Number: 300-420
Passing Score: 800
Time Limit: 120
File Version: 4.0

Exam Code: 300-420
Exam Name: Designing Cisco Enterprise Networks (ENSLD)

Exam A

QUESTION 1
What is a benefit of using VRRPv3 as compared to VRRPv2?

A. VRRPv3 supports IPv4 and IPv6
B. VRRPv3 supports authentication
C. VRRPv3 supports preemption
D. VRRPv3 supports stateful switchover

Correct Answer: A
Section:

QUESTION 2
A customer is discussing QoS requirements with a network consultant. The customer has specified that end-to-end path verification is a requirement. Which QoS solution meets this requirement?

A. IntServ model with RSVP to support the traffic flows
B. DiffServ model with PHB to support the traffic flows
C. marking traffic at the access layer with DSCP to support the traffic flows
D. marking traffic at the access layer with CoS to support the traffic flows

Correct Answer: A
Section:

QUESTION 3
When designing interdomain multicast, which two protocols are deployed to achieve communication between multicast sources and receivers? (Choose two.)

A. IGMPv2
B. BIDIR-PIM
C. MP-BGP
D. MSDP
E. MLD

Correct Answer: C, D
Section:

QUESTION 4
A branch office has a primary L3VPN MPLS connection back to the main office and an IPSEC VPN tunnel that serves as backup. Which design ensures that data is sent over the backup connection only if the primary MPLS circuit is down?

A. Use EIGRP to establish a neighbor relationship with the main office via L3VPN MPLS and the IPSEC VPN tunnel.
B. Use BGP with the multipath feature enabled to force traffic via the primary path when available.
C. Use static routes tied to an IP SLA to prefer the primary path while a floating static route points to the backup connection.
D. Use OSPF with a passive-interface command on the backup connection.

Correct Answer: D
Section:

QUESTION 5
Company A recently acquired another company. Users of the newly acquired company must be able to access a server that exists on Company A's network, both companies use overlapping IP address ranges. Which action conserves IP address space and provides access to the server?

A. Use a single IP address to create overload NAT
B. Use a single IP address to create a static NAT entry
C. Build one-to-one NAT translation for every user that needs access
D. Re-IP overlapping address space in the acquired company

Correct Answer: A
Section:

QUESTION 6
In an SD-WAN architecture, which methods are used to bootstrap a vEdge router?

A. DHCP options or manual configuration
B. vManage or DNS records
C. ZTP or manual configuration
D. DNS records or DHCP options

Correct Answer: C
Section:

QUESTION 7
An engineer must propose a QoS architecture model that allows an application to inform the network of its traffic profile and to request a particular type of service to support its bandwidth and delay requirements. The application requires consistent and dedicated bandwidth end to end. Which QoS architecture model meets these requirements?

A. DiffServ
B. LLQ
C. WRED
D. IntServ

Correct Answer: D
Section:

QUESTION 8
Which two statements about VRRP advertisements are true? (Choose two.)

A. They are sent from the master router and standby routers.
B. They include VRRP timer information.
C. They are sent only from the master router.
D. They include priority information.
E. They are sent every three seconds by default.

Correct Answer: C, D
Section:

QUESTION 9
Which nonproprietary mechanism can be used to automate rendezvous point distribution in a large PIM domain?

A. Embedded RP
B. BSR
C. Auto-RP
D. Static RP

Correct Answer: B
Section:

QUESTION 10
Which QoS feature responds to network congestion by dropping lower priority packets?

A. CBWFQ
B. tail drop
C. WRED
D. strict priority

Correct Answer: C
Section:

QUESTION 11
Which two BGP features will result in successful route exchanges between eBGP neighbors sharing the same AS number? (Choose two.)

A. advertise-best-external
B. bestpath as-path ignore
C. client-to-client reflection
D. as-override
E. allow-as-in

Correct Answer: D, E
Section:

QUESTION 12
A company is running BGP on a single router, which has two connections to the same ISP. Which BGP feature ensures traffic is load balanced across the two links to the ISP?

A. Multihop
B. Multipath Load Sharing
C. Next-Hop Address Tracking
D. AS-Path Prepending

Correct Answer: B
Section:

QUESTION 13
Which design consideration should be observed when EIGRP is configured on Data Center switches?

A. Perform manual summarization on all Layer 3 interfaces to minimize the size of the routing table.
B. Prevent unnecessary EIGRP neighborships from forming across switch virtual interfaces.
C. Lower EIGRP hello and hold timers to their minimum settings to ensure rapid route reconvergence.
D. Configure multiple EIGRP autonomous systems to segment Data Center services and applications.

Correct Answer: A
Section:

QUESTION 14
Which design consideration must be made when using IPv6 overlay tunnels?

A. Overlay tunnels that connect isolated IPv6 networks can be considered a final IPv6 network architecture.
B. Overlay tunnels should only be considered as a transition technique toward a permanent solution.
C. Overlay tunnels can be configured only between border devices and require only the IPv6 protocol stack.
D. Overlay tunneling encapsulates IPv4 packets in IPv6 packets for delivery across an IPv6 infrastructure.

Correct Answer: B
Section:
Explanation:
https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/interface/configuration/xe-3s/ir-xe-3sbook/ip6-ip4-gre-tunls-xe.pdf"
The use of overlay tunnels should be considered as a transition technique toward a network that supports both the IPv4 and IPv6 protocol stacks or just the IPv6 protocol stack."

QUESTION 15
When a network is designed using IS-IS protocol, which two circuit types are supported? (Choose two.)

A. nonbroadcast multiaccess
B. multiaccess
C. point-to-multipoint
D. nonbroadcast
E. point-to-point

Correct Answer: B, E
Section:

QUESTION 16
What is an advantage of designing an out-of-band network management solution?

A. In the event of a production network outage, network devices can still be managed.
B. There is no separation between the production network and the management network.
C. In the event of a production network outage, it can be used as a backup network path.
D. It is less expensive than an in-band management solution

Correct Answer: A
Section:

QUESTION 17
Which consideration must be taken into account when using the DHCP relay feature in a Cisco SDAccess Architecture?

A. DHCP-relay must be enabled on fabric edge nodes to provide the correct mapping of DHCP scope to the local anycast gateway.
B. A DHCP server must be enabled on the border nodes to allow subnets to span multiple fabric edges.
C. DHCP servers must support Cisco SD-Access extensions to correctly assign IPs to endpoints in an SD-Access fabric with anycast gateway.
D. DHCP Option-82 must be enabled to map the circuit IP option to the access fabric node where the DHCP discover originated.

Correct Answer: D
Section:
Explanation:
https://www.cisco.com/c/en/us/td/docs/cloud-systems-management/network-automation-andmanagement/dna-center/tech_notes/sda_dhcp/b_cisco_sda_dhcp.html

QUESTION 18

Which feature must be incorporated into the campus LAN design to enable Wake on LAN?

A. dynamic ARP Inspection Snooping on layer 2 devices
B. directed broadcasts on layer 3 devices
C. proxy ARP on layer 3 devices
D. DHCP Snooping on layer 2 devices

Correct Answer: B
Section:

QUESTION 19
Which function are fabric intermediate nodes responsible for in an SD-Access Architecture?

A. mapping EIDs to RLOCs
B. encapsulating user traffic in a VXLAN header including the SGT
C. registering new endpoints in the HTDB
D. transporting IP packets between edge nodes and border nodes

Correct Answer: D
Section:

QUESTION 20
An engineer is designing a QoS policy that queues excess packets for later transmission. Which mechanism must be included in the design?

A. shaping
B. WRED
C. policing
D. RED

Correct Answer: A
Section:

QUESTION 21
An organization is designing a detailed QoS plan that limits bandwidth to specific rates. Which two parameters are supported be the traffic policing feature? (Choose two.)

A. violating
B. marking
C. shaping
D. bursting
E. conforming

Correct Answer: A, E
Section:

QUESTION 22
An engineer is looking for a standards-driven YANG model to manage a multivendor network environment. Which model must the engineer choose?

A. Native
B. OpenConfig
C. IETF
D. IEEE NETCONF

Correct Answer: C
Section:

QUESTION 23
What are two benefits of designing an SD-WAN network fabric with direct Internet access implemented at every site? (Choose two.)

A. It decreases latency to applications hosted by public cloud service provider.
B. It decreases latency on Internet circuits.
C. It increases the speed of delivery of site deployments through zero-touch provisioning.
D. It increases the total available bandwidth on Internet circuits.
E. It alleviates network traffic on MPLS circuits.

Correct Answer: A, E
Section:

QUESTION 24
Which routes does the overlay management protocol advertise in an SD-WAN overlay?

A. underlay, MPLS, and overlay
B. primary, backup, and load-balanced
C. prefix, TLOC, and service
D. Internet, MPLS, and backup

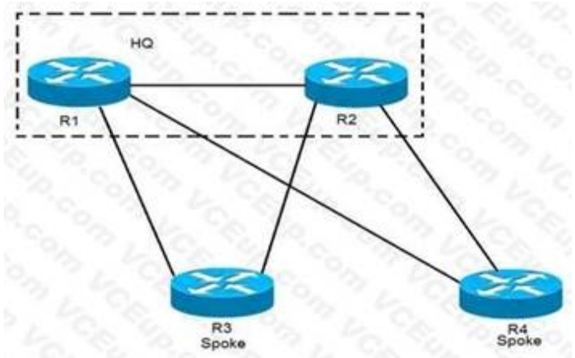
Correct Answer: C
Section:

QUESTION 25
A network solution is being designed for a company that connects to multiple Internet service providers. Which Cisco proprietary BGP path attribute will influence outbound traffic flow?

A. Local Preference
B. MED
C. Weight
D. AS Path
E. Community

Correct Answer: C
Section:

QUESTION 26
Refer to the exhibit.



EIGRP has been configured on all links. The spoke nodes have been configured as EIGRP stubs, and the WAN links to R3 have higher bandwidth and lower delay than the links to R4. When a link failure occurs at the R1-R2 link, what happens to traffic on R1 that is destined for a subnet attached to R2?

A. R1 has no route to R2 and drops the traffic
B. R1 load-balances across the paths through R3 and R4 to reach R2
C. R1 forwards the traffic to R3, but R3 drops the traffic
D. R1 forwards the traffic to R3 in order to reach R2

Correct Answer: A
Section:
Explanation:
The EIGRP stub routing feature will prevent the remote device from advertising core routes back to the distribution devices. Routes learned by the remote device from Distribution 1 will not be advertised to Distribution 2. Therefore,
Distribution 2 will not use the remote device as a transit for traffic destined to the network core https://www.cisco.com/c/en/us/td/docs/iosxml/ ios/iproute_eigrp/configuration/15-mt/ire-15-mt-book/ire-eigrp-stub-rtg.html

QUESTION 27
A company is using OSPF between its HQ location and a branch office. HQ is assigned area 0 and the branch office is assigned area 1. The company purchases a second branch office, but due to circuit delays to HQ, it decides to connect the new branch office to the creating branch office as a temporary measure. The new branch office is assigned area 2. Which OSPF configuration enables all three locations to exchange routes?

A. The existing branch office must be configured as a stub area
B. A virtual link must be configured between the new branch office and HQ
C. A sham link must be configured between the new branch office and HQ
D. The new branch office must be configured as a stub area

Correct Answer: B
Section:

QUESTION 28
An engineer must design a multicast network for a financial application. Most of the multicast sources also receive multicast traffic (many-to-many deployment model). To better scale routing tables, the design must not use source trees.
Which multicast protocol satisfies these requirements?

A. PIM-SSM
B. PIM-SM
C. MSDP
D. BIDIR-PIM

Correct Answer: D
Section:
Explanation:
https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipmulti_pim/configuration/xe-16/imc-pim-xe-16-book/imc-tech-oview.html
Bidir-PIM is designed to be used for many-to-many applications within individual PIM domains.
Multicast groups in bidirectional PIM mode can scale to an arbitrary number of sources without incurring overhead due to the number of sources.

QUESTION 29
An engineer is working for a large cable TV provider that requires multiple sources streaming video on different channels using multicast with no rendezvous point. Which multicast protocol meets these requirements?

A. PIM-SM
B. PIM-SSM
C. any-source multicast
D. BIDIR-PIM

Correct Answer: B
Section:
Explanation:
PIM-SSM is suitable for when well-known sources exist within the local PIM domain and for broadcast applications. Also, PIM-SSM eliminates the RPs and shared trees

QUESTION 30
What is one function of the vSmart controller in an SD-WAN deployment?

A. orchestrates vEdge and cEdge connectivity
B. responsible for the centralized control plane of the SD-WAN network
C. provides centralized network management and a GUI to monitor and operate the SD-WAN overlay
D. provides a data-plane at branch offices to pass traffic through the SD-WAN network

Correct Answer: B
Section:

QUESTION 31
When IPsec VPNs are designed, what is a unique requirement if support for IP Multicast is required?

A. encapsulation of traffic with GRE or VTI
B. IPsec forwarding using transport mode
C. additional bandwidth for headend
D. IPsec forwarding using tunnel mode

Correct Answer: A
Section:

QUESTION 32
How do endpoints inside an SD-Access network reach resources outside the fabric?

A. a VRF fusion router is used to map resources in one VN to another VN
B. Fabric borders use VRFs to map VNs to VRFs

C. SD-Access transit links are used to transport encapsulated traffic from one fabric to another
D. A fabric edge is used to de-encapsulate VXLAN traffic to normal IP traffic then transported over the outside network

Correct Answer: B
Section:
Explanation:
https://www.cisco.com/c/en/us/td/docs/solutions/CVD/Campus/cisco-sda-design-guide.html"
Packets and frames sourced from inside the fabric and destined outside of the fabric are de-encapsulatedby the border node"(not the edge node)

QUESTION 33
When vEdge router redundancy is designed, which FHRP is supported?

A. HSRP
B. OMP
C. GLBP
D. VRRP

Correct Answer: D
Section:

QUESTION 34
Which feature is required for graceful restart to recover from a processor failure?

A. Cisco Express Forwarding
B. Virtual Switch System
C. Stateful Switchover
D. Bidirectional Forwarding Detection

Correct Answer: C
Section:
Explanation:
https://archive.nanog.org/meetings/nanog42/presentations/Weissner_SSO.pdf
The Stateful Switchover (SSO) feature works with Nonstop Forwarding (NSF) in Cisco software to minimize the amount of time a network is unavailable to its users following a switchover. The primary objective of SSO is to improve the availability of networks constructed with Cisco routers.

QUESTION 35
Which method will filter routes between EIGRP neighbors within the same autonomous system?

A. distribute-list
B. policy-based routing
C. leak-map
D. route tagging

Correct Answer: A
Section:

QUESTION 36
An infrastructure team is concerned about the shared memory utilization of a device, and for this reason, they need to monitor the device state. Which solution limits impact on the device and provides the required data?

A. IPFIX
B. static telemetry
C. on-change subscription
D. periodic subscription

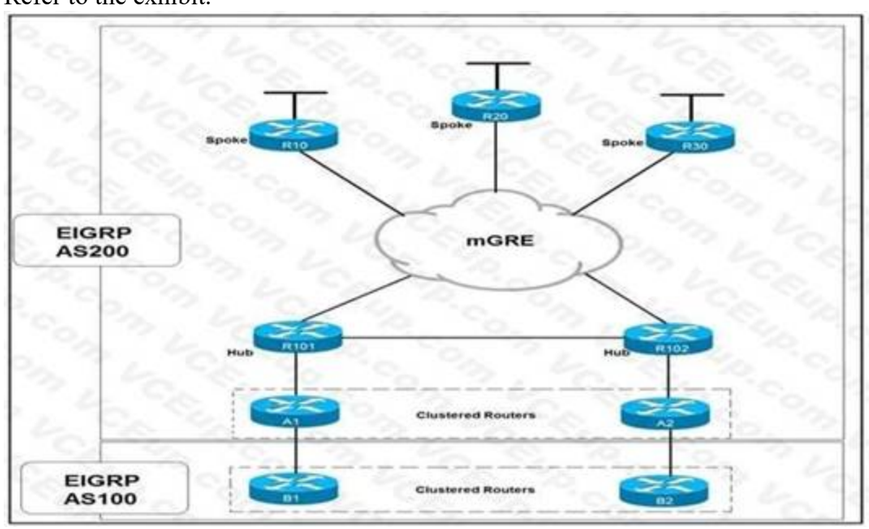
Correct Answer: C
Section:
Explanation:
There are two types of subscriptions: periodic and on-change. With periodic subscription, data is streamed out to the destination at the configured interval. It continuously sends data for the lifetime of that subscription. With on-change, data is published only when a change in the data occurs such as when an interface or OSPF neighbor goes down. https://developer.cisco.com/docs/iosxe/#! streaming-telemetry-quick-start-guide/streaming-telemetry

QUESTION 37
What are two valid scaling techniques when an EIGRP network is designed that consists of more than 1000 routers? (Choose two.)

