.0.55:0, label: 19
        remote binding: lsr: 10.66.0.66:0, label: imp-null
        remote binding: lsr: 10.0.0.44:0, label: 18
.
.
.
--------------------------------------------------------------------------------
Router# show mpls ip binding summary

Total number of prefixes: 53
Generic label bindings
                    assigned        learned
      prefixes      in labels     out labels
            53             53             51
ATM label bindings summary
     interface   total  active   local  remote   Bwait   Rwait  IFwait
      ATM1/0.8      47      47      40       7       0       0       0
Router#
```

NEW QUESTION 129
Which queuing mechanism should an engineer implement on delay sensitive categories of traffic?

A. weighted fair
B. priority
C. low-latency
D. weighted round-robin

Answer: C

NEW QUESTION 133
Which two options are able to perform the MPLS label distribution function? (Choose two.)

A. manual tagging
B. static
C. LDP
D. RSVP-TE
E. CEF

Answer: CD

NEW QUESTION 137
Which configuration fulfills the requirement of configuring LDP with Cisco Nonstop Forwarding on a router with 5 minutes time to hold the forwarding table information and 1 minute retry timer value for an LDP connection?

A. mpls ldp graceful-restartgraceful-restart forwarding state-holdtime 5 graceful-restart reconnect-timeout 1 interface GigabitEthernet0/0/0/0!
B. mpls ldp graceful-restartgraceful-restart forwarding state-holdtime 300 graceful-restart reconnect-timeout 60 interface GigabitEthernet0/0/0/0!
C. mpls ldp nsrgraceful-restartgraceful-restart forwarding state-holdtime 300 graceful-restart reconnect-timeout 60 interface GigabitEthernet0/0/0/0!
D. mpls ldp nsrgraceful-restartgraceful-restart forwarding state-holdtime 5 graceful-restart reconnect-timeout 1 interface GigabitEthernet0/0/0/0!

Answer: B

NEW QUESTION 139
Which class-map configuration selects the following traffic?
All incoming traffic from interface GigabitEthernet 0/1 that is marked with dscp ef
A)
```
class-map TEST
     match dscp ef
     match input-interface GigabitEthernet 0/1
```
B)
```
class-map TEST1
     match dscp ef
class-map TEST2
     match input-interface GigabitEthernet 0/1
class-map match-all PARENT
     match class-map TEST1 TEST2
```
C)
```
class-map match-any TEST
     match dscp ef
     match input-interface GigabitEthernet 0/1
```
D)
```
class-map match-any TEST
    match dscp ef match input-interface GigabitEthernet 0/1
```

A. Option A
B. Option B
C. Option C
D. Option D

Answer: A

NEW QUESTION 142
On the Cisco ASR9K router, when using the bandwidth command to specify the minimum guaranteed bandwidth to be allocated for a specific class of traffic, what will be used as the queuing algorithm?

A. custom queuing
B. CBWFQ
C. WFQ
D. FIFO
E. priority queuing

Answer: B

Explanation: Class based weighted fair queuing (CB-WFQ) was initially released without the support of a priority queuing system, thus it could not guarantee the delay and jitter (delay variation) requirements of real-time, interactive voice and video conversations. Since for CBWFQ, the weight for a packet belonging to a specific class is derived from the bandwidth assigned to the class, which in turn determines the order in which packets are sent.
All packets are serviced fairly based on weight and no class of packets may be granted strict priority. This scheme poses problems for voice traffic that is largely intolerant of delay, especially variation in delay

NEW QUESTION 144
Which are typical class-based marking policies that are implemented on service provider IP NGN PE routers?

A. On the PE ingress, classify the customer traffic and then mark with qos-grou
B. On the PE egress, classify based on the qos-group and then mark with mpls exp.
C. On the PE ingress, classify the customer traffic and then mark with mpls ex
D. On the PE egress, classify based on the mpls exp and then mark with qos-group.
E. On the PE ingress, trust the customer QoS marking
F. On the PE egress, classify based on the customer QoS markings and then mark with qos-group.
G. On the PE ingress, trust the customer QoS marking
H. On the PE egress, classify based on the customer QoS markings and then mark with mpls exp.

Answer: A

NEW QUESTION 146
The regional operation center deploys a Cisco MPLS TE tunnel over the company's core network. The Cisco MPLS TE tunnel is up and no error is detected, but no traffic is traversing the tunnel. Which two issues are possible causes? (Choose two.)

A. The provider edge router is not performing the correct redistribution.
B. The interior gateway protocol has no knowledge of the Cisco MPLS TE tunnel.
C. No static route has been defined to route data traffic over the Cisco MPLS TE tunnel.
D. The customer edge router is injecting rogue IPv4 prefixes in the provider edge routing table.
E. The end-to-end label switched path has not been established.

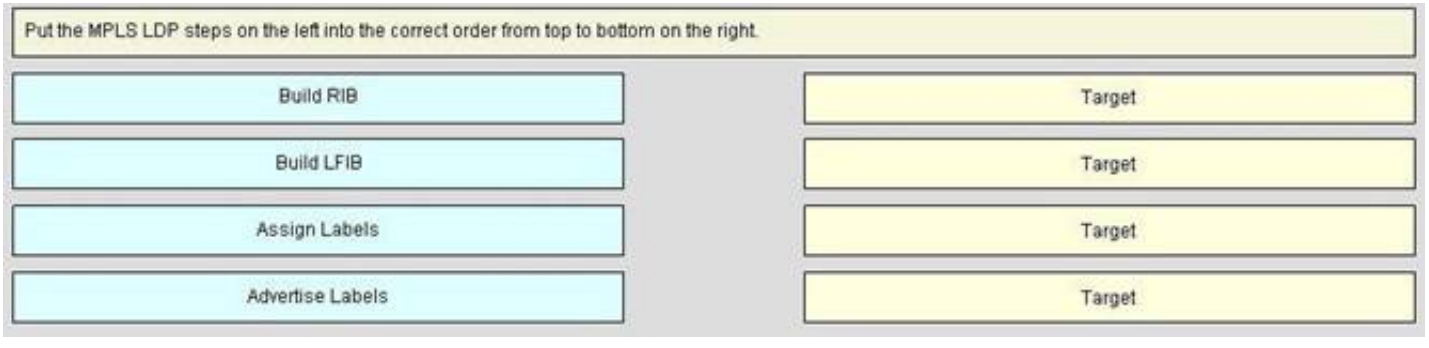
Answer: BC

NEW QUESTION 149
A company is experiencing congestion on Internet T1 links that transport site-to-site IPsec tunnels between head offices. QoS configuration is being modified on these T1 links. Which option describes the result from this QoS configuration?

A. VPN traffic is unaffected because the inner ToS field is encrypted and hidden from the policy
B. The physical interface is affected by the new QoS configuration
C. The internal VPN logical interface reflects the new QoS service policy
D. IPsec protocol applications work independently of the QoS configuration

Answer: A

NEW QUESTION 151
DRAG DROP



Answer:

Explanation: 1) Build RIB
2) Assign labels
3) Advertise Labels 4)Build LFIB
1) Build RIB
2) Assign labels
3) Advertise Labels
4) Build LFIB

NEW QUESTION 156
You are configuring MPLS LDP in a new network segment and notice that LDP sessions are discovered but no sessions are established. Which issue is preventing the establishment of the LDP neighbors?

A. The loopback addresses of the label switch routers are unavailable
B. MPLS labels are not allocated for local routers
C. IP Cisco Express Forwarding is disabled on the label switch routers
D. An access link is blocking TCP port 711 on the MPLS routers

Answer: A

NEW QUESTION 159
Referring to the traceroute output exhibit that is shown,

```
pe1#traceroute 14.14.14.14

Type escape sequence to abort.
Tracing the route to 14.14.14.14

  1 37.37.37.1 [MPLS: Label 66 Exp 0] 40 msec 24 msec 28 msec
  2 78.78.78.2 [MPLS: Label 99 Exp 0] 28 msec 32 msec 28 msec
  3 181.181.181.1 [MPLS: Label 99 Exp 0] 36 msec 24 msec 24 msec
  4 110.110.110.1 28 msec 28 msec 28 msec
  5 103.103.103.2 [MPLS: Label 66 Exp 0] 28 msec 28 msec 24 msec
  6 135.135.135.2 28 msec 28 msec *
```

which statement is correct?

A. There is no problem with the end-to-end LSP as indicated by the successful trace.
B. Normal PHP operation is performed by the hop 4 router.
C. The end-to-end LSP is broken at hop 4.
D. At each hop, each LSR is able to perform label swapping.

Answer: C

NEW QUESTION 162
You are tasked to enable LDP on many of the interfaces on the Cisco CRS-3 router, and because there are many interfaces that need to have LDP enabled, you mistakenly did not enable LDP on all the required interfaces. To prevent this issue from happening again in the future, what could you do the next time you need to enable LDP on many interfaces?

A. use the mpls ldp auto-config command under the IGP routing process
B. use the mpls ldp sync command under the IGP routing process
C. use the interface all command under the MPLS LDP process
D. use the discovery command under the MPLS LDP process

Answer: A

NEW QUESTION 163
At which layer does Cisco recommend the QoS trust boundary be set for an enterprise network environment?

A. core layer, facing the distribution layer
B. distribution layer, facing the access layer
C. access layer, facing the end hosts
D. distribution layer, facing the core layer

Answer: C

NEW QUESTION 166
Refer to the exhibit.

```
policy-map wred
  class wred
    bandwidth 10000
    random-detect precedence 0 30 40
```

This WRED policy configuration is implemented on an IOS XR router. What is the measurement of the numbers in the random-detect precedence command?

A. bytes
B. number of packets
C. kilobytes
D. milliseconds

Answer: B

NEW QUESTION 171
Cisco MPLS TE path setup can be affected by which three tunnel attributes? (Choose three.)

A. bandwidth
B. delay
C. MTU
D. priority
E. affinity

Answer: ADE

NEW QUESTION 173
What are the four fields inside the MPLS shim header? (Choose four.)

A. EXP
B. TTL
C. Version
D. S
E. Length
F. Label
G. Type
H. FCS

Answer: ABDF

NEW QUESTION 177
An engineer is allocating a determined amount of bandwidth to a customer Cisco MPLS TE tunnel to guarantee its availability on a 24/7 SLA type. Which option must be configured to make sure the customer is able to use the bandwidth agreed on the SLA?

A. RSVP that guarantees bandwidth availability end-to-end
B. Cisco MPLS TE tunnel to signal the bandwidth required
C. a QoS policy to reinforce the RSVP bandwidth reservation
D. overprovisioning to guarantee bandwidth

Answer: C

NEW QUESTION 182
On Cisco routers, how is hierarchical QoS implemented?

A. Within the parent policy, reference another child policy using the policy-map command.
B. Within the child policy, reference another parent policy using the policy-map command.
C. Use the policy-map command within a service-policy to implement nested policy-maps.
D. Within the parent policy-map, reference another child policy-map using the service- policy command.

Answer: D

NEW QUESTION 186
Which two of the following statements are correct regarding LSPs? (Choose two.)

A. An LSP is created for every routing protocol entry.
B. Each LSP is bidirectional, that is, packets traveling in the opposite direction use the same LSP.
C. An IGP is used to populate routing tables in all routers in an MPLS domain.
D. LDP is used to propagate labels and build LSPs.
E. The FIB is used to forward MPLS-labeled packets down an LSP.

Answer: CD

NEW QUESTION 189
Which two network devices are trusted endpoints in a network? (Choose two.)

A. video endpoint
B. PC
C. wireless clients
D. IP phone

Answer: AD

NEW QUESTION 194
An engineer is tasked to deploy Fast Reroute for Cisco MPLS TE. Which LSR is in charge to request the Fast Reroute capability along the LSP?

A. point of local repair
B. tail end router
C. ingress and egress PE routers
D. head-end router
E. BGP routers acting as route reflectors

Answer: D

NEW QUESTION 197
On a Cisco router, when will the router actually reserve the bandwidth for the MPLS traffic engineering tunnel?

A. during the autoroute process
B. during constraint-based routing calculations
C. on the receipt of the RSVP Path message
D. on the receipt of the RSVP Resv message

Answer: D

NEW QUESTION 198
.....

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