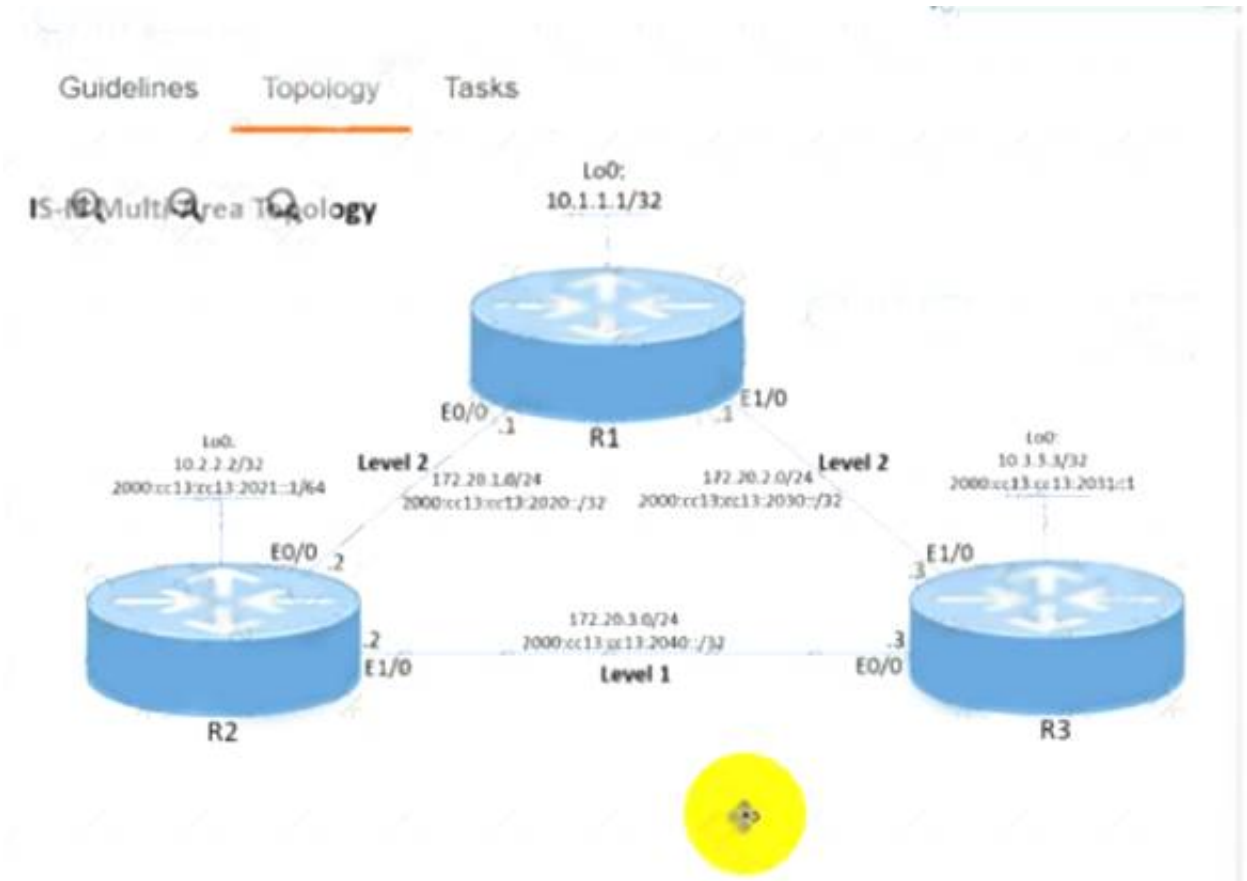
Cisco

Exam Questions 350-501

Implementing and Operating Cisco Service Provider Network Core Technologies

NEW QUESTION 1
Simulation 7



Guidelines Topology Tasks

Configure the IS-IS routing protocol for R1, R2, and R3 according to the topology to achieve these goals:

1. Configure HMAC-MD5 authentication for R1, R2, and R3 links that form the IS-IS adjacency using the ISIS commands on the interfaces using these parameters:

- key-chain name: AUTH_ISIS
- key ID: 2
- password: C1sc0!

2. Configure ISIS metric on R1, R2, and R3 to:

- 15 for each level on all interfaces that form adjacency on router R1
- 20 for each level on all interfaces that form adjacency on router R2
- 25 for each level on all interface that form adjacency on R3

Solution:
R1
key chain AUTH_ISIS key 2
key-string C1sco! exit
int range et0/0 , et1/0
isis authen key-chain AUTH_ISIS ip isis
isis metric 15 Copy run start R2
key chain AUTH_ISIS key 2
key-string C1sco! exit
int range et0/0 , et1/0
isis authen key-chain AUTH_ISIS ip isis
isis metric 20 Copy run start R3

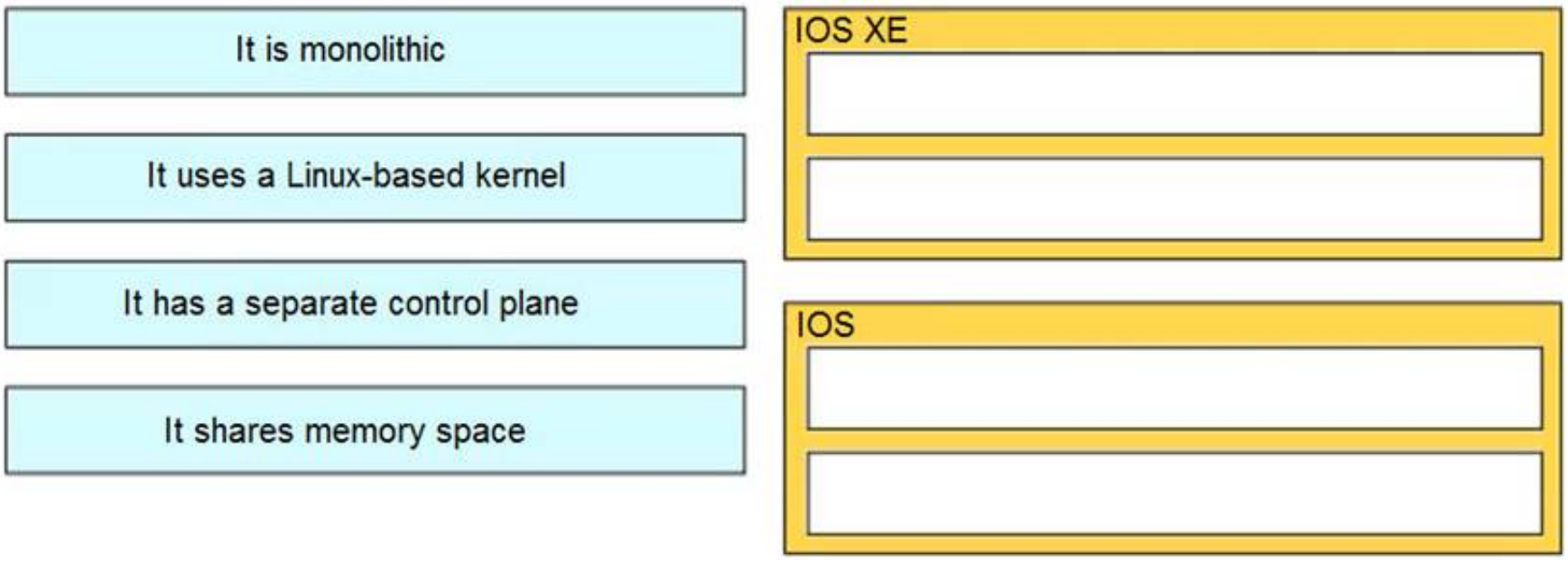
key chain AUTH_ISIS key 2
key-string C1sco! exit
int range et0/0 , et1/0
isis authen key-chain AUTH_ISIS ip isis
isis metric 25 Copy run start

Does this meet the goal?

A. Yes
B. No

Answer: A

NEW QUESTION 2
Drag and drop the descriptions from the left onto the corresponding OS types on the right.



Solution:
IOS XE:
It uses linux-based kernel
It has a separate control plane IOS:
It is monolithic
It shares memory space

Does this meet the goal?

A. Yes
B. No

Answer: A

NEW QUESTION 3
Refer to the exhibit.

```
mpls traffic-eng tunnels

segment-routing mpls
connected-prefix-sid-map
 address-family ipv4
  192.168.1.1/32 index 10 range 1
  exit-address-family

set-attributes
  address-family ipv4
  sr-label-preferred
  exit-address-family

interface Loopback1
 ip address 192.168.1.1 255 255.255.255
 ip router isis 1

int gig0/0
 ip address 192.168.1.2 255.255.255.0
  ip router isis 1
  mpls traffic-eng tunnels
  isis network point-to-point

router isis 1
  net 50.0000.0000.0000.0001.00
  metric-style wide
  is-type level-1
  segment-routing mpls
  segment-routing prefix-sid-map advertise-local
  mpls traffic-eng router-id Loopback1
  mpls traffic-eng level-1
```

What type of configuration is it?

A. It is configuration that requires an explicit Cisco MPLS TE path to be configured for the tunnel to run.
B. It is configuration that requires OSPF to also be running to have optimized Cisco MPLS TE tunnels.
C. It is configuration for the head-end router of a Cisco MPLS TE tunnel with segment routing.
D. It is configuration that requires a dynamic Cisco MPLS TE path to be configured for the tunnel to run.

Answer: C

NEW QUESTION 4
A network engineer has configured TE tunnels in the MPLS provider core. Which two steps ensure traffic traverse? (Choose two.)

A. Static routes is the only option for directing traffic into a tunnel.
B. ECMP between tunnels allows RSVP to function correctly.
C. Forwarding adjacency features allows a tunnel to be Installed in the IGP table as a link.
D. The IGP metric of a tunnel is configured to prefer a certain path
E. A tunnel weight is configured in SPF database the same way as a native link.

Answer: CD

NEW QUESTION 5
Refer to the exhibit.

```
router bgp 65515
  aggregate-address 192.168.0.0 255.255.0.0 summary-only as-set
```

An engineer configured BGP summarization on a customer's network. Which route is advertised to BGP peers?

A. A.-192.0.0.0/16B.192168.0.0/16C.192.168.1.0/24D.192168.0.5/30

Answer: B

NEW QUESTION 6
Refer to the exhibit:

```
R1:
!
interface FastEthernet0/0
   ip address 10.1.12.1 255.255.255.0
   duplex full
!
router ospf 1
   network 0.0.0.0 255.255.255.255 area 0
R2:
!
interface FastEthernet0/0
   ip address 10.1.12.2 255.255.255.252
   duplex full
!
router ospf 1
   network 0.0.0.0 255.255.255.255 area 0
```

R1 and R2 are directly connected with Fast Ethernet interfaces and have the above configuration applied OSPF adjacency is not formed. When the debug ip ospf hello command is issued on R1. these log messages are seen.

```
*Mar 6 21:57:33.051: OSPF-1 HELLO Fa0/0: Mismatched hello parameters from 10.1.12.2
*Mar 6 21:57:33.051: OSPF-1 HELLO Fa0/0: Dead R 40 C 40, Hello R 10 C 10 Mask R
255.255.255.252 C 255.255.255.0
```

Which command can be configured on routers R1 and R2 on fO/O interfaces to form OSPF adjacency?

A. ip ospf network non-broadcast
B. ip ospf network point-to- multipoint non-broadcast
C. ip ospf network point-to-point
D. ip ospf network broadcast

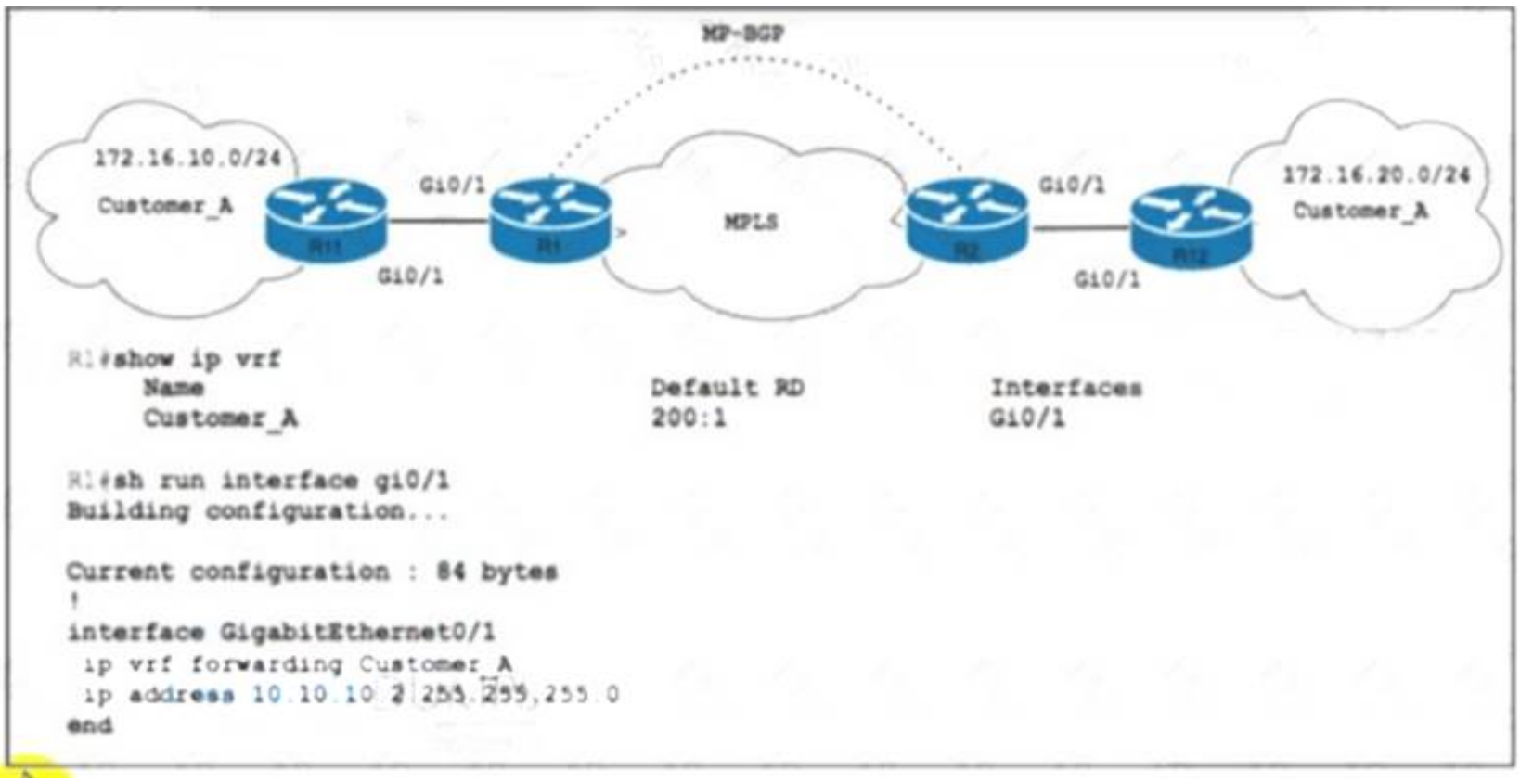
Answer: C

NEW QUESTION 7
Which statement about segment routing prefix segments is true?

A. It is linked to a prefix SID that is globally unique within segment routing domain.
B. It is the longest path to a node.
C. It is linked to an adjacency SID that is globally unique within the router.
D. It requires using EIGRP to operate.

Answer: A

NEW QUESTION 8
Refer to the exhibit.



Customer_A asked ISP_A to connect two offices via an MPLS L3 VPN. Customer_A is currently using only the default route toward ISP_A. The engineer at ISP_A already configured the ip route vrf Customer_A 172.16.10.0 255.255.255.0 10.10.10.1 command on R1. Which action completes the configuration?

A. Configure the network 172.16.10.0 and redistribute-internal static commands under the BGP address family for Customer_A in the global BGP configuration on R1.
B. Enable the bgp default route-target filter and default-Information originate commands under the global BGP configuration on R2.
C. Configure the route-target both 200:1 and route-replicate vrf Customer_A commands under the lp vrf configuration on R2.
D. Configure the redistribute static and redistribute connected commands on R1.

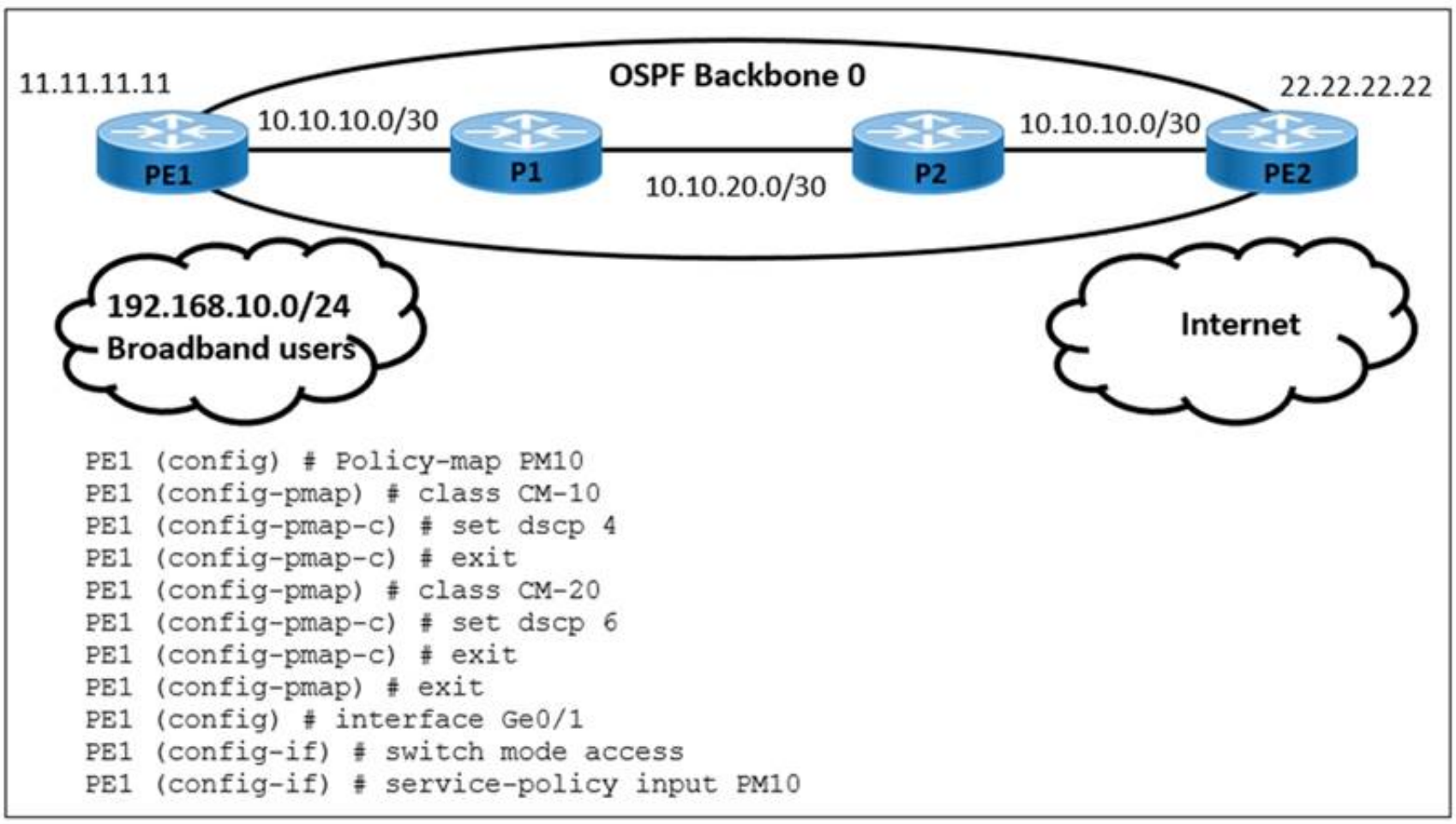
Answer: D

NEW QUESTION 9
What is an enhancement that Cisco IOS XE Software has over Cisco IOS Software?

A. It support symmetric multiprocessing
B. It allows all processes to use the same pool of memory.
C. It runs on a 32-bit operating system.
D. It is built on a GNX Neutrino Microkernel.

Answer: A

NEW QUESTION 10
Refer to the exhibit



A user is performing QoS marking on internet traffic and sending it with IPv4 and IPv6 headers on the provider edge device PE1. IPv4 traffic is classified with DSCP 4 and IPv6 traffic is classified with DSCP 6. Which action must the engineer take to begin implementing a QoS configuration on PE1 for the IPv6 traffic?

A. Create an access list that includes any IPv6 traffic and apply it to CM-20.
B. Create access list IPv6-match and configure match ip dscp 4 and match ip dscp 6 in class maps CM-10 and CM-20.
C. Configure match ip dscp 4 in class map CM-10 and match ip dscp 6 in class map CM-20.

D. Create access list IPv6-filter and remove DSCP value 4 and 6 in class maps CM-10 and CM-20.

Answer: A

NEW QUESTION 11
Which is the benefit of implementing model-driven telemetry in a service provider environment?

A. It reduces the number of network monitoring tools that are necessary to verify device statistics.
B. It increases the efficiency of SNMP by pulling system data to requesting servers.
C. It reduces or eliminates the need to monitor Layer 2 traffic between switches.
D. It uses reliable transport to push Information to network monitoring tools

Answer: D

NEW QUESTION 12
What are two features of 6RD IPv6 transition mechanism? (Choose two.)

A. It inserts IPv4 bits into an IPv6 delegated prefix.
B. It uses a native IPv6-routed network between CE routers and the BR router.
C. It allows dynamic 1:N translation of IPv6 address.
D. It uses stateful automatic 6to4 tunnels between CE routers and the BR router.
E. It uses stateless automatic 6to4 tunnels between CE routers and the BR router.

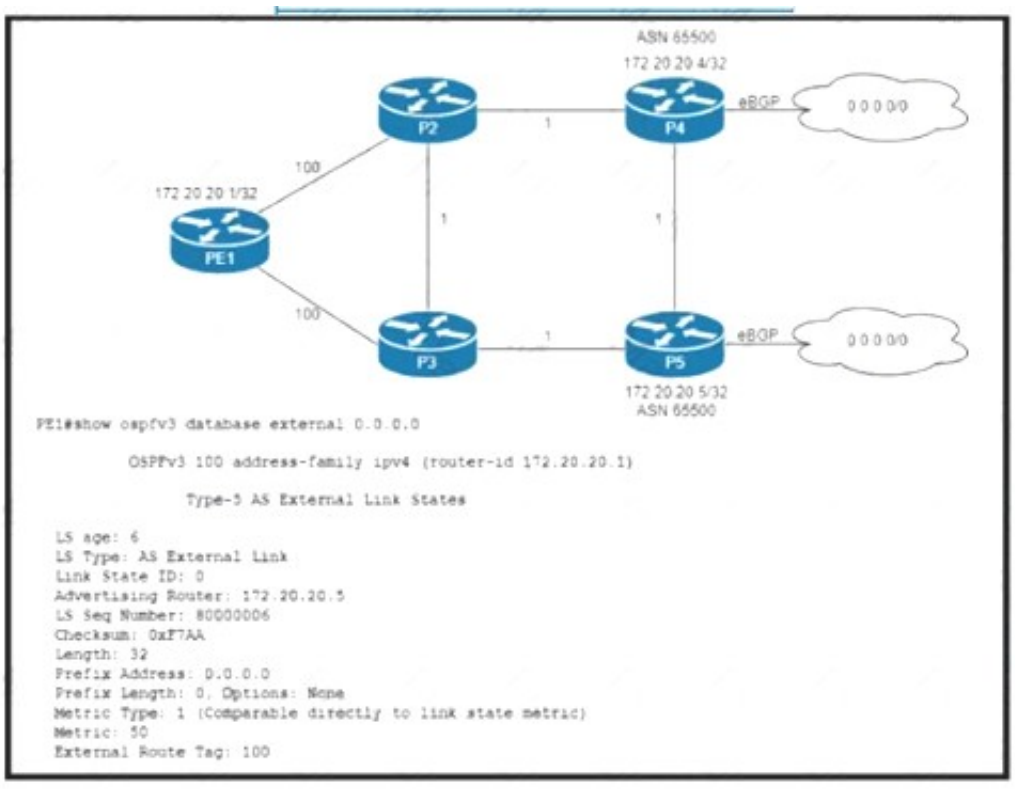
Answer: AE

NEW QUESTION 13
A network administrator must monitor network usage to provide optimal performance to the network end users when the network is under heavy load. The administrator asked the engineer to install a new server to receive SNMP traps at destination 192.168.1.2. Which configuration must the engineer apply so that all traps are sent to the new server?

A. snmp-server enable traps entity snmp-server host 192.168.1.2 public
B. snmp-server enable traps bgpsnmp-server host 192.168.1.2 public
C. snmp-server enable traps isdnsnmp-server host 192.168.1.2 public
D. snmp-server enable trapssnmp-server host 192.168.1.2 public

Answer: D

NEW QUESTION 14
Refer to the exhibit.



Router P4 and P5 receive the 0.0.0.0/0 route from the ISP via eBGP peering P4 is the primary Internet gateway router, and P5 is its Backup. P5 is already advertising a default route into OSPF domain. Which configuration must Be applied to P4 so that advertises a default route Into OSPF and Becomes me primary internet gateway for the network?

```
configure terminal
router ospfv3 100
address-family ipv4 unicast
default-information originate always metric 40 metric-type 1
end

configure terminal
router ospfv3 100
address-family ipv4 unicast
default-information originate metric 40 metric-type 2
end

configure terminal
router ospfv3 100
address-family ipv4 unicast
default-information originate metric 40 metric-type 1
end

configure terminal
router ospfv3 100
address-family ipv4 unicast
redistribute bgp 65500 metric 40 metric-type 1
end
```

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

Answer: C

NEW QUESTION 15
Refer to the exhibit:

```
class-map match-any class1
match-protocol ipv4
match qos-group 4
```

A network engineer is implementing QoS services. Which two statements about the QoS-group keyword on Cisco IOS XR 3re true? (Choose two)

A. The QoS group numbering corresponds to priority level
B. QoS group marking occurs on the ingress
C. It marks packets for end to end QoS pokey enforcement across the network
D. QoS group can be used in fabric QoS policy as a match criteria
E. It cannot be used with priority traffic class

Answer: BD

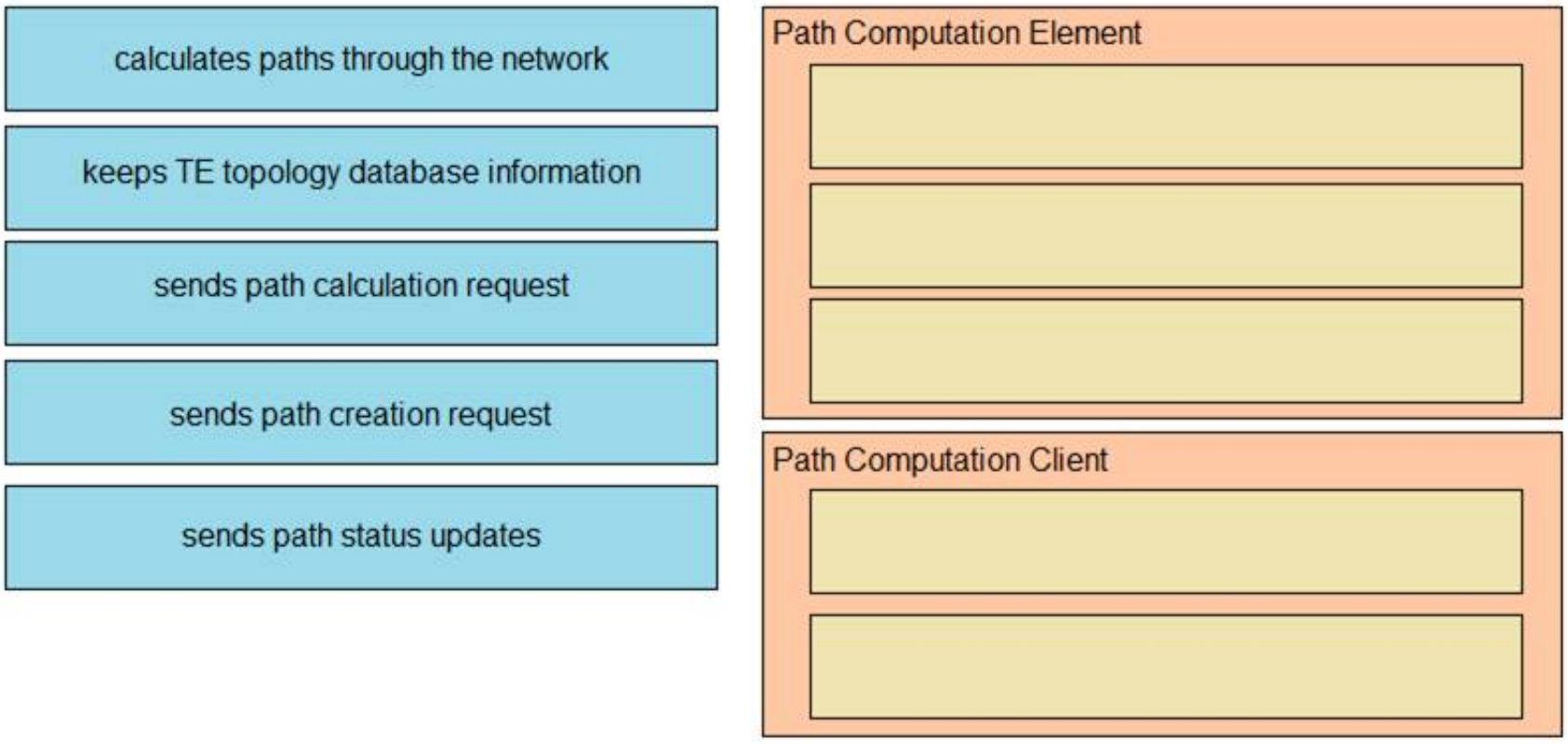
Explanation:
https://www.cisco.com/c/en/us/td/docs/routers/ncs6000/software/ncs6k_r6-1/qos/configuration/guide/b-qos-cg-n Fabric QoS policy class maps are restricted to matching a subset of these classification options:
precedence dscp
qos-group discard-class
mpls experimental topmost

NEW QUESTION 16
What are two features of stateful NAT64? (Choose two.)

A. It uses address overloading.
B. It provides 1:N translations, so it supports an unlimited number of endpoints.
C. It requires IPv4-translatable IPv6 address assignments.
D. It requires the IPv6 hosts to use either DHCPv6-based address assignments or manual address assignments.
E. It provides 1:1 translation, so it supports a limited number of endpoints.

Answer: AB

NEW QUESTION 17
Drag and drop the functions from the left onto the correct Path Computation Element Protocol roles on the right



Solution:
Path Computation Element (Calculates paths through the network, keeps TE topology database information, sends path status updates)
Path computation Client (sends path calculation request, sends path creation request)
Path Computation Element (PCE)
Represents a software module (which can be a component or application) that enables the router to compute paths applying a set of constraints between any pair of nodes within the router's TE topology database. PCEs are discovered through IGP.
Path Computation Client (PCC)
Represents a software module running on a router that is capable of sending and receiving path computation requests and responses to and from PCEs. The PCC is typically an LSR (Label Switching Router).
https://www.cisco.com/c/en/us/td/docs/routers/crs/software/crs_r5-3/mpls/configuration/guide/b-mpls-cg53x-crs

Does this meet the goal?

A. Yes
B. No

Answer: A

NEW QUESTION 18
Refer to the exhibit:

```
R1

ip cef distributed
mpls ldp graceful-restart
interface GigabitEthernet 0/0/1
  mpls ip
  mpls label protocol ldp
```

Which effect of this configuration is true?

A. R1 can support a peer that is configured for LDP SSO/NSF as the peer recovers from an outage
B. R1 can failover only to a peer that is configured for LDP SSO/NSF
C. R1 can failover to any peer
D. R1 can support a graceful restart operation on the peer, even if graceful restart is disabled on the peer

Answer: B

NEW QUESTION 19
Refer to the exhibit.

```
Router 1:

Interface gigabitethernet0/1
 ip address 192.168.1.1 255.255.255.0
 ip ospf hello-interval 1

router ospf 1
 network 192.168.1.0 0.0.0.255 area 1
```

```
Router 2:

Interface gigabitethernet0/1
 ip address 192.168.1.2 255.255.255.0
 ip ospf hello-interval 2

router ospf 2
 network 192.168.1.2 0.0.0.0 area 1
```

What reestablishes the OSPF neighbor relationship between Router 1 and Router 2?

A. authentication is added to the configuration
B. correct wildcard mask is used on Router 2
C. OSPF process IDs match
D. hello intervals match

Answer: D

NEW QUESTION 20
Which two actions describe ISP delegation to PCE servers? (Choose two)

A. adding a new PCE server with lower precedence than the primary PCE
B. changing the precedence of any of the PCE servers
C. removing TE re-optimization timer timeouts
D. entering the mpls traffic-eng reoptimize command
E. adding a new PCE server with higher precedence than the primary PCE

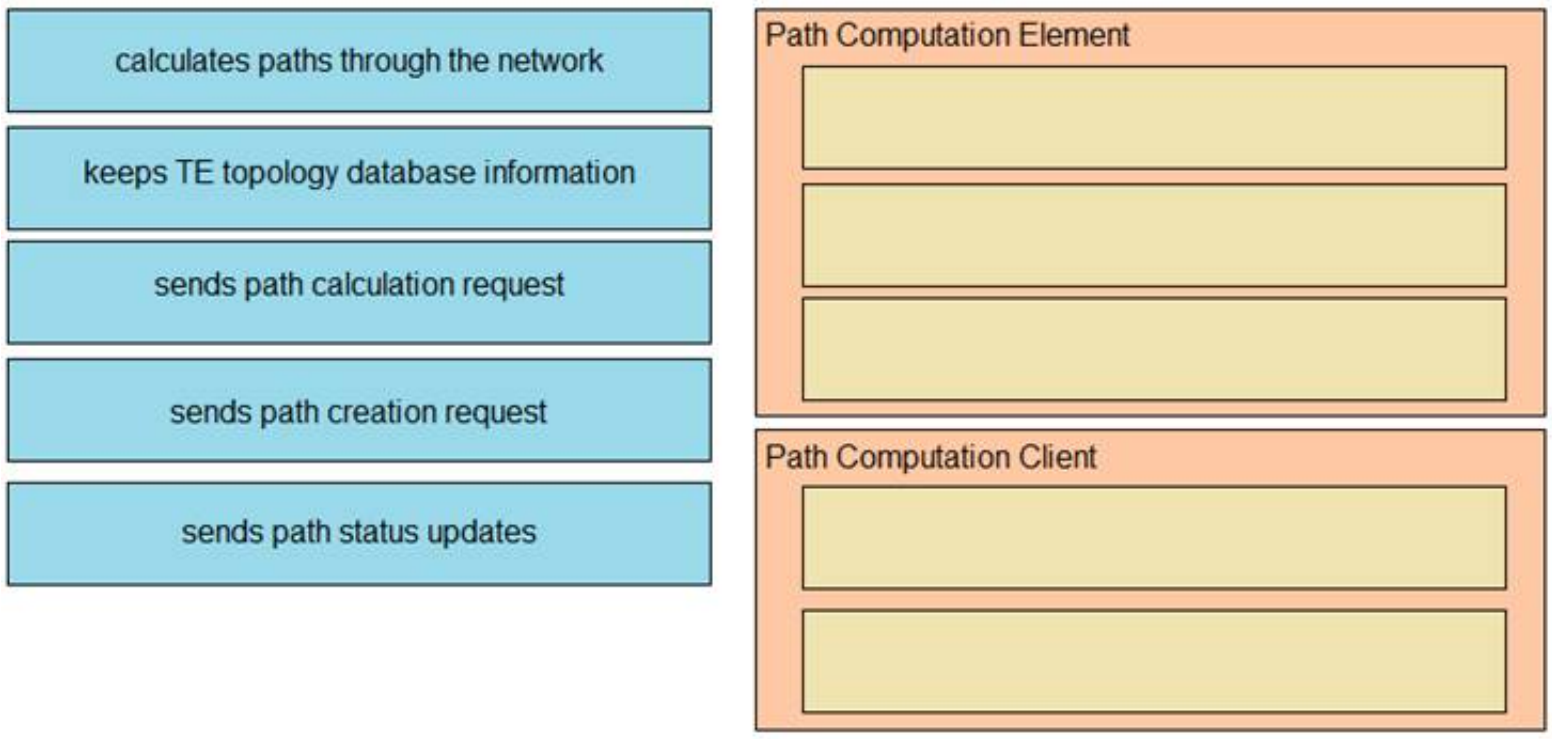
Answer: AC

NEW QUESTION 21
What Is one of the differences between Ansible and Chef?

A. Ansible uses YAML and Chef uses Ruby.
B. Chef requires the use of Windows in the environment and Ansible requires Linux.
C. Chef is highly scalable and Ansible is highly secure.
D. Ansible uses Ruby and Chef uses Python.

Answer: A

NEW QUESTION 22
Drag and drop the functions from the left onto the Path Computation Element Protocol roles on the right.



Solution:
PCE – 1,2,5
PCC- 3,4

Does this meet the goal?

A. Yes
B. No

Answer: A

NEW QUESTION 23
Refer to the exhibit.

```
172.16.0.0/16

AS 321, med 420, external, rid 10.2.54.12  via 10.2.54.12
AS 51,  med 500, external, rid 7.4.5.2     via 7.4.5.2
AS 321, med 300, internal, rid 10.2.34.5   via 10.2.34.5
```

Tier 2 ISP A on AS 653 is connected to two Tier 1 ISPs on AS 321 and AS 51 respectively. The network architect at ISP A is planning traffic flow inside the network to provide predictable network services. Cisco Express Forwarding is disabled on the edge router. How should the architect implement BGP to direct all traffic via the Tier 1 ISP with next-hop 7.4.5.2?

A. Implement the BGP routing protocol and run the bgp deterministic-med command.
B. Implement MP-BGP with a 4-byte AS number with the bgp best path compare-routerid command.
C. Implement the BGP routing protocol and the maximum-paths 2 configuration.
D. Implement BGP route-reflector functionality with the bgp always-compare-med configuration.

Answer: A

NEW QUESTION 24
An engineer must apply an 802.1ad-compliant configuration to a new switchport with these requirements: The switchport must tag all traffic when it enters the port. The switchport is expected to provide the same level of service to traffic from any customer VLAN. Which configuration must the engineer use?

A. interface GigabitEthernet1/0/1 switchport mode trunkswitchport trunk encapsulation dot1q encapsulation ISLbridge-domain 12
B. interface GigabitEthernet1/0/1 ethernet dot1ad uni c-port service instance 12 encapsulation dot1qrewrite ingress tag push dot1ad 21 symmetric bridge-domain 12
C. interface GigabitEthernet1/0/1 ethernet dot1ad uni s-port service instance 12 encapsulation defaultrewrite ingress tag push dot1ad 21 symmetric bridge-domain 12
D. interface GigabitEthernet1/0/1 ethernet dot1ad nniservice instance 12 encapsulation dot1ad bridge-domain 12

Answer: C

Explanation:
https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/cether/configuration/xe-3s/asr903/16-12-1/b-ce-xe-16-12-asr

NEW QUESTION 25
How does an untrusted interface at the boundary of an administrative domain handle incoming packets?

A. It remarks all values to a CoS of 0.
B. It forwards only traffic with a DSCP value of 48.
C. It translates the IP precedence value to the corresponding DSCP value.
D. It drops all traffic ingressing the network.

Answer: A

NEW QUESTION 26
Refer to the exhibit.

```
mpls label range 16 100000 static 100002 1048570
mpls label protocol ldp

mpls ldp gracetul-restart
!
interface Loopback0
!
ip address 10.20.20.20 255.255.255.255
no ip directed-broadcast
no ip mroute-cache
!
interface Gi 1/1/0
ip address 10.12.0.2 255.255.0.0
no ip direted-broadcast
mpls label protocol ldp
mpls ip
!
router ospf 100
log-adjacency-changes
nsf cisco enforce global
redistribute connected subnets
network 10.20.20.20 0.0.0.0 area 0
network 10.12.0.0 0.0.255.255 area 0

!
mpls ldp router-id Loopback0 force
```

A network administrator implemented MPLS LDP changes on PE-A LSR device. The engineer must ensure there are no LDP peer are fully operational. Which LDP feature must the engineer apply to the existing configuration to eliminate the problem?

A. Configure MPLS LDP IGP synchronization on the network.
B. Configure MPLS LDP NSR for all LDP sessions.
C. Enable LDP session protection under the routing protocol.
D. Disable IP CEF on routers running LDP and enable LDP.

Answer: B

Explanation:
https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/msp/configuration/xe-3s/mp-ha-xe-3s-book/mp-nsr-ldp-supp

NEW QUESTION 27
Refer to the exhibit:

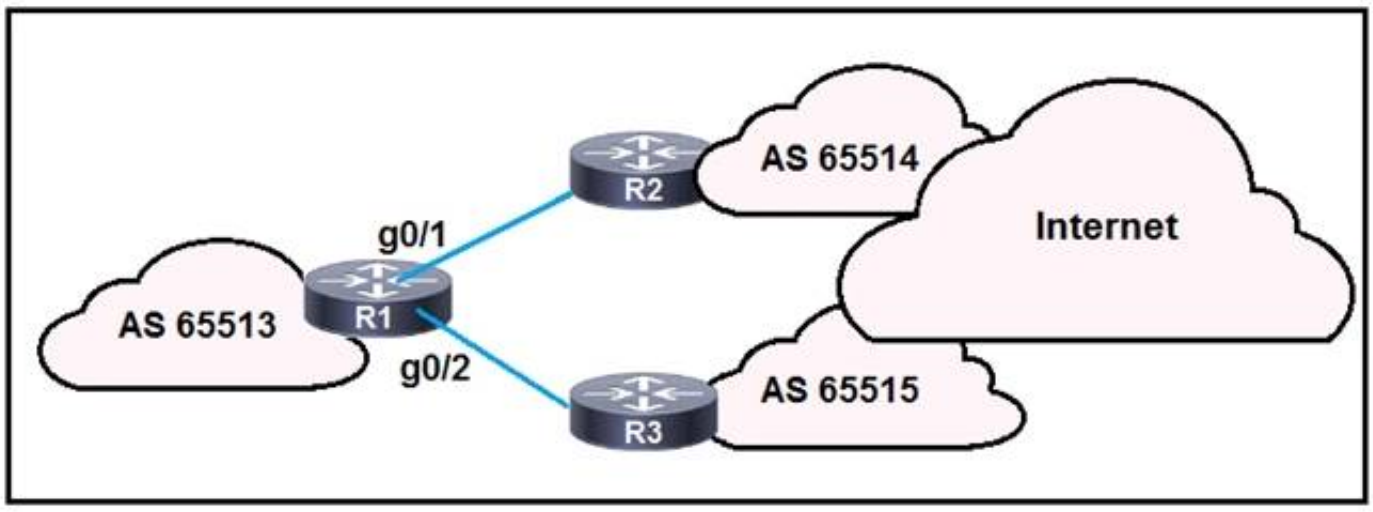
```
Router 1:

netconf-yang
netconf-yang feature candidate-datastore
```

Which statement describes this configuration?

A. Router 1 has its running configuration locked so changes can be made only when the administrator issues a kill session
B. Router 1 can be remotely managed by the CLI using Telnet
C. Router 1 has a new data store to collect SNMP information, but configuration must still be done at the CLI only
D. Router 1 has a temporary data store where a copy of the running configuration can be manipulated and verified before committing the configuration

Answer: D

NEW QUESTION 28
Refer to the exhibit:



R1 is connected to two service providers and is under a DDoS attack Which statement about this design is true if uRPF in strict mode is configured on both interfaces'?

A. R1 accepts source addresses on interface gigabitethernet0/1 that are private addresses
B. R1 permits asymmetric routing as long as the AS-RATH attribute entry matches the connected AS
C. R1 drops destination addresses that are routed to a null interface on the router
D. R1 drops all traffic that ingresses either interface that has a FIB entry that exits a different interface

Answer: D

NEW QUESTION 29
An engineer is configuring IEEE 802.1 ad on the access port on a new Cisco router. The access port handles traffic from multiple customer VLANs, and it is expected to mark all customer traffic to the same VLAN without dropping any traffic. Which configuration must the engineer apply?
A)

```
interface gigabitethernet0/0/1
  ethernet dot1ad uni c-port
```

B)

```
interface gigabitethernet0/0/1
  ethernet dot1ad uni nni
```

C)

```
interface gigabitethernet0/0/1
  encapsulation dot1q 10
```

D)

```
interface gigabitethernet0/0/1
  ethernet dot1ad uni s-port
```

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

Answer: D

NEW QUESTION 30
A customer of an ISP requests support to setup a BGP routing policy. Which BGP attribute should be configured to choose specific BGP speakers as preferred exit points for the customer AS?

A. highest local preference outbound
B. lowest local preference inbound
C. highest local preference inbound
D. lowest multi-exit discriminator

Answer: A

NEW QUESTION 31
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