A. Use structured hierarchical topology with route summarization
B. Used sub-second timers
C. Use the distribute-list command to filter routes
D. Modify delay parameters on the links
E. Implement multiple EIGRP autonomous systems

Correct Answer: A, E
Section:

QUESTION 38
Refer to the exhibit.



Which solution decreases the EIGRP convergence time?

A. Enable subsecond timers
B. Increase the hold time value
C. Increase the dead timer value

D. Enable stub routing on the spokes

Correct Answer: D
Section:

QUESTION 39
A router running ISIS is showing high CPU and bandwidth utilization. An engineer discovers that the router is configured as L1/L2 and has L1 and L2 neighbors. Which step optimizes the design to address the issue?

A. Make this router a DIS for each of the interfaces
B. Disable the default behavior of advertising the default route on the L1/L2 router
C. Configure the router to be either L1 or L2
D. Configure each interface as either L1 or L2 circuit type

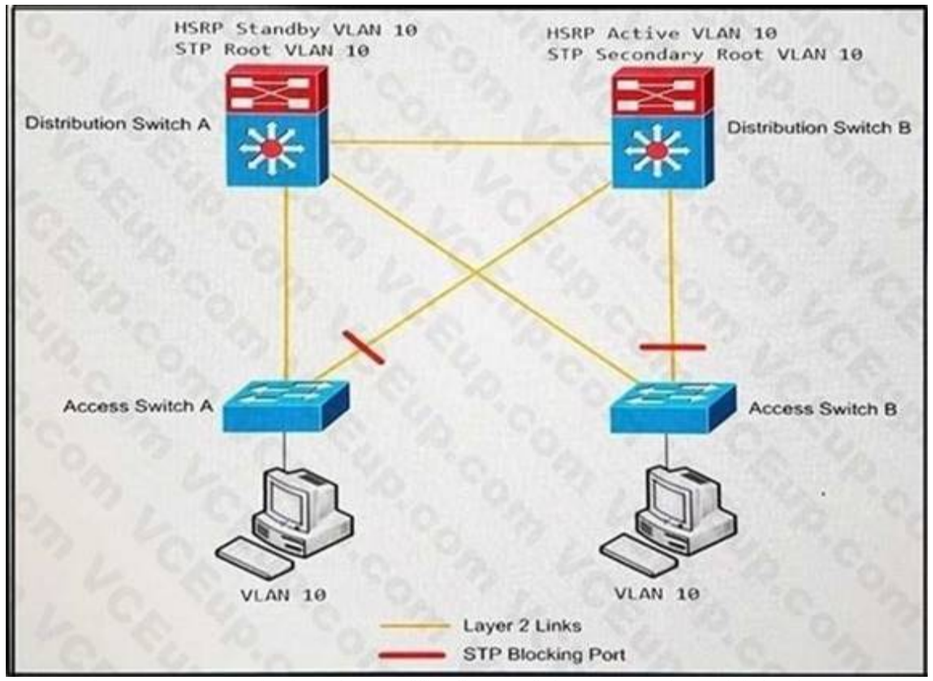
Correct Answer: D
Section:

QUESTION 40
A network engineer must connect two sites across a public network using a secure tunneling technology that supports multicast traffic. Which technology must be chosen?

A. IPsec
B. GRE
C. PPTP
D. GRE over IPsec

Correct Answer: D
Section:

QUESTION 41
Refer to the exhibit.



An engineer must optimize the traffic flow of the network. Which change provides a more efficient design between the access and the distribution layer?

A. Add a link between access switch A and access switch B
B. Reconfigure the distribution switch A to become the HSRP Active
C. Change the link between distribution switch A and distribution switch B to be a routed link
D. Create an EtherChannel link between distribution switch A and distribution switch B

Correct Answer: B
Section:

QUESTION 42
When a first hop redundancy solution is designed, which protocol ensures that load balancing occurs over multiple routers using a single virtual IP address and multiple virtual MAC addresses?

A. GLBP
B. IRDP
C. VRRP
D. HSRP

Correct Answer: A
Section:

QUESTION 43
Which two routing protocols allow for unequal cost load balancing? (Choose two.)

A. EIGRP
B. IS-IS
C. BGP

D. OSPF
E. RIPng

Correct Answer: A, C
Section:

QUESTION 44
Which two steps can be taken to improve convergence in an OSPF network? (Choose two.)

A. Use Bidirectional Forwarding Detection
B. Merge all the areas into one backbone area
C. Tune OSPF parameters
D. Make all non-backbone areas stub areas
E. Span the same IP network across multiple areas.

Correct Answer: A, C
Section:

QUESTION 45
An engineer is designing an enterprise campus network. The LAN infrastructure consists of switches from multiple vendors, and Spanning Tree must be used as a Layer 2 loop prevention mechanism. All configured VLANs must be grouped in two SIP instances. Which standards-based Spanning Tree technology supports this design solution?

A. MSTP
B. RSTP
C. Rapid PVST
D. STP

Correct Answer: A
Section:

QUESTION 46
Which control-plane technology allows the same subnet to exist across multiple network locations?

A. LISP
B. VXLAN
C. FabricPath
D. ISE mobility services

Correct Answer: A
Section:
Explanation:
https://www.cisco.com/c/en/us/td/docs/solutions/CVD/Campus/cisco-sda-design-guide.html

QUESTION 47
Which two statements describe source trees in a multicast environment? (Choose two.)

A. Source trees guarantee the minimum amount of network latency for forwarding multicast traffic

B. Source trees create an optimal path between the source and the receivers
C. Source trees use a single common root placed at some chosen point in the network
D. Source trees can introduce latency in packet delivery
E. Source trees can create suboptimal paths between the source and the receivers

Correct Answer: A, B
Section:
Explanation:
https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipmulti_pim/configuration/xe-16-5/imc-pim- xe-16-5-book/imc-tech-oview.html

QUESTION 48
A customer with an IPv4 only network topology wants to enable IPv6 connectivity while preserving the IPv4 topology services. The customer plans to migrate IPv4 services to the IPv6 topology, then decommission the IPv4 topology. Which topology supports these requirements?

A. dual stack
B. 6VPE
C. 6to4
D. NAT64

Correct Answer: A
Section:

QUESTION 49
A company with multiple service providers wants to speed up BGP convergence time in the event a failure occurs with their primary link. Which approach achieves this goal and does not impact router CPU utilization?

A. Utilize BFD and tune the multiplier to 50
B. Lower the BGP hello interval
C. Decrease the BGP keepalive timer
D. Utilize BFD and keep the default BGP timers

Correct Answer: D
Section:

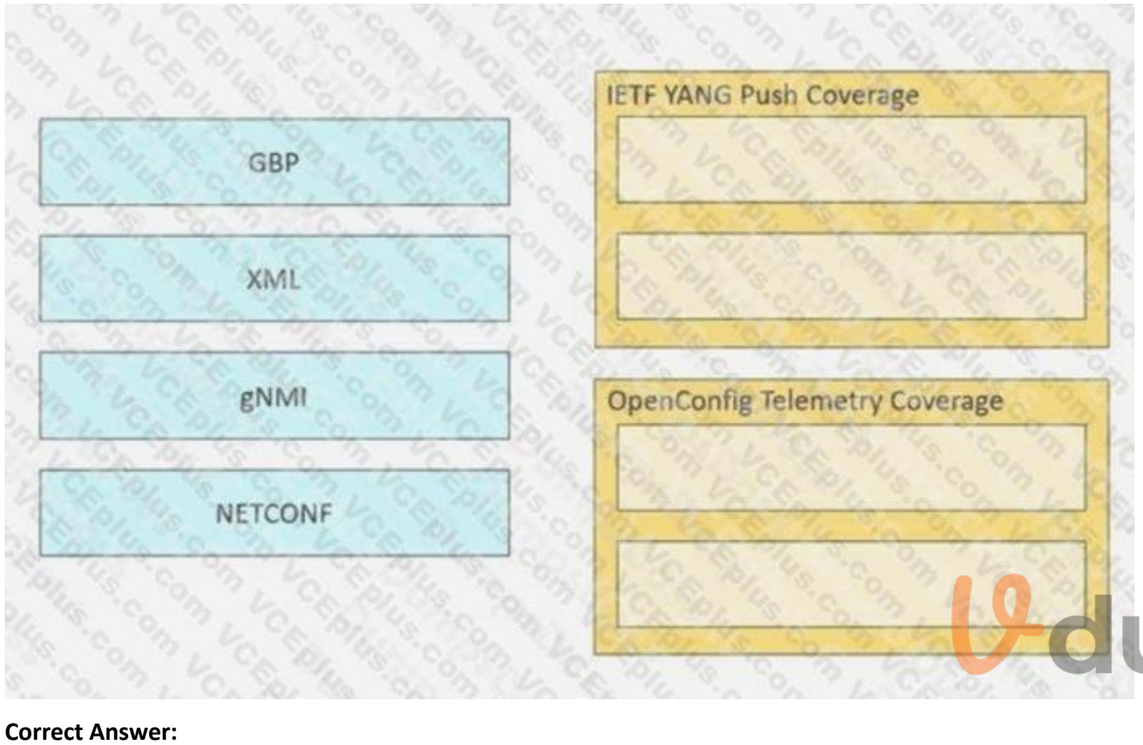
QUESTION 50
An engineer is working with NETCONF and Cisco NX-OS based devices. The engineer needs a YANG model that supports a specific feature relevant only to Cisco NX-OS. Which model must the engineer choose?

A. Native
B. IEEE
C. OpenConfig
D. IETF

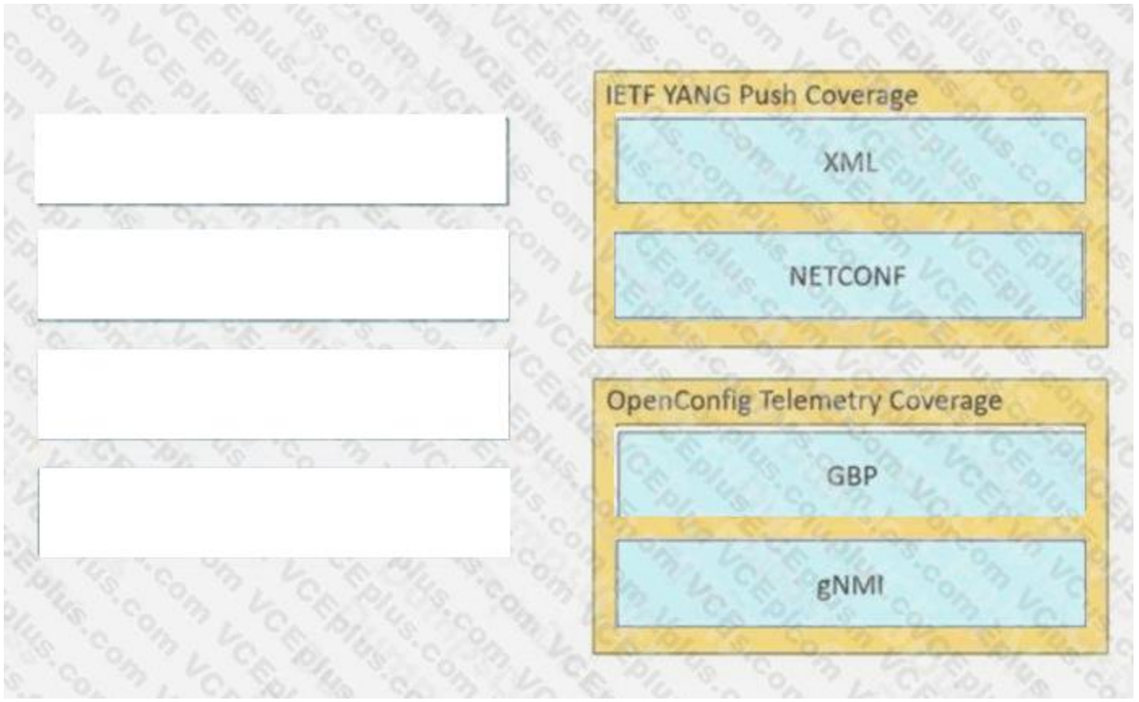
Correct Answer: A
Section:
Explanation:
https://github.com/YangModels/yang/tree/master/vendor/cisco
https://blogs.cisco.com/developer/which-yang-model-to-use

QUESTION 51
DRAG DROP
Drag and drop the elements from the left onto the YANG models where they and used on the right.

Select and Place:



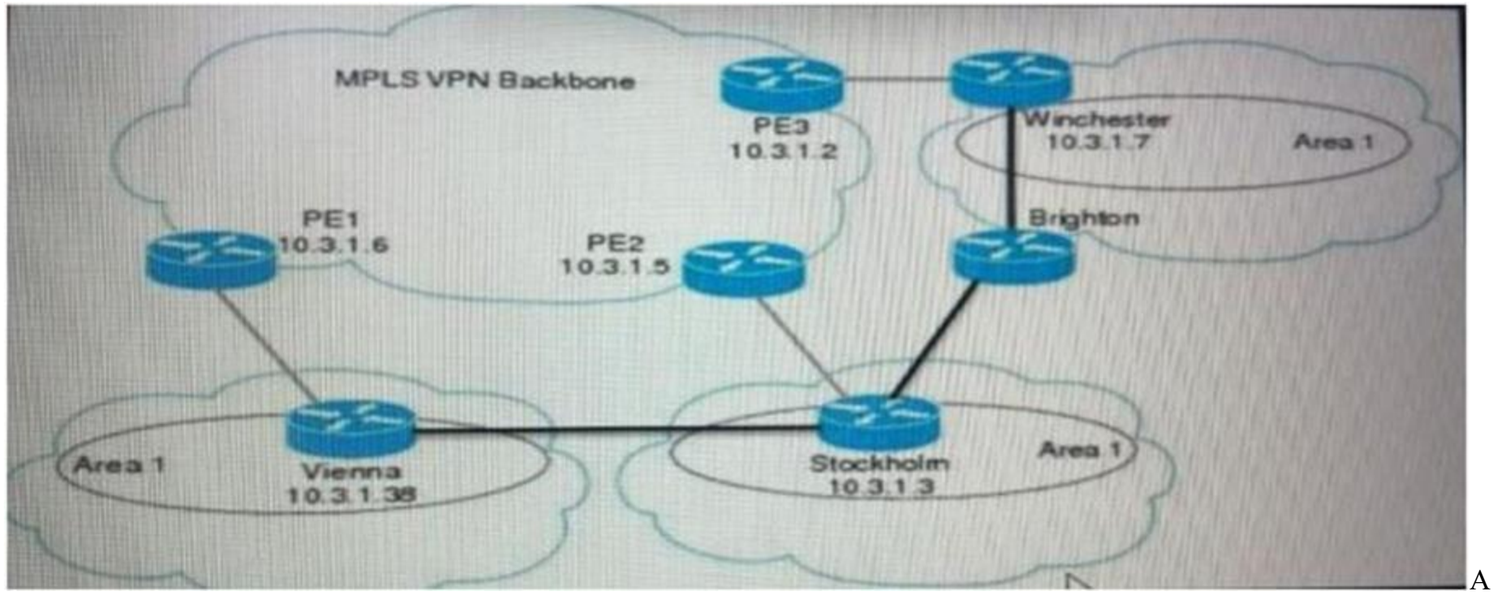
Correct Answer:



Section:
Explanation:

QUESTION 52

Refer to the exhibit.



A network engineer is designing an OSPF solution to connect a company's remote to a newly provisioned MPLS VPN backbone. Some of the branches have a direct dark fiber connection between each other. The engineer wants to ensure that the dark fibers are used only when the MPLS core is unavailable. Which solution must the engineer choose?

A network engineer is designing an OSPF solution to connect a company's remote to a newly provisioned MPLS VPN backbone. Some of the branches have a direct dark fiber connection between each other. The engineer wants to ensure that the dark fibers are used only when the MPLS core is unavailable. Which solution must the engineer choose?

A. Stub area
B. Sham link
C. Virtual link
D. NSSA

Correct Answer: B
Section:
Explanation:
https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/iproute_ospf/configuration/xe-16/iro-xe-16-book/iro-sham-link.html

QUESTION 53
An engineer uses Postman and YANG to configure a router with:
OSPF process ID 200 network 172.16.10.128/26 enabled for Area 0 Which get-config reply verifies that the model set was designed correctly?

A.

```
<rpc-reply message-id="urn:uuid:1b3d05cd-8118-3e6a-6c05-411157936aaf" xmlns="urn.ietf:params:
xml:ns:netconf:base:1.0" xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0">
 <data>
  <native xmlns="http://cisco.com/ns/yang/ned/ios">
   <router>
    <ospf>
     <id>200</id>
     <network>
      <ip>172.16.10.128</ip>
      <mask>0.0.0.63</mask>
      <area>0</area>
     </network>
    </ospf>
   </router>
  </native>
 </data>
</rpc-reply>
```

B.

```
<rpc-reply message-id="urn.uuid:1b3d05cd-8118-3e6a-6c05-012435678aaf“
xmlns="urn:ietf:params:xml:ns:netconf:base:1.0" xmlns:nc="urn.ietf.params:xml:ns:netconf:base:1.0">
 <data>
  <native xmlns="http://cisco.com/ns/yang/ned/ios">
   <router>
    <ospf>
     <id>200</id>
     <network>
      <ip>172.16.10.128</ip>
      <mask>255.255.255.192</mask>
      <area>0</area>
     </network>
    </ospf>
   </router>
  </native>
 </data>
</rpc-reply>
```

C.

```
<rpc-reply message-id="urn:uuid:1b3d05cd-8118-3e6a-6c05-021345678aaf" xmlns="urn:ietf:params:
xml:ns:netconf:base:1.0" xmlns:nc="urn:ietf:params:xml:ns:netconf:base:1.0">
  <data>
   <native xmlns="http://cisco.com/ns/yang/ned/ios">
    <router>
     <ospf>
      <id>200</id>
      <network>
       <ip>172.16.10.128</ip>
       <mask>0.0.0.192</mask>
       <area>0</area>
      </network>
     </ospf>
    </router>
   </native>
  </data>
 </rpc-reply>
```

D.

```
<rpc-reply message-id="urn:uuid:1b3d05cd-8118-3e6a-6c05-012354678aaf" xmlns="urn:ietf:params:
xml:ns:netconf:base:1.0" xmlns:nc="urn:ietf:params:json:ns:netconf:base:1.0">
 <data>
  <native json="http://cisco.com/ns/yang/ned/ios">
   <router>
    <ospf>
     <id>200</id>
     <network>
      <ip>172.16.10.128</ip>
      <mask>0.0.0.63</mask>
      <area>0</area>
     </network>
    </ospf>
   </router>
  </native>
 </data>
</rpc-reply>
```

Correct Answer: A
Section:

QUESTION 54
An engineer must use YANG with an XML representation to configure a Cisco IOS XE switch with these specifications:
IP address 10.10.10.10/27 configured on the interface GigabitEthernet2/1/0 connectivity from a directly connected host 10.10.10.1/27 Which YANG data model set must the engineer choose?

A.

```
<interfaces xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces">
 <interface>
  <name>GigabitEthernet2/1/0</name>
  <type xmlns:ianaift="urn:ietf:params:xml:ns:yang:iana-if-type">ianaift:ethenetCsmacd</type>
  <enabled>false</enabled>
  <ipv4 xmlns="urn:ietf:params:xml:ns:yang:ietf-ip">
   <address>
    <ip>10.10.10.10</ip>
    <netmask>255.255.255.224</netmask>
   </address>
  </ipv4>
 </interface>
</interfaces>
```

B.

```
<interfaces YANG="urn:ietf:params:xml:ns:yang:ietf-interfaces">
 <interface>
  <name>GigabitEthernet2/1/0</name>
  <type YANG:ianaift="urn:ietf:params:xml:ns:yang:iana-if-type">ianaift:ethernetCsmacd</type>
  <enabled>true</enabled>
  <ipv4 YANG="urn:ietf:params:xml:ns:yang:ietf-ip">
   <address>
    <ip>10.10.10.10</ip>
    <netmask>255.255.255.224</netmask>
   <address>
  </ipv4>
 </interface>
</interfaces>
```

C.

```
<interfaces json="urn:ietf:params:json:ns:yang:ietf-interfaces">
 <interface>
  <name>GigabitEthermet2/1/0</name>
  <type json:ianaift="urn:ietf:params:json:ns:yang:iana-if-type">ianaift:ethernetCsmacd</type>
  <enabled>true</enabled>
  <ipv4 json="urn:ietf:params:json:ns:yang:ietf-ip">
   <address>
    <ip>10.10.10.10</ip>
    <netmask>255.255.255.224</netmask>
   </address>
  </ipv4>
 </interface>
</interfaces>
```

D.

```
<interfaces xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces">
  <interface>
    <name>GigabitEthernet2/1/0</name>
    <type xmlns:ianaift="urn:ietf:params:xml:ns:yang:iana-if-type">ianaift:ethernetCsmacd</type>
    <enabled>true</enabled>
    <ipv4 xmlns="urn:ietf:params:xml:ns:yang:ietf-ip">
      <address>
        <ip>10.10.10.10</ip>
        <netmask>255.255.255.224</netmask>
      </address>
    </ipv4>
  </interface>
</interfaces>
```

Correct Answer: D
Section:

QUESTION 55
Which queuing structure is used on SD-WAN Edge routers?

A. FIFO
B. LLQ+WFQ
C. 1P-4Q-2T
D. Priority

Correct Answer: B
Section:
Explanation:
It uses a combination of low latency queuing (LLQ) and weighted fair queuing (WFQ) to prioritize critical traffic while still guaranteeing bandwidth for other traffic types. The LLQ portion of the queuing structure is used to prioritize certain types of traffic, while the WFQ portion is used to ensure that all traffic is serviced fairly. This queuing structure is used to make sure that critical traffic is not delayed or dropped, while still allowing for other traffic types to be serviced.

QUESTION 56
What is the purpose of an edge node in an SD-Access network fabric?

A. Edge nodes identify and authenticate endpoints and register endpoint information with control plane nodes.
B. Edge nodes track endpoint IDs to location mappings, along with IPv4, IPv6, or MAC addresses.
C. Edge nodes are the gateway between the fabric domain and network outside of the fabric.
D. Edge nodes resolve lookup requests from edge and border nodes to locate destination endpoint IDs.

Correct Answer: A
Section:

QUESTION 57
Which OSPF area blocks LSA Type 3, 4 and 5, but allows a default summary route?

A. normal
B. stub
C. NSSA

D. totally stubby

Correct Answer: D
Section:

QUESTION 58
Which two statements about VRRP object tracking are true? (Choose two)

A. The priority of a VRRP device can change in accordance with the up or down status of a VRRP object
B. The VRRP interface priority must be manually configured by the administrator
C. A VRRP group can track only one object at a time
D. VRRP can track the status of interfaces and routes
E. VRRP supports only interface tracking

Correct Answer: A, D
Section:
Explanation:
https://www.ciscolive.com/c/dam/r/ciscolive/emea/docs/2019/pdf/BRKCRS-2821.pdf

QUESTION 59
Which common issue causes intermittent DMVPN tunnel flaps?

A. a routing neighbor reachability issue
B. a suboptimal routing table
C. interface bandwidth congestion
D. that the GRE tunnel to hub router is not encrypted

Correct Answer: A
Section:

QUESTION 60
Which two best practices must be followed when designing an out-of-band management network?
(Choose two.)

A. Enforce access control
B. Facilitate network integration
C. Back up data using the management network
D. Ensure that the management network is a backup to the data network
E. Ensure network isolation

Correct Answer: A, E
Section:
Explanation:
https://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Security/SAFE_RG/SAFE_rg/chap9.ht ml

QUESTION 61
A network administrator is troubleshooting a DMVPN setup between the hub and the spoke. Which action should the administrator take before troubleshooting the IPsec configuration?

A. Verify the GRE tunnels.
B. Verify ISAKMP.
C. Verify NHRP.
D. Verify crypto maps.

Correct Answer: A
Section:

QUESTION 62
At which layer does Cisco Express Forwarding use adjacency tables to populate addressing information?

A. Layer4
B. Layer 2
C. Layer 1
D. Layer 3

Correct Answer: B
Section:

QUESTION 63
A customer has several remote sites connected with their headquarters through microwave links. An engineer must propose a backup WAN solution based on these conditions:

- A physical WAN solution is not available for most of the sites.
- The customer has a limited budget and a short timeframe for implementation.
- The backup link will have low bandwidth requirements.
- Users will tolerate a WAN outage of up to 2 hours.

Which backup WAN link type the engineer recommend?

A. LTE
B. 802.16 WiMAX
C. Laser link
D. 802.15.1 Bluetooth

Correct Answer: A
Section:

QUESTION 64
How is internet access provided to a WAN edge router that is connected to a MPLS transport link?

A. OMP advertises a default route from a WAN Edge router that is connected to the MPLS and internet transport networks
B. Internet access must be provided at the WAN Edge router through either a 4G/5G link or local Internet circuit
C. An extranet must be provided in the MPLS transport network to allow private traffic to reach the public internet
D. TLOC extensions are used to route traffic to a WAN Edge router that is connected to the Internet transport network

Correct Answer: D

Section:

QUESTION 65
A network engineer must segregate three interconnected campus networks using IS-IS routing. A two-layer hierarchy must be used to support large routing domains and to avoid more specific routes from each campus network being advertised to other campus network routers automatically. Which two actions does the engineer take to accomplish this segregation? (Choose two.)

A. Designate two IS-IS routers as BDR routers at the edge of each campus, and configure one BDR for all Level 1 routers and one BDR for all Level 2 routers.
B. Designate two IS-IS routers from each campus to act as Level 1/Level 2 backbone routers at the edge of each campus network.
C. Assign the same IS-IS NET value for each campus, and configure internal campus routers with Level 1/ Level 2 routing.
D. Utilize different MTU values for each campus network segment. Level 2 backbone routers must utilize a larger MTU size of 9216.
E. Assign a unique IS-IS NET value for each campus, and configure internal campus routers with Level 1 routing.

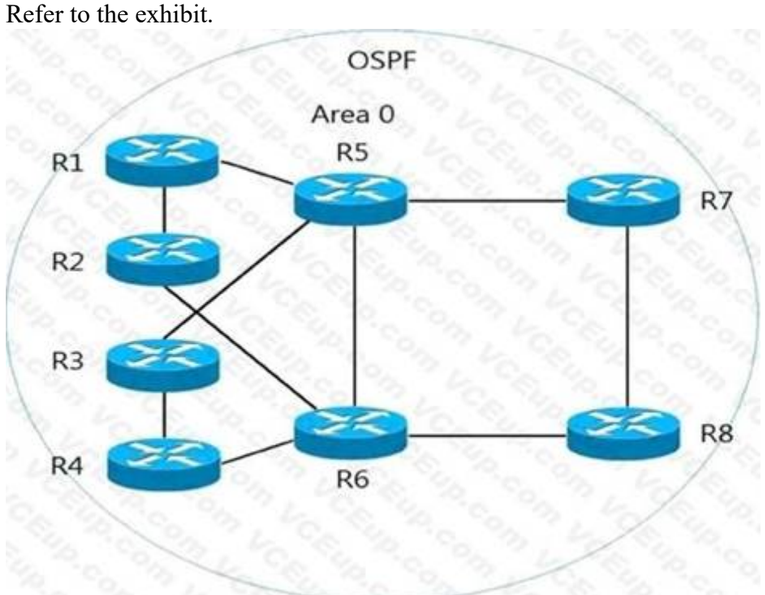
Correct Answer: B, E
Section:

QUESTION 66
Which two options can you use to configure an EIGRP stub router? (Choose two)

A. summary-only
B. receive-only
C. external
D. summary
E. totally-stubby
F. not-so-stubby

Correct Answer: B, D
Section:

QUESTION 67
Refer to the exhibit.



Refer to the exhibit. All routers currently reside in OSPF area 0. The network manager recently used R1 and R2 as aggregation routers for remote branch locations and R3 and R4 for aggregation routers for remote office locations. The network has since been suffering from outages, which are causing frequent SPF runs. To enhance stability and introduce areas to the OSPF network with the minimal number of ABRs possible, which two solutions should the network manager recommend? (Choose two.)

A. a new OSPF area for R1 and R2 connections, with R1 and R2 as ABRs
B. a new OSPF area for R3 and R4 connections, with R5 and R6 as ABRs
C. a new OSPF area for R3 and R4 connections, with R3 and R4 as ABRs
D. a new OSPF area for R1, R2, R3, and R4 connections, with R1, R2, R3, and R4 as ABRs
E. a new OSPF area for R1 and R2 connections, with R5 and R6 as ABRs

Correct Answer: B, E
Section:

QUESTION 68
Which component of Cisco SD-Access integrates with Cisco DNA Center to perform policy segmentation and enforcement through the use of security group access control lists and security group tags?

A. Cisco Application Policy Infrastructure Controller Enterprise Module
B. Cisco Network Data Platform
C. Cisco Identity Services Engine
D. Cisco TrustSec

Correct Answer: D
Section:

QUESTION 69
What is the role of a control-plane node in a Cisco SD-Access architecture?

A. fabric device that connects wired endpoints to the SD-Access fabric
B. map system that manages endpoint to device relationships
C. fabric device that connects APs and wireless endpoints to the SD-Access fabric
D. map system that manages External Layer 3 networks

Correct Answer: B
Section:
Explanation:
Reference: https://netaavi.com/my-blog-1/f/overview-of-sda-fabric-solution

QUESTION 70
How is end-to-end microsegmentation enforced in a Cisco SD-Access architecture?

A. VLANs are used to segment traffic at Layer 2.
B. 5-tuples and ACLs are used to permit or deny traffic.
C. SGTs and SGTACLs are used to control access to various resources.
D. VRFs are used to segment traffic at Layer 3.

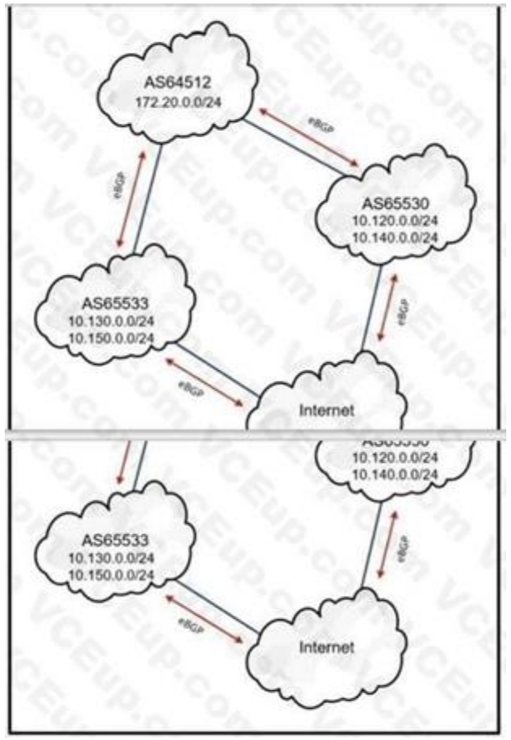
Correct Answer: C
Section:

QUESTION 71
Which two border nodes are available in the Cisco SD-Access architecture? (Choose two.)

A. extended border
B. edge border
C. internal border
D. anywhere border
E. intermediate border

Correct Answer: C, D
Section:
Explanation:
There are 3 types of border nodes in SD-Access:
External. Default exit from fabric with no specific routes injection
Internal. Gateway only for a set of networks, such as shared services prefixes Anywhere. Combination of external and internal functionality

QUESTION 72
Refer to the exhibit.

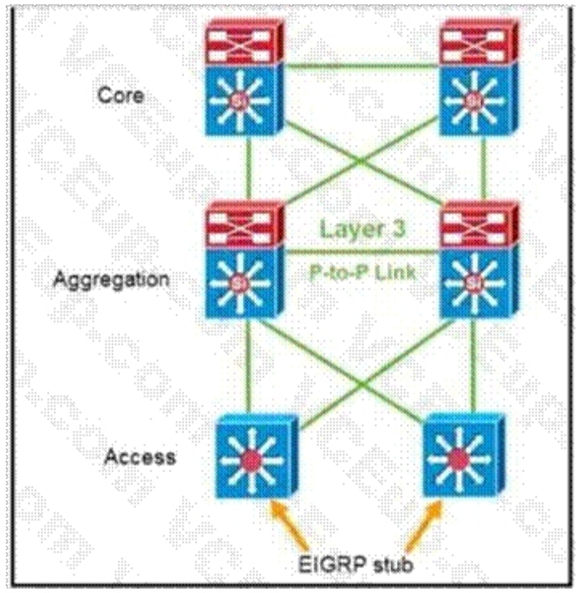


Refer to the exhibit. AS65533 and AS65530 are announcing a partial Internet routing table as well as their IP subnets. An architect must create a design that ensures AS64512 become a transit AS. Which filtering solution must the architect choose?

A. Maximum-prefix
B. No-advertise
C. Next-hop
D. No Export

Correct Answer: A
Section:

QUESTION 73
Refer to the exhibit.



Refer to the exhibit. Where must an architect plan for route summarization for the topology?

A. from the core toward the aggregation and the access toward the aggregation
B. from the core toward the aggregation and the aggregation toward the core
C. from the aggregation toward the access and the access toward the aggregation
D. from the aggregation toward the core and the aggregation toward the access

Correct Answer: D
Section:

QUESTION 74
An engineer must design a QoS solution for a customer that is connected to an ISP over a 1Gbps link with a 100Mbps CIR. The ISP aggressively drops all traffic received over which is causing numerous TCP retransmissions. The customer is not using any RTP applications but wants to maximize bandwidth usage up to the CIR. Which QoS solution engineer choose?

A. Policing
B. Traffic shaping
C. Policer with markdown
D. Queuing

Correct Answer: B
Section:
Explanation:
https://www.cisco.com/c/en/us/support/docs/quality-of-service-qos/qos-policing/19645-policevsshape.html
Traffic shaping limits the rate of traffic that is sent or received over a network connection by buffering and delaying the flow of data packets. This will help to ensure that the customer is not exceeding the 100Mbps CIR that the ISP has set and also prevent the aggressive dropping of traffic.Traffic shaping will also help to maximize the bandwidth usage while still staying within the limits of the CIR.

QUESTION 75
An engineer is designing a multicast network for a company specializing in VoD content. Receivers are across the Internet, and for performance reasons, the multicast framework close to the receivers within each AS. For high availability, if the sources in one AS are no longer available, the receivers of that AS must be able to receive the VoD content from sources in another AS. Which feature must the design include?

A. Bidirectional PIM
B. SSM
C. Anycast RP
D. MSDP

Correct Answer: C
Section:
Explanation:
https://learningnetwork.cisco.com/s/question/0D53i00000KsrGrCAJ/rendezvous-point-highavailability-mechanisms

QUESTION 76
A company is planning to open two new branches and allocate the 2a01:c30:16:7009::3800/118 IPv6 network for the region. Each branch should have the capacity to accommodate maximum of 200 hosts. Which two networks should the company use? (Choose two.)

A. 2a01:0c30:0016:7009::3a00/120
B. 2a01:0c30:0016:7009::3b00/121
C. 2a01:0c30:0016:7009::3a80/121
D. 2a01:0c30:0016:7009::3b00/120
E. 2a01:0c30:0016:7009::3c00/120

Correct Answer: A, D
Section:

QUESTION 77
An engineer must connect a new remote site to an existing OSPF network. The new site consists of two low-end routers, one for WAN, and one for LAN. There is no demand for traffic to pass through this are a. Which area type does the engineer choose to provide minimal router resources utilization, while still allowing for full connectivity to the rest of the network?

A. not so stubby
B. totally not so stubby
C. totally stubby area
D. stubby area

Correct Answer: C
Section:

QUESTION 78
Which component is part of the Cisco SD-Access overlay architecture?

A. border node
B. spine node
C. leaf node
D. Cisco DNA Center

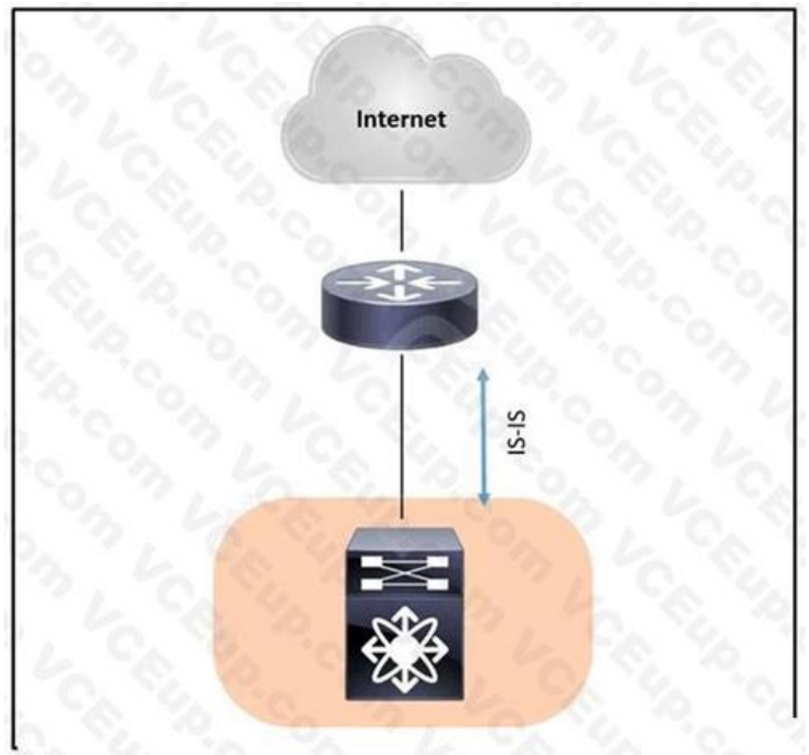
Correct Answer: D
Section:

QUESTION 79
Which design consideration must be made when dual WAN Edge routers are deployed at a branch site?

A. Use BGP AS-path prepending to influence egress traffic and use MED to influence ingress traffic from the branch.
B. HSRP priorities must match the OMP routing policy to prefer one WAN Edge over the other.
C. Traffic must be symmetrical as it egresses the WAN Edges and returns from remote sites for DPI to function properly.
D. Configure BFD between WAN Edge routers to detect sub-second link failures.

Correct Answer: A
Section:

QUESTION 80
Refer to the exhibit.



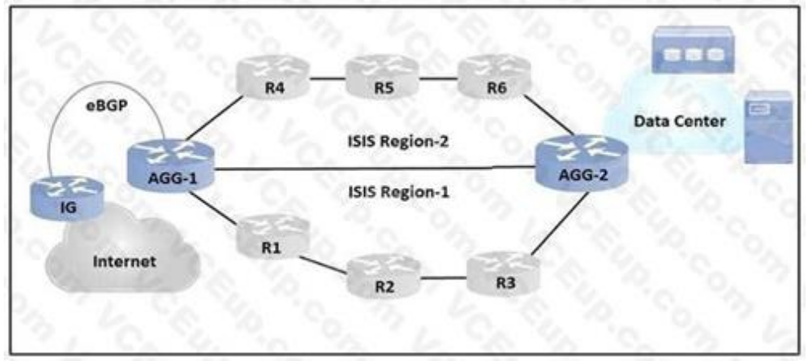
A network engineer must improve the current IS-IS environment. The Catalyst switch is equipped with dual supervisors. Each time a stateful switchover occurs, the network experiences unnecessary route recomputation. Which solution addresses this issue if the upstream router does not understand graceful restart messaging?

A. Enable IS-IS remote LFA FRR on both devices.
B. Enable NSR on the switch.
C. Enable NSF on the switch.
D. Configure ISIS aggressive timers on both devices.

Correct Answer: C

Section:

QUESTION 81
Refer to the exhibit.

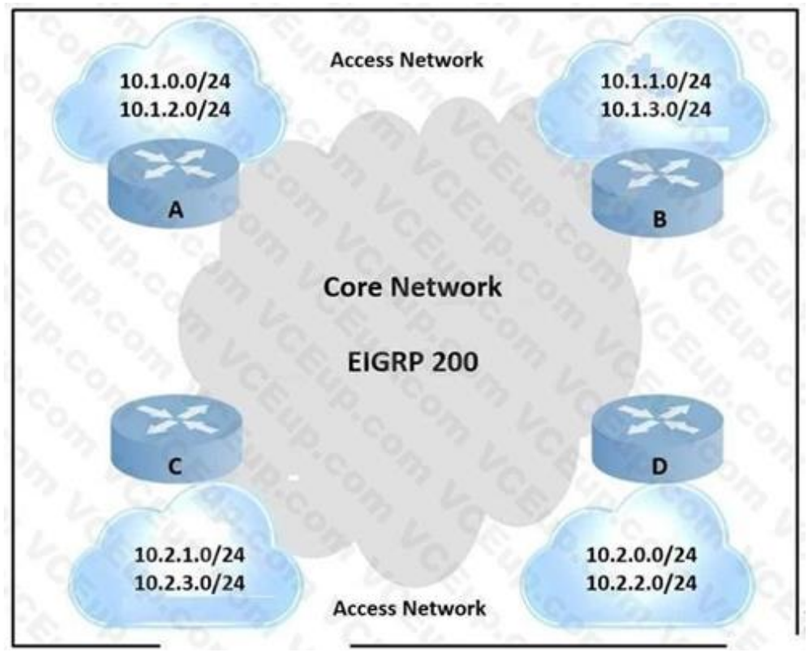


An architect must design an IGP solution for an enterprise customer. The design must support:
Physical link flaps should have minimal impact.
Access routers should converge quickly after a link failure.
Which two ISIS solutions should the architect include in the design? (Choose two.)

A. Use BGP to IS-IS redistribution to advertise all Internet routes in the Level 1 area.
B. Advertise the IS-IS interface and loopback IP address toward the Internet and data center.
C. Reduce SPF and PRC intervals to improve convergence time.
D. Configure all access and aggregate routers to establish Level 1 / Level 2 adjacencies across the network.
E. Configure access routers to establish a Level 1 adjacency and aggregate routers to establish a Level 1 / Level 2 adjacency.

Correct Answer: C, D
Section:

QUESTION 82
Refer to the exhibit.

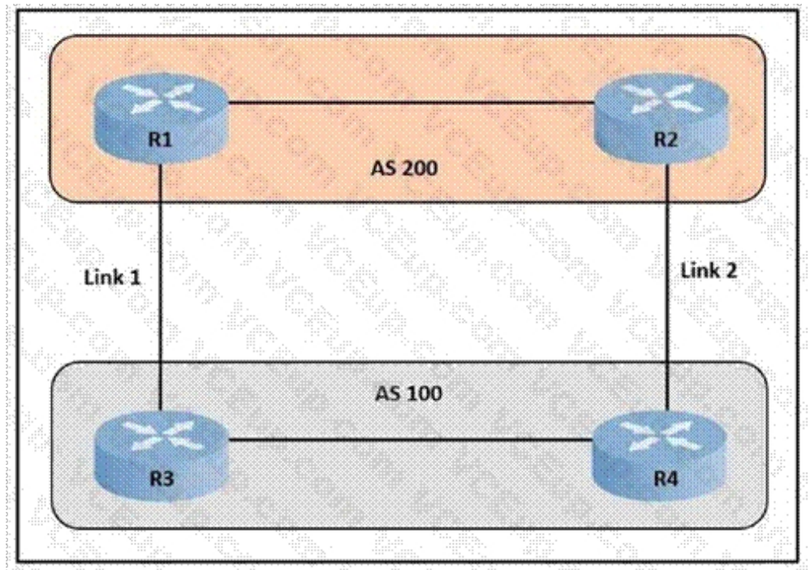


An engineer is designing a routing solution for a customer. The design must ensure that a failure of network 10.1.0.0/24, 10.1.2.0/24, 10.2.1.0/24, or 10.2.3.0/24 does not impact the core. It also requires fast convergence time during any link failover in the core or access networks. Which solution must the engineer select?

A. Add aggregation layer between core and access networks.
B. Enable graceful restart on routers A and C.
C. Enable FRR for the connected networks of routers A and C.
D. Enable summarization on routers A and C.

Correct Answer: D
Section:

QUESTION 83
Refer to the exhibit.

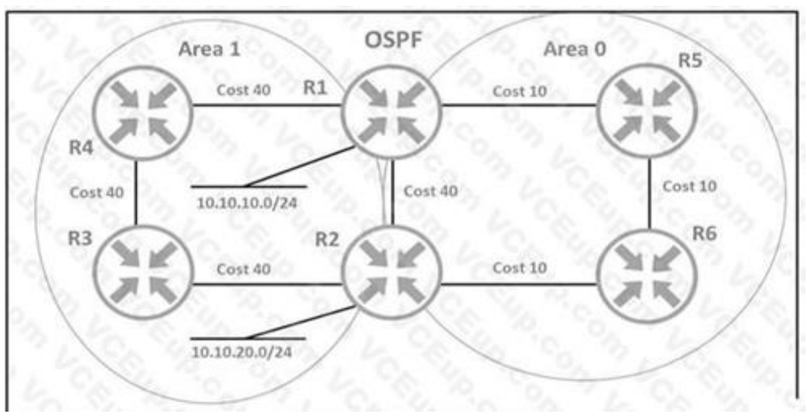


A network engineer is designing a network for AS100. The design should ensure that all traffic enters AS100 via link 1 unless there is a network failure. In the event of a failure, link 2 should function as the path for incoming traffic. Which solution should the design include?

A. Modify the next-hop attribute on R3.
B. Use AS-Path prepending on R3.
C. Modify the next-hop attribute on R4.
D. Use AS-Path prepending on R4.

Correct Answer: D
Section:

QUESTION 84
Refer to the exhibit.



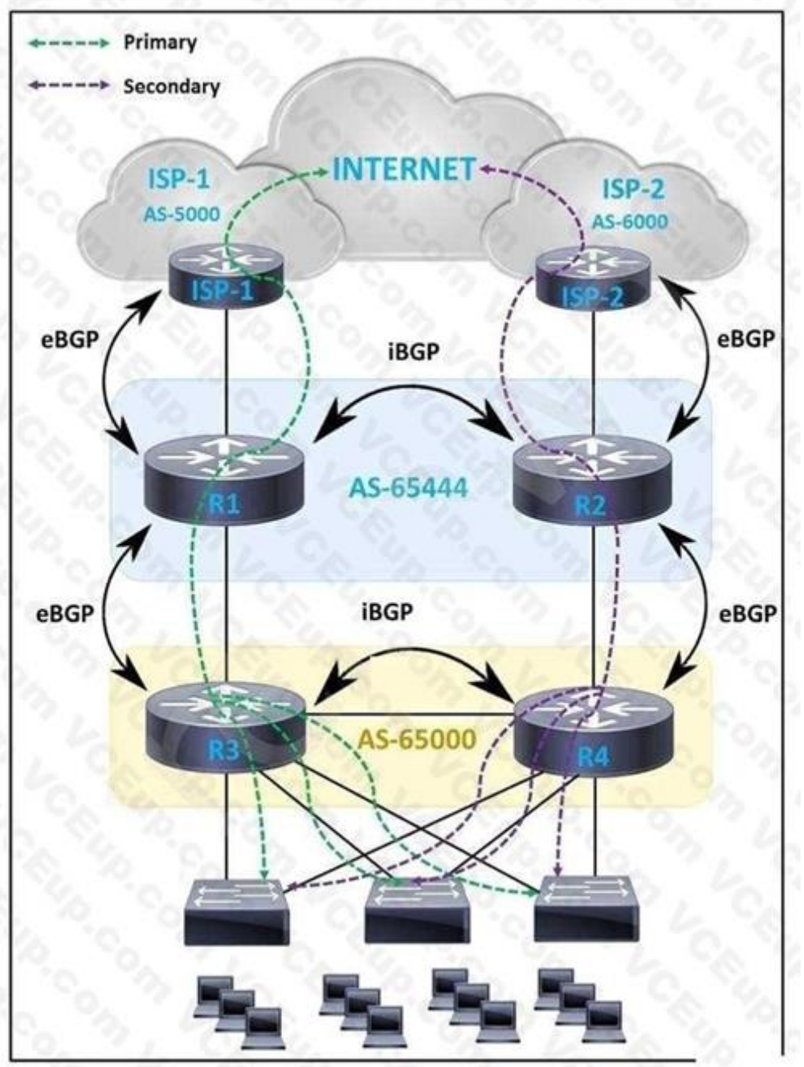
An architect must design a solution that uses the direct link between R1 and R2 for traffic from 10.10.10.0/24 toward network 10.10.20.0/24. Which solution should the architect include in the design?

A. Configure the OSPF cost of the link to a value lower than 30.
B. Lower the Administrative Distance for OSPF area 0.
C. Place the link into area 2 and install a new link between R1 and R2 in area 0.

D. Configure the link to provide multiarea adjacency.

Correct Answer: A
Section:

QUESTION 85
Refer to the exhibit.



An engineer must design a WAN solution so that ISP-1 is always preferred over ISP-2. The path via ISP-2 is considered as a backup and must be used only when the path to ISP-1 is down. Which solution must the engineer choose?
A. R1:
- Routes advertised to ISP-1: 0x AS-path prepend
- Routes received from ISP-1: HIGH local-preference
- Routes advertised to R2: no action
- Routes received from R2: community NO-EXPORT
R2:
- Routes advertised to ISP-2:5x AS-path prepend
- Routes received from ISP-2: LOW local-preference
- Routes advertised to R1: community NO-ADVERTISE

- Routes received from R1: no action

A. R1:
- Routes advertised to ISP-1: 0x AS-path prepend
- Routes received from ISP-1: HIGH local-preference
- Routes advertised to R2: community NO-EXPORT
- Routes received from R2: no action

R2:
- Routes advertised to ISP-2: 5x AS-path prepend
- Routes received from ISP-2: LOW local-preference
- Routes advertised to R1: no action
- Routes received from R1: no action

B. R1:
- Routes advertised to ISP-1: 0x AS-path prepend
- Routes received from ISP-1: LOW local-preference
- Routes advertised to R2: community NO-ADVERTISE
- Routes received from R2: no action

R2:
- Routes advertised to ISP-2: 5x AS-path prepend
- Routes received from ISP-2: HIGH local-preference
- Routes advertised to R1: no action
- Routes received from R1: community NO-ADVERTISE

C. R1:
- Routes advertised to ISP-1: 5x AS-path prepend
- Routes received from ISP-1: LOW local-preference
- Routes advertised to R2: community NO-ADVERTISE
- Routes received from R2: no action

R2:
- Routes advertised to ISP-2: 0x AS-path prepend
- Routes received from ISP-2: HIGH local-preference
- Routes advertised to R1: community NO-EXPORT
- Routes received from R1: no action

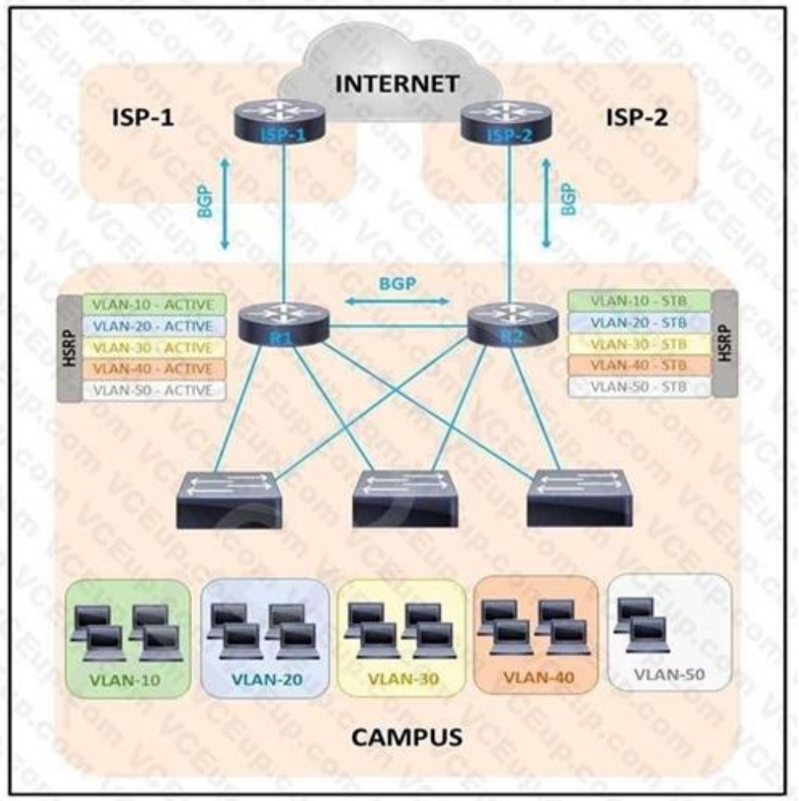
Correct Answer: B
Section:

QUESTION 86
Which topology within a network underlay eliminates the need for first hop redundancy protocols while improving fault tolerance, increasing resiliency, and simplifying the network?

A. virtualized topology
B. routed access topology
C. Layer 2 topology
D. logical fabric topology

Correct Answer: D
Section:

QUESTION 87
Refer to the exhibit.



A customer is running HSRP on the core routers. Over time the company has grown and requires more network capacity. In the current environment, some of the downstream interfaces are almost fully utilized, but others are not. Which solution improves the situation?

A. Make router R2 active for half of the VLANs.
B. Add more interfaces to R1 and R2.
C. Configure port channel toward downstream switches.
D. Enable RSTP on the downstream switches.

Correct Answer: A
Section:

QUESTION 88
An architect must develop a campus network solution that includes: logically segmented and isolated networks ability to communicate between network segments when required support for overlapping IP addresses widely available technologies to avoid purchasing specialized equipment Which solution must the architect select?

A. VSS with IGP
B. 802.1Q with HSRP
C. vPC with HSRP
D. VRF-Lite with OSPF

Correct Answer: D
Section:

QUESTION 89
Which feature is used to optimize WAN bandwidth of IGMP network traffic among WAN Edge routers in the same VPN?

A. IGMPv2
B. multicast RP
C. multicast-replicator
D. multicast service routes

Correct Answer: C
Section:

QUESTION 90
Which consideration must be made when designing a Cisco SD-Access fabric underlay?

A. Subnets must be reduced to decrease latency.
B. Up to six control planes are supported.
C. The default MTU should be increased.
D. A unified policy must be used.

Correct Answer: C
Section:
Explanation:
Look under "Underlay Network Design". Its the second bullet point. https://www.cisco.com/c/en/us/td/docs/solutions/CVD/Campus/cisco-sda-design- guide.html#Underlay_Network_Design

QUESTION 91
Which two functions does the control plane node provide in a Cisco SD-Access architecture? (Choose two.)

A. LISP proxy ETR
B. host tracking database
C. policy mapping
D. map server
E. endpoint registration

Correct Answer: B, D
Section:

QUESTION 92
An ISP provides Layer 3 VPN service over MPLS to a customer with four branches and multiple CE routers at each branch. To exchange the routes that are learned from the CE routers, which BGP address family should the ISP activate among the PE routers?

A. address-family multicast
B. L2VPN EVPN
C. VPNv4 unicast
D. IPv4 unicast

Correct Answer: C
Section:

QUESTION 93
In the SD-WAN underlay network, which WAN Edge VPN ID is defined as the transport VPN and is used to carry control traffic?

A. VPN 0
B. VPN 512
C. VPN 128
D. VPN 256

Correct Answer: A
Section:

QUESTION 94
A company's security policy requires that all connections between sites be encrypted in a manner that does not require maintenance of permanent tunnels. The sites are connected through a private MPLS-based service that uses a dynamically changing key and spoke-to-spoke communication. Which type of transport encryption must be used in this environment?

A. GETVPN
B. DMVPN
C. GRE VPN
D. standard IPsec VPN

Correct Answer: B
Section:
Explanation:
The type of transport encryption that must be used in this environment is DMVPN (Dynamic Multipoint VPN). DMVPN is a Cisco IOS Software-based solution that creates a secure network foundation and enables secure connectivity between sites by leveraging broadband connections

QUESTION 95
Which type of rendezvous point deployment is standards-based and supports dynamic RP discovery?

A. bootstrap router
B. Anycast-RP
C. Auto-RP
D. static RP

Correct Answer: A
Section:

QUESTION 96
An engineer must design a QoS solution for a customer. The network currently supports data only, but the customer will roll out VoIP and IP video in conjunction with the new QoS solution. The engineer plans to use DiffServ. To ensure priority for voice services, which model must the design include?

A. 8-class model
B. 4-class model
C. 6-class model
D. 12-class model

Correct Answer: A
Section:

QUESTION 97
An engineer must use YANG with an XML representation to configure a Cisco IOS XE switch with these specifications:
IP address 10.10.10.10/27 configured on the interface GigabitEthernet2/1/0 connectivity from a directly connected host 10.10.10.1/27 Which YANG data model set must the engineer choose?

A.

```
<interfaces xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces">
 <interface>
  <name>GigabitEthernet2/1/0</name>
  <type xmlns:ianaift="urn:ietf:params:xml:ns:yang:iana-if-type">ianaift:ethernetCsmacd</type>
  <enabled>false</enabled>
  <ipv4 xmlns="urn:ietf:params:xml:ns:yang:ietf-ip">
   <address>
    <ip>10.10.10.10</ip>
    <netmask>255.255.255.224</netmask>
   </address>
  </ipv4>
 </interface>
</interfaces>
```

B.

```
<interfaces YANG="urn:ietf:params:xml:ns:yang:ietf-interfaces">
 <interface>
  <name>GigabitEthernet2/1/0</name>
  <type YANG:ianaift="urn:ietf:params:xml:ns:yang:iana-if-type">ianaift:ethernetCsmacd</type>
  <enabled>true</enabled>
  <ipv4 YANG="urn:ietf:params:xml:ns:yang:ietf-ip">
   <address>
    <ip>10.10.10.10</ip>
    <netmask>255.255.255.224</netmask>
   </address>
  </ipv4>
 </interface>
</interfaces>
```

C.

```
<interfaces json="urn:ietf:params:json:ns:yang:ietf-interfaces">
 <interface>
  <name>GigabitEthermet2/1/0</name>
  <type json:ianaift="urn:ietf:params:json:ns:yang:iana-if-type">ianaift:ethernetCsmacd</type>
  <enabled>true</enabled>
  <ipv4 json="urn:ietf:params:json:ns:yang:ietf-ip">
   <address>
    <ip>10.10.10.10</ip>
    <netmask>255.255.255.224</netmask>
   </address>
  </ipv4>
 </interface>
</interfaces>
```

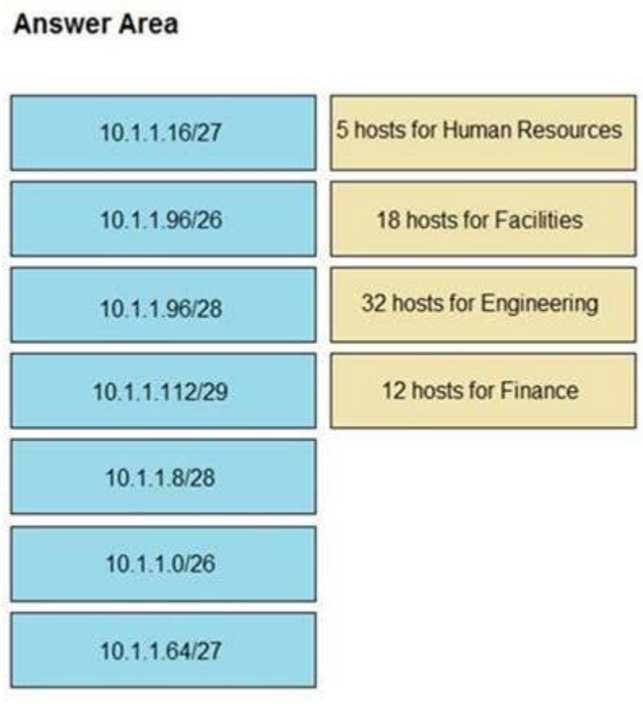
D.

```
<interfaces xmlns="urn:ietf:params:xml:ns:yang:ietf-interfaces">
 <interface>
  <name>GigabitEthernet2/1/0</name>
  <type xmlns:ianaift="urn:ietf:params:xml:ns:yang:iana-if-type">ianaift:ethernetCsmacd</type>
  <enabled>true</enabled>
  <ipv4 xmlns="urn:ietf:params:xml:ns:yang:ietf-ip">
   <address>
    <ip>10.10.10.10</ip>
    <netmask>255.255.255.224</netmask>
   </address>
  </ipv4>
 </interface>
</interfaces>
```

Correct Answer: D
Section:

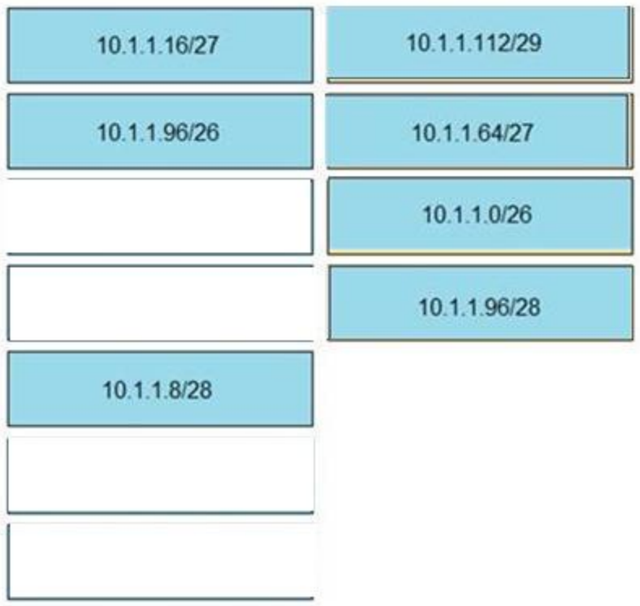
QUESTION 98
DRAG DROP
An engineer is designing an addressing plan for a small business using a single /24 network. Each department must have its own subnet. Drag and drop the subnets from the left onto the requirements of the department they fulfill on the right. Not all options are used.

Select and Place:



Correct Answer:

Answer Area



Section:

Explanation:

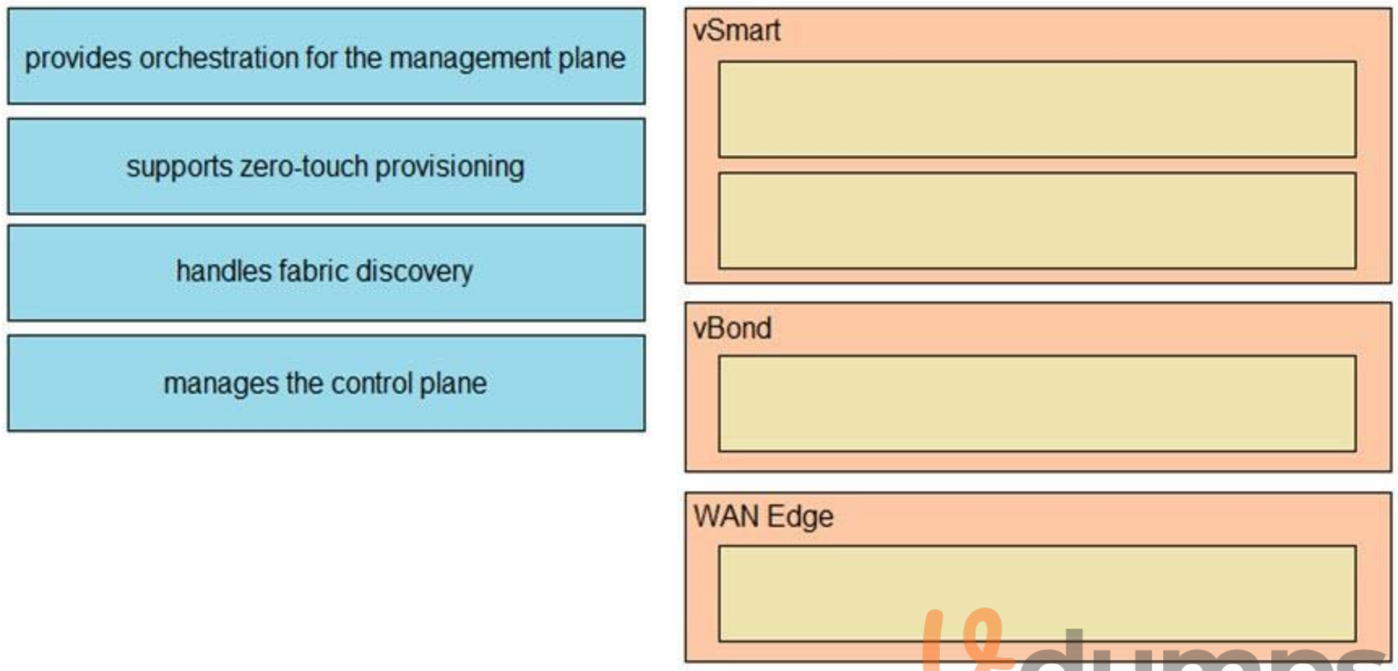
QUESTION 99

DRAG DROP

Drag and drop the properties from the left onto the Cisco SD-WAN components that perform them on the right.

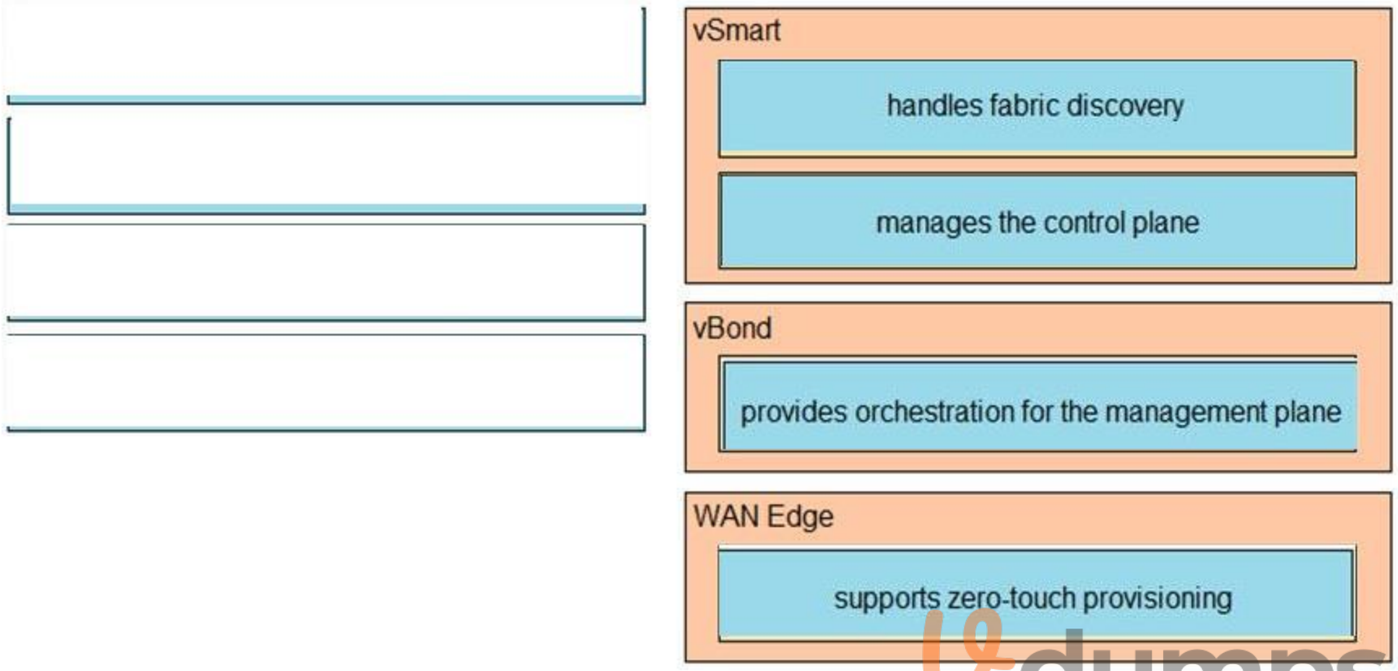
Select and Place:

Answer Area



Correct Answer:

Answer Area



Section:
Explanation:

QUESTION 100
DRAG DROP
Drag and drop the descriptions from the left onto the Cisco SD-WAN component they describe on the right.

Select and Place:

Answer Area

distributes routes and policy information via OMP	Cisco WAN Edge router
enables the communication of devices that sit behind NAT	Cisco vSmart Controller
enables centralized provisioning and simplifies network changes	Cisco vManage
is responsible for traffic forwarding, security, encryption, QoS, and routing protocols	Cisco vBond Orchestrator

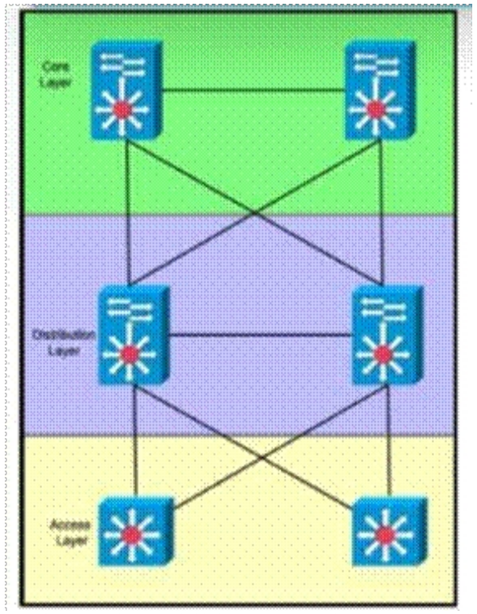
Correct Answer:

Answer Area

	is responsible for traffic forwarding, security, encryption, QoS, and routing protocols
	distributes routes and policy information via OMP
	enables centralized provisioning and simplifies network changes
	enables the communication of devices that sit behind NAT

Section:
Explanation:
Reference: https://www.cisco.com/c/en/us/td/docs/solutions/CVD/SDWAN/cisco-sdwan-design-guide.html

QUESTION 101
Refer to Exhibit.

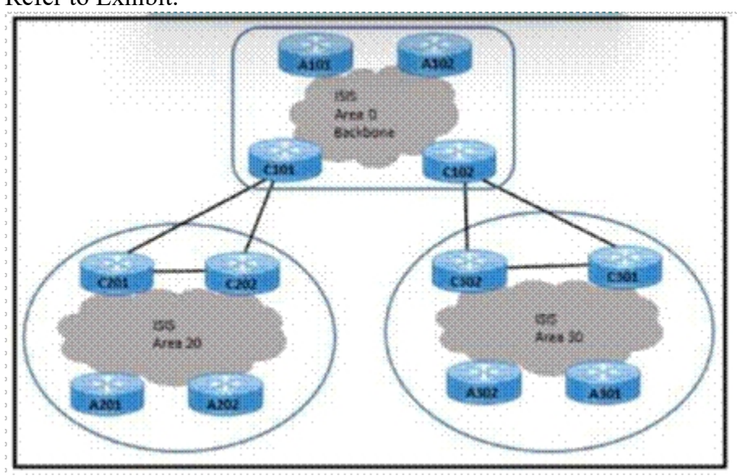


Refer to the exhibit. An engineer Is designing a multicampus Layer 3 Infrastructure using EIGRP as the routing protocol. The design must provide quick replies to queries In the event of a downlink, prevent unnecessary queries, and ensure that traffic does not unnecessarily transit the access layer.
Which two actions must the engineer take for the network design? (Choose two.)

A. Configure core layer switches as stub routers.
B. Configure distribution layer switches to summarize routes to the core layer.
C. Configure access layer switches as stub routers.
D. Configure access layer and core layer switches as stub routers.
E. Configure access layer switches to summarize routes to the distribution layer.

Correct Answer: B, C
Section:

QUESTION 102
Refer to Exhibit.



Refer to the exhibit. An architect is designing a hierarchical ISIS solution for a customer with these requirements:
Routers will double In all areas within the next 24 months.
Link flaps within areas 20 and 30 must not impact the backbone area.
Traffic originating from A201 and A302 routers must connect to application servers in the backbone.
Which design must the architect select?

A. C201 Level 1/2, A301 Level 1/2 and A102 Level 1/2
B. C101 Level 1/2. A201 Level 1, and A101 Level 2
C. C102 Level 2. A202 Level 2, and A102 Level 1
D. C302 Level 2. A302 Level 1/2. and A101 Level 2

Correct Answer: A
Section:

QUESTION 103
Which WAN connectivity technology is optimal for edge computing compared to others and why?

A. Due to low latency, high bandwidth, and closest proximity to the user. 4G/5G connectivity is the optimal WAN technology for edge computing compared to L3 VPN MPLS connectivity, which offers native separation and security with close proximity to the data center.
B. Due to high bandwidth, separation and security, and proximity to the data center network. DWDM Is the optimal WAN technology lor edge computing compared to 4G/5G connectivity, which offers native separation and security with close proximity to the data center.
C. Due to low latency, high bandwidth, and closest proximity to the user, L3 VPN MPLS connectivity is the optimal WAN technology for edge computing compared to 4G/5G connectivity, which offers native separation and security with close proximity to the data center.
D. Due to low cost, high bandwidth, low latency, and closest proximity to the edge of the network, Mero Ethernet is the optimal WAN technology for edge computing compared to MPLS, which offers native separation and security with close proximity to the data center.

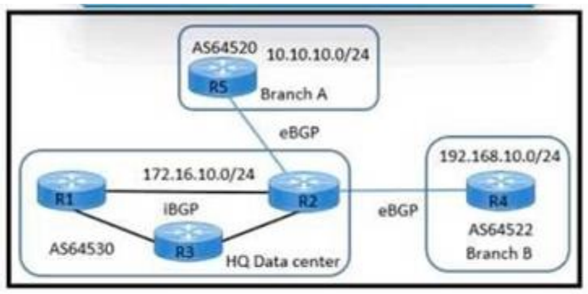
Correct Answer: A
Section:

QUESTION 104
What is the purpose of a TLOC extension in a Cisco SD-WAN network fabric?

A. to facilitate WAN Edge router redundancy within a site
B. to identify the physical interface where a WAN Edge router connects to the WAN transport network
C. to expand the number of colors that are potentially applied to a network transport interface
D. to aggregate multiple physical interfaces into a single logical Interface

Correct Answer: A
Section:

QUESTION 105
Refer to Exhibit.



Refer to the exhibit. A network engineer with an employee ID: 4384:99:754 must design a BGP solution based on these conditions:
Traffic sessions occur between the branches and the data center.
Branch B has limited resources to process routing updates.
HQ must filter out all prefixes from branch A to R4.
Which outbound route filtering (ORF) solution must the engineer choose?

A. Use a prefix list with the 192.168.10.0/24 subnet for ORF on R4.
B. Use a prefix list with the 10.10.10.0/24 subnet for ORF on R2
C. Use a prefix list with the 10.10.10.0/24 subnet for ORF on R5.
D. Use a prefix list with the 192.168.10.0/24 subnet for ORF on R2.

Correct Answer: B
Section:

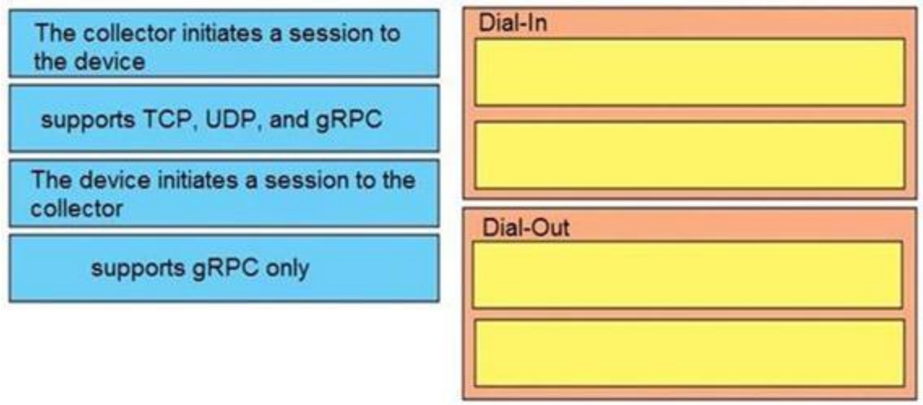
QUESTION 106
Which information update is carried by OMP and enables the Cisco SD-WAN to build a secure overlay fabric on top of any public or private transport without regard for the actual link IP?

A. TLOC
B. RLOC
C. LISP PITR
D. DTLS

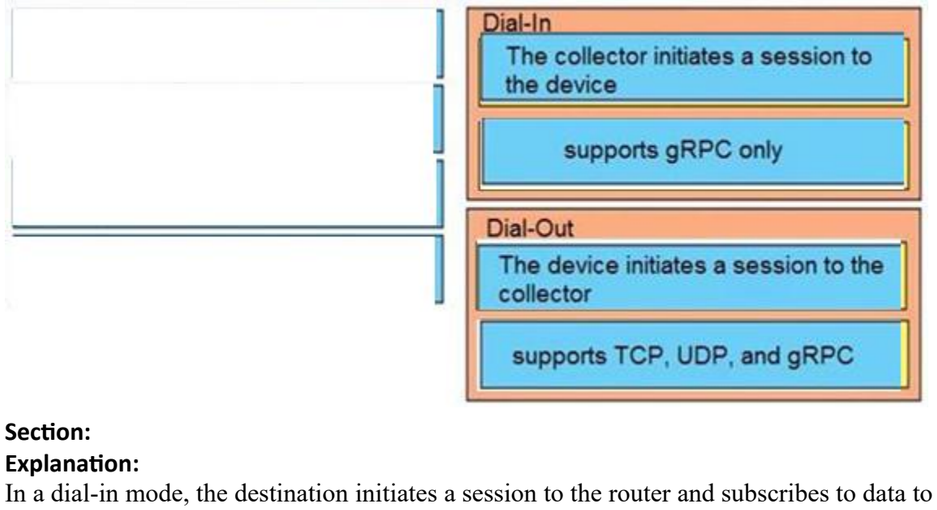
Correct Answer: D
Section:

QUESTION 107
DRAG DROP
Drag and drop the characteristics from the left onto the correct telemetry mode on the right.

Select and Place:



Correct Answer:



Section:

Explanation:

In a dial-in mode, the destination initiates a session to the router and subscribes to data to be streamed. Dial-in mode is supported over gRPC in only 64-bit platforms

In a dial-out mode, the router initiates a session to the destinations based on the subscription. All 64-bit IOS XR platforms (except for NCS 6000 series routers) support gRPC and TCP protocols. All 32-bit IOS XR platforms support only TCP.

Reference:

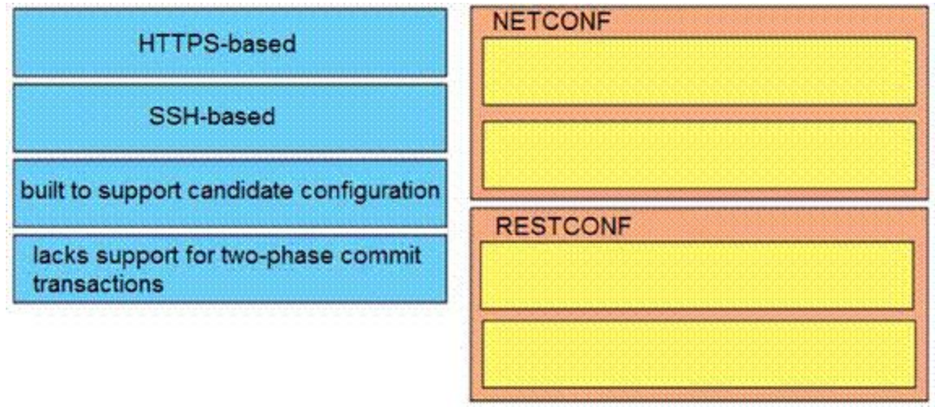
https://www.cisco.com/c/en/us/td/docs/iosxr/asr9000/telemetry/b-telemetry-cg-asr9000-61x/b-telemetry-cg-asr9000-61x_chapter_010.html#id_36445

QUESTION 108

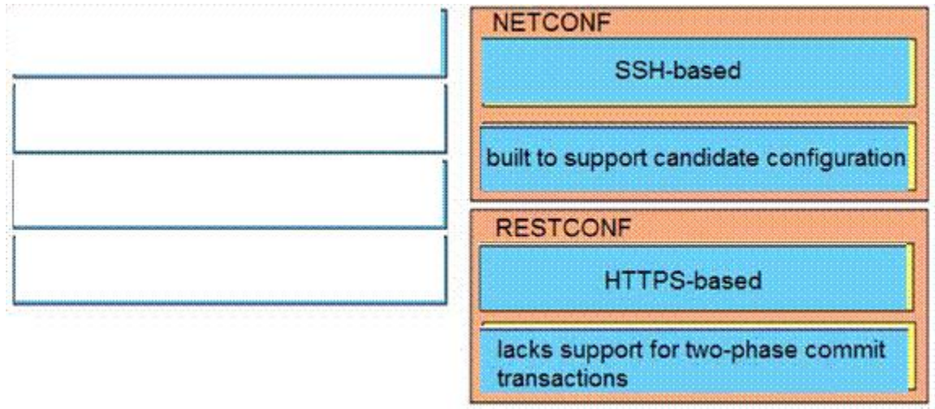
DRAG DROP

Drag and drop the properties from the left onto the protocols they describe on the right.

Select and Place:



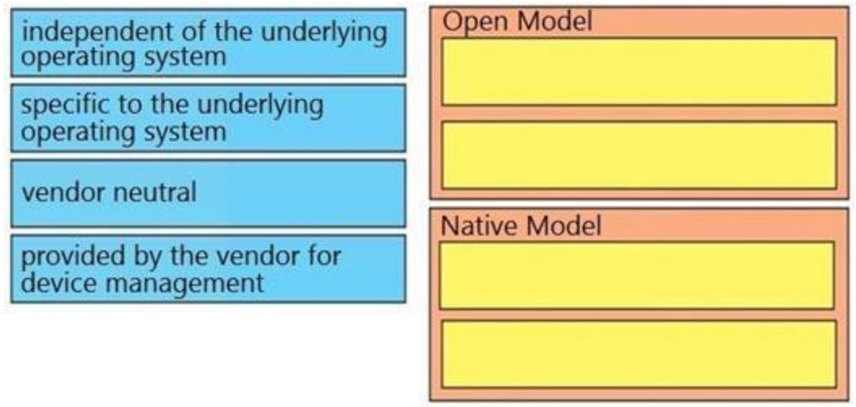
Correct Answer:



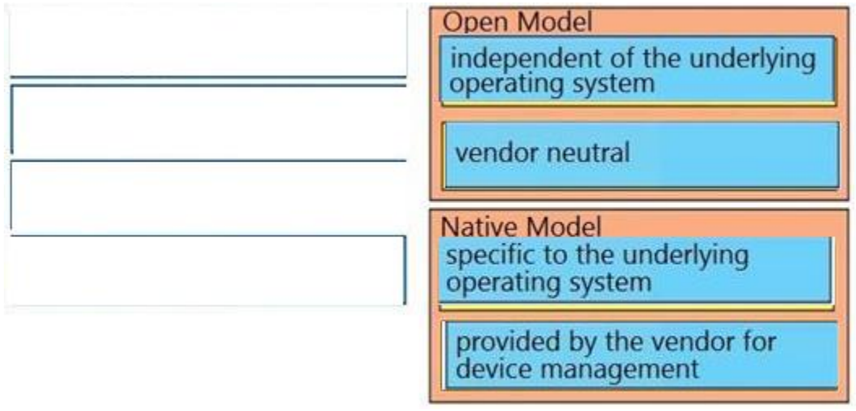
Section:
Explanation:
Reference:
https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/prog/configuration/166/b_166_programmability_cg/b_166_programmability_cg_chapter_01011.html
https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/prog/configuration/169/b_169_programmability_cg/configuring_yang_datamodel.html

QUESTION 109
DRAG DROP
Drag and drop the characteristics from the left onto the Yang model they describe on the right.

Select and Place:



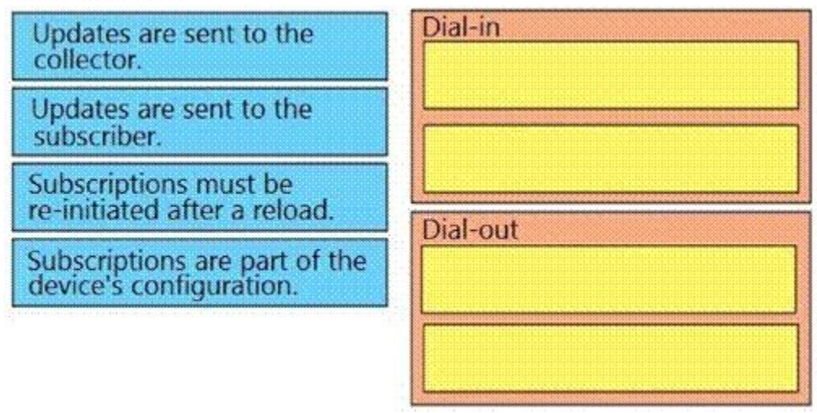
Correct Answer:



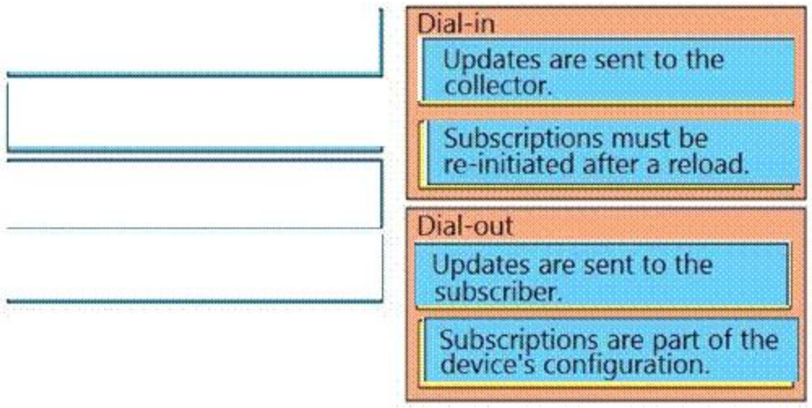
Section:
Explanation:

QUESTION 110
DRAG DROP
Drag and drop the model driven telemetry characteristics from the left onto the mode they belong to on the right.

Select and Place:



Correct Answer:



Section:

Explanation:

Table 2. Dial-in and Dial-Out Model-Driven Telemetry

Dial-In (Dynamic)	Dial-Out (Static or Configured)
Telemetry updates are sent to the initiator or subscriber.	Telemetry updates are sent to the specified receiver or collector.
Life of the subscription is tied to the connection (session) that created it, and over which telemetry updates are sent. No change is observed in the running configuration.	Subscription is created as part of the running configuration; it remains as the device configuration till the configuration is removed.
Dial-in subscriptions need to be reinitiated after a reload, because established connections or sessions are killed during stateful switchover.	Dial-out subscriptions are created as part of the device configuration, and they automatically reconnect to the receiver after a stateful switchover.
Subscription ID is dynamically generated upon successful establishment of a subscription.	Subscription ID is fixed and configured on the device as part of the configuration.

QUESTION 111

DRAG DROP

Drag and drop the components in a Cisco SD-Access architecture from the left onto their descriptions on the right.

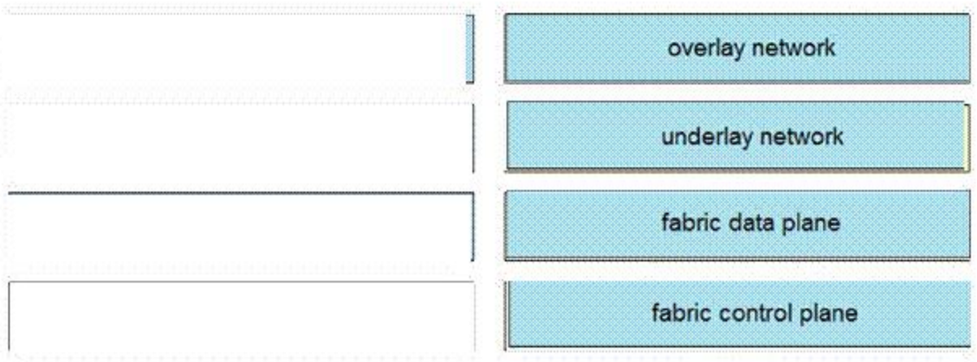
Select and Place:

Answer Area

underlay network	uses VXLAN to overlay a Layer 2 network on top of a Layer 3 network
overlay network	defined by the physical switches and routers
fabric control plane	contains data plane traffic and control plane signaling
fabric data plane	uses LISP to exchange EID-to-RLOC mapping

Correct Answer:

Answer Area

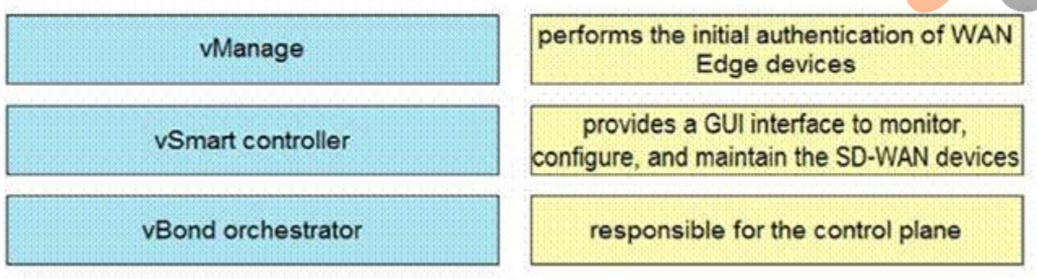


Section:
Explanation:

QUESTION 112
DRAG DROP
Drag and drop the elements from the left onto the functions they perform in the Cisco SD-WAN architecture on the right.

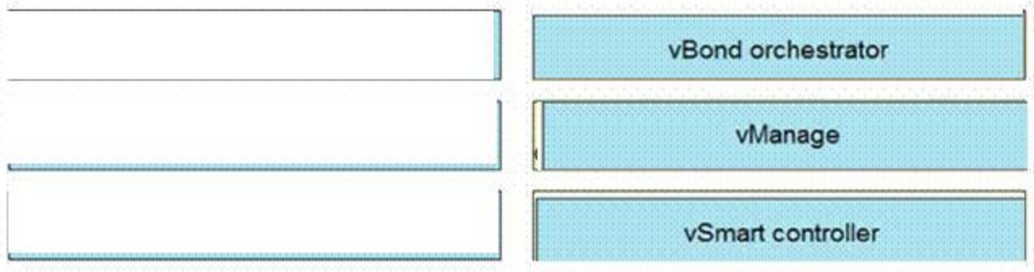
Select and Place:

Answer Area



Correct Answer:

Answer Area

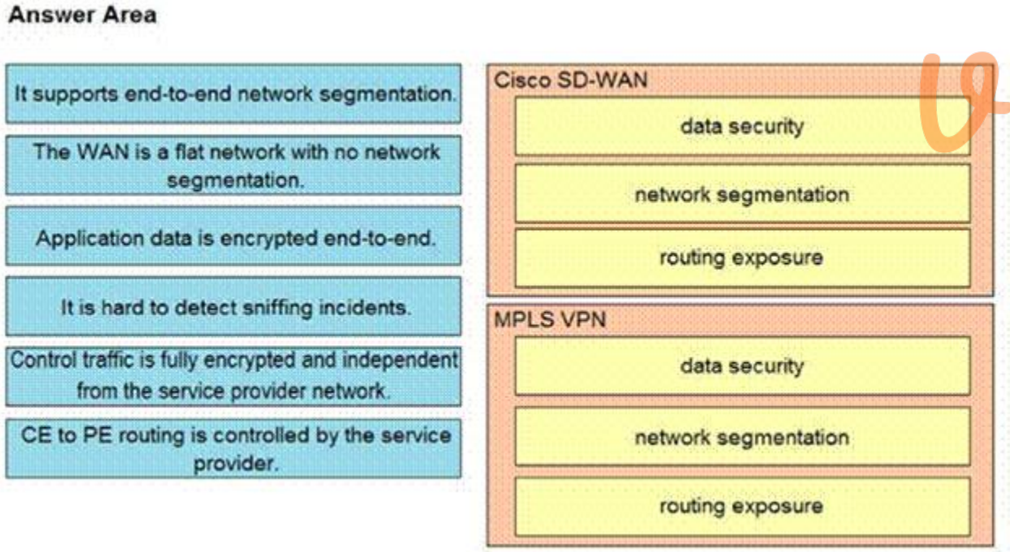


Section:
Explanation:

QUESTION 113
DRAG DROP
Drag and drop the descriptions from the left onto the corresponding WAN connectivity types and categories on the right.

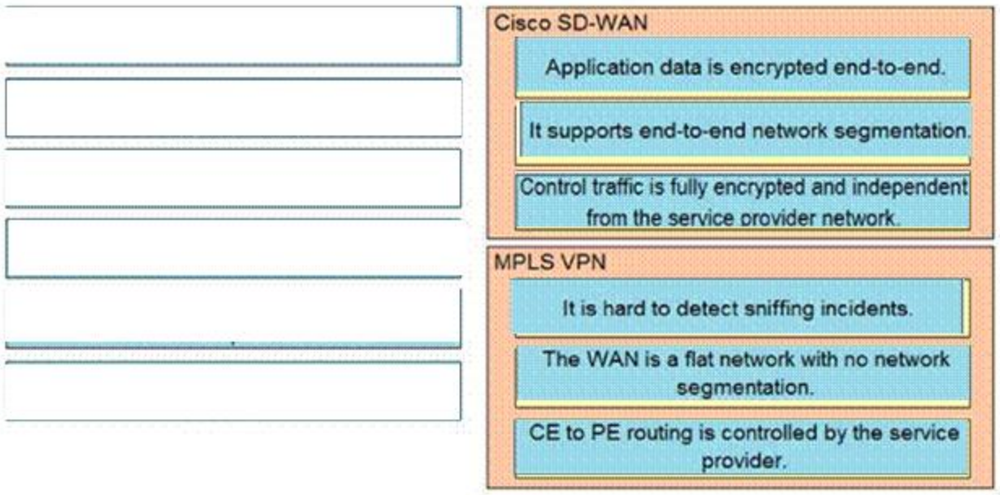
Select and Place:

Answer Area



Correct Answer:

Answer Area



Section:
Explanation:

QUESTION 114
DRAG DROP
Drag and drop the descriptions from the left onto the corresponding VPN types on the right.

Select and Place:

Answer Area

The service provider participates in routing with the customer.

The customer controls the IP routing and policy governance.

Sites appear to each other to be directly connected at Layer 3.

Sites appear to be connected via the MPLS service provider network.

The customer initiates Layer 3 connectivity with the remote sites.

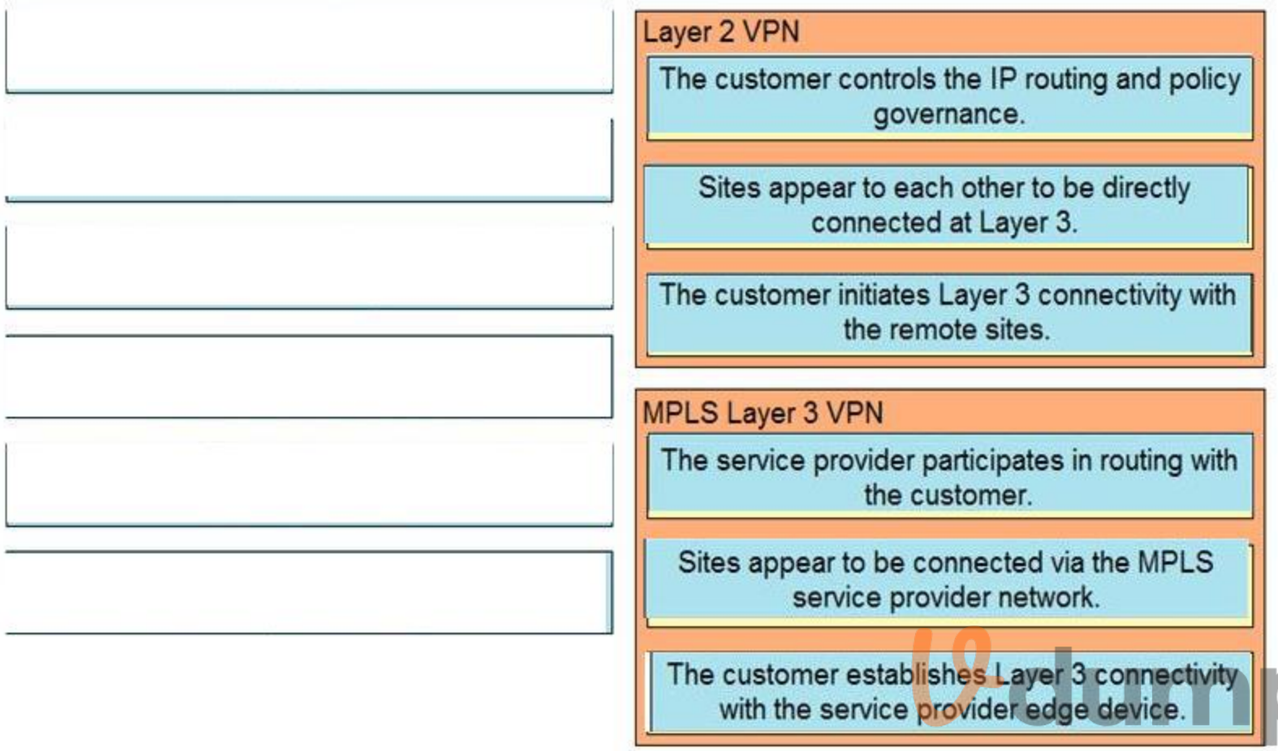
The customer establishes Layer 3 connectivity with the service provider edge device.

Layer 2 VPN

MPLS Layer 3 VPN

Correct Answer:

Answer Area

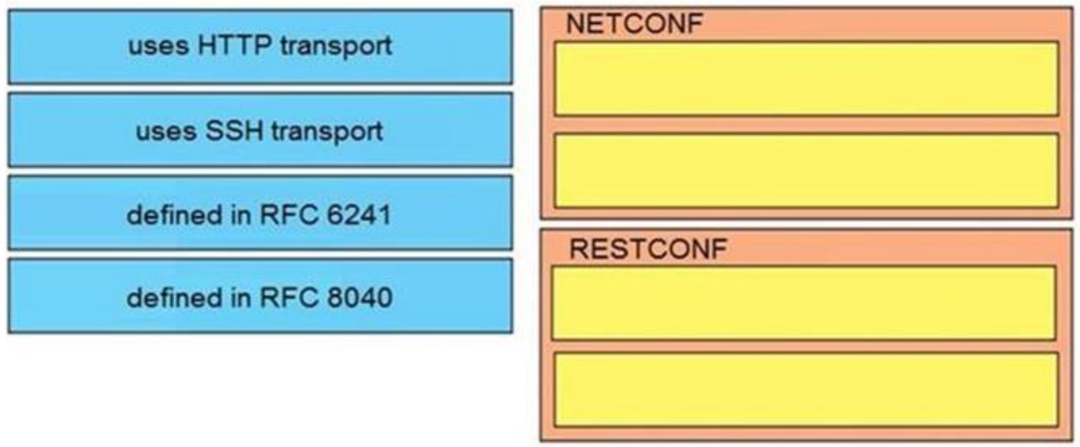


Section:
Explanation:

QUESTION 115
DRAG DROP
Drag and drop the characteristics from the left onto the configuration protocols they describe on the right.

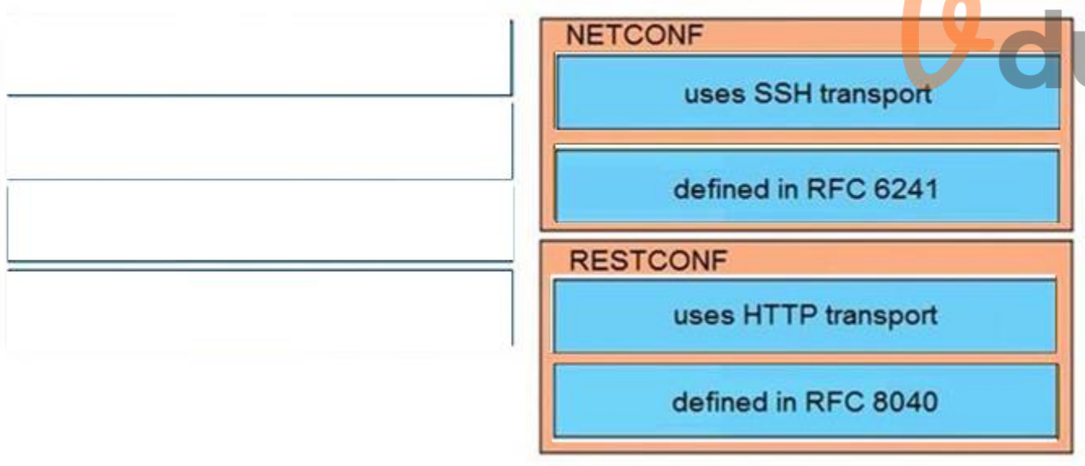
Select and Place:

Answer Area



Correct Answer:

Answer Area



Section:
Explanation:

QUESTION 116
Since installing a cisco TelePresence system, the company is experiencing other application having response issues when the system in use. As a result, the company asked an architect to recommend a QoS solution. The customer is currently using a CBWFQ policy to manage traffic on an internet connection with a speed of 100 Mbps. Which link-capacity limit must the architect choose for strictpriority for the real-time traffic?

A. 25 Mbps
B. 50 Mbps
C. 33 Mbps

D. 75 Mbps

Correct Answer: C
Section:
Explanation:
https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/qos_conmgt/configuration/xe-3s/qos-conmgtxe-3s-book/qos-conmgt-oview.html#GUID-48F6AF58-5CCC-44A0-B868-125AE453FF2A%20%20%20%20%20%20(75%20Mbps)
The sum of all bandwidth allocation on an interface cannot exceed 75 percent of the total available interface bandwidth. The remaining 25 percent is used for other overhead, including Layer 2 overhead, routing traffic, and best-effort traffic.
Bandwidth for the CBWFQ class-default class, for instance, is taken from the remaining 25 percent.

QUESTION 117
A company plans to transition to IPv6. They will link their IPv4 addresses to the lowest significant bits of the new Ipv6 addresses. A network administrator with an employee id: 4264:42:116 is preparing a mapping schema for the new IPv6 addresses. Which address does the 172.16.10.0/24 network translate to?

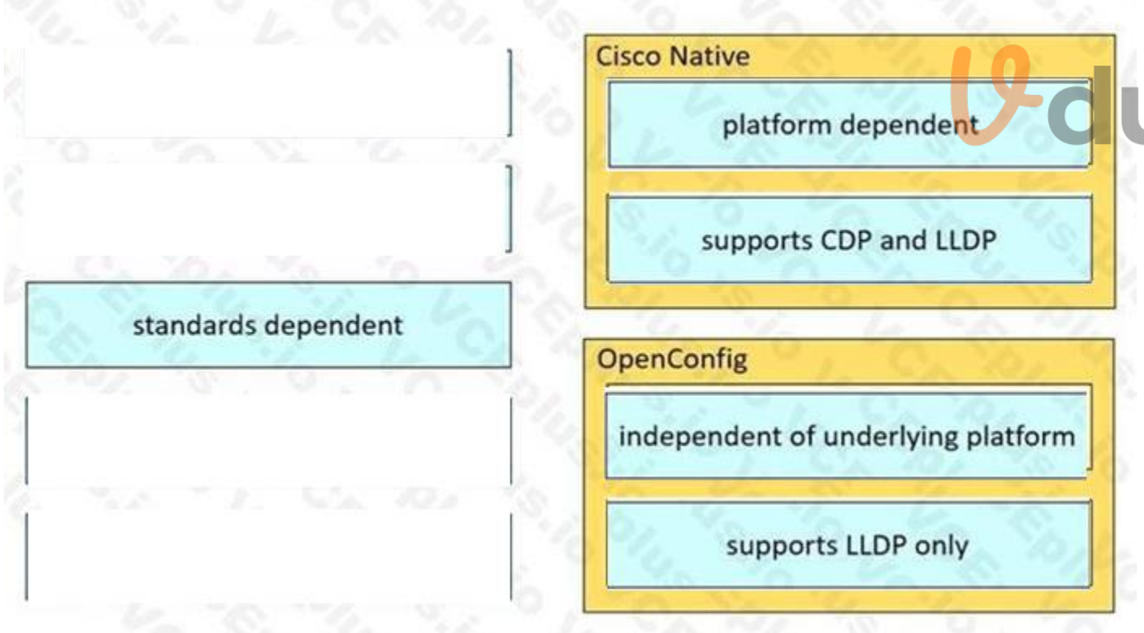
A. 2001:db8:abcd::ac10:a00/120
B. 2001:db8:abcd:172:16:10::/96
C. 2001:db8:abcd:11d8:a00/120
D. 2001:db8:ac10:0a00::/64

Correct Answer: B
Section:
Explanation:
" link their IPv4 addresses to the lowest significant bits " This can never be a /64 network but must me a /120 network.

QUESTION 118
DRAG DROP
Drag and drop the characteristics from the left onto the YANG models they describe on the right. Not all options are used.

Select and Place:

Correct Answer:



Section:
Explanation:

QUESTION 119
DRAG DROP
Drag and drop the elements from the left onto the protocols where they are used on the right.

Select and Place:

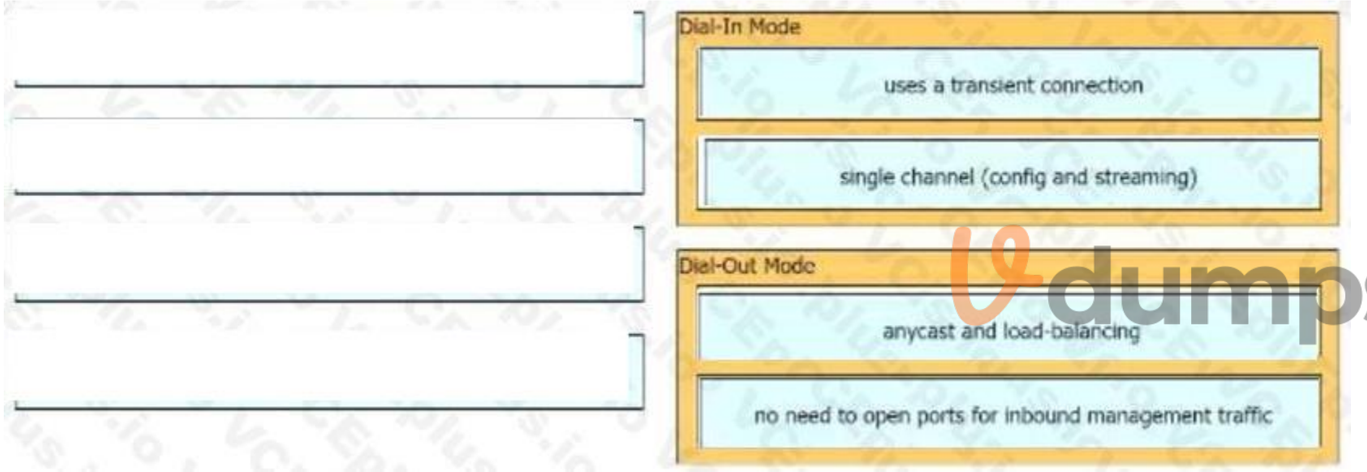
Correct Answer:

Section:
Explanation:

QUESTION 120
DRAG DROP
Drag and drop the model-driven telemetry considerations from the left onto the modes they apply to on the right.

Select and Place:

Correct Answer:



Section:
Explanation:
https://xrdocs.io/telemetry/blogs/2017-01-20-model-driven-telemetry-dial-in-or-dial-out/

QUESTION 121
DRAG DROP
Drag and drop the steps WAN Edge performs when on-boarded into the Cisco SD-WAN overlay from the left into the order they are completed on the right.

Select and Place:

Answer Area

WAN Edge authenticates to vBond.	Step 1
WAN Edge establishes an OMP session to vSmart.	Step 2
WAN Edge establishes a secure connection to vManage and vSmart.	Step 3
WAN Edge establishes IPsec connections to other TLOC locations.	Step 4

Correct Answer:

Answer Area

	WAN Edge authenticates to vBond.
	WAN Edge establishes a secure connection to vManage and vSmart.
	WAN Edge establishes an OMP session to vSmart
	WAN Edge establishes IPsec connections to other TLOC locations.

Section:
Explanation:

QUESTION 122
An engineer must peer with an ISP for internet connectivity using BGP, initially, the engineer wants to receive only specific prefixes from the ISP and a default route. However, the solution must provide the flexibility to add prefixes in the future at short notice. The ISP has a two-week change process in place. Which route filtering solution must the engineer employ?

A. Request a limited internet routing table and a default route from the ISP and configure the BGP max-limit to 1 with an access list that permits only the specific internet prefixes and blocked networks
B. Request only the required prefixes and default route be advertised from the ISO with whitelisted networks
C. Request a full internet routing table and a default route from the ISP and configure inbound route filtering with a prefix list that permits the default route and required prefixes
D. Configure outbound route filtering on the enterprise and ISP so that the enterprise tell the ISP which prefixes are required

Correct Answer: C
Section:

Explanation:
anychange on the prefix list, engineer only need to update the preifx list and restart the BGP peer to the ISP. soft-reconfiguration inbound could be used to reduce down time of reset BGP peer, but it require lots of memory and in this case, connection to ISP and tons of route learnt will not be apporitated.

QUESTION 123
Prior to establishing full-mesh iPsec tunnels in a typical Cisco SD-WAN deployment, which mechanism do WAN Edge routers use to exchange Key information for data plane encryption?

A. They use vSmart controllers as key exchange servers.
B. They use vManage as a key exchange server.
C. They use IKEv2 when exchanging keys with each other.
D. They use vBond as a key exchange server.

Correct Answer: A
Section:

QUESTION 124
Which control plane protocol is responsible for EID-to-RLOC mapping concerning SO-Access Architecture?

A. GBAC
B. LISP
C. CEF
D. VXLAN

Correct Answer: B
Section:

QUESTION 125
Which feature minimizes HOC connections and reduces strain on the vSmart controller m an SO-WAN architecture?

A. control-connections
B. corrtroWirection
C. color
D. affinity

Correct Answer: D
Section:

QUESTION 126
In a cisco SD-Access brownfield deployment scenario, which configuration deployment must be taken with Cisco DNA center?

A. Subnet stretching
B. LAN automation
C. Automated UNDERLAY
D. Manual underlay

Correct Answer: B
Section:

QUESTION 127
Refer to the exhibit.

A network engineer must design a multicast solution based on:
* Many-to-many communications between the users and sources
* Support of up to 50 multicast sources
* Users that must register for steams
Which multicast solution must the engineer select?

A. Any Source Multicast
B. Bidirectional PIM
C. Source-Specific Multicast
D. Multicast VPN

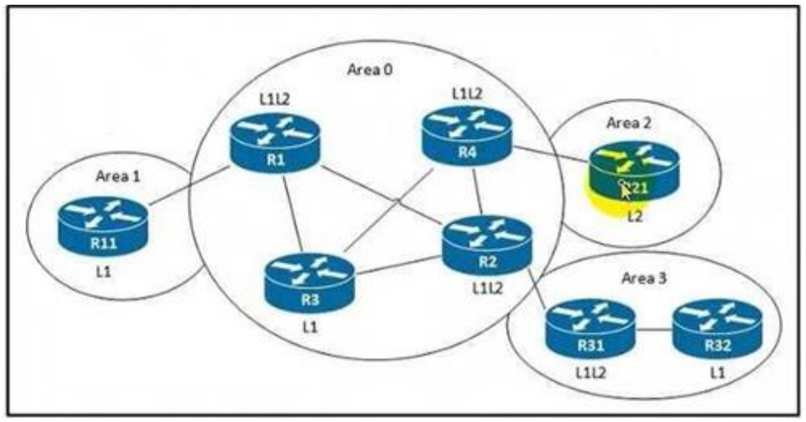
Correct Answer: B
Section:

QUESTION 128
A customer plans to adopt distributed QoS in their enterprise WAN. The policy must allow for individual packet marking according to the type of treatment required and for forwarding based on hop-by-hop treatment locally defined on each device. Which technology must the customer select?

A. CBWFQ
B. LLQ
C. Diffserv
D. IntServ

Correct Answer: C
Section:

QUESTION 129
Refer to Exhibit.

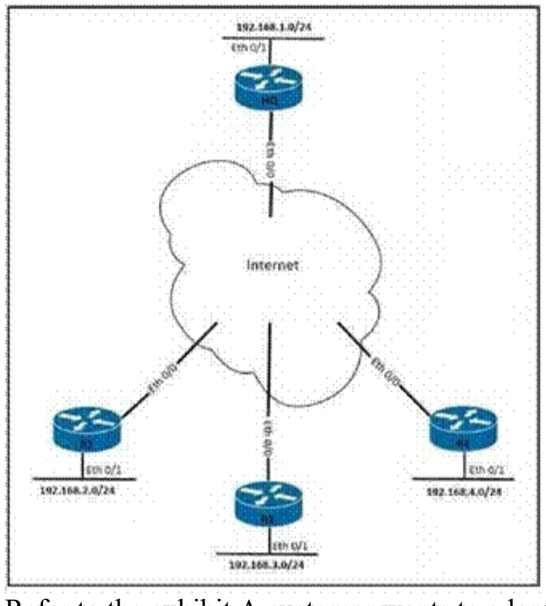


Refer to the exhibit. A customer experienced an unexpected network outage when the link between
R1 and R2 went down. An architect must design a solution to ensure network continuity in the event the link fails again. Which solution should the design include?

A. Make R31 an L1 router.
B. Make R3 an L1L2 router
C. Make Area 0 L2-only
D. Make R11 an L2 router.

Correct Answer: B
Section:

QUESTION 130
Refer to Exhibit.

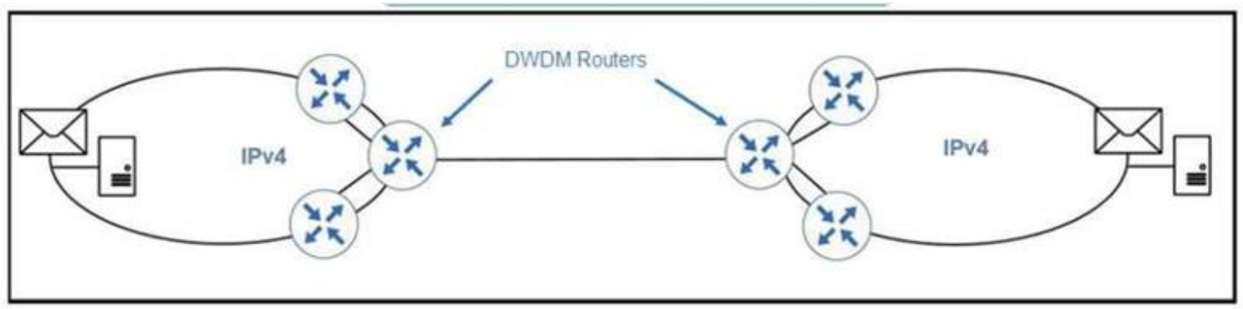


Refer to the exhibit A customer wants to adopt a dynamic site-to-site VPN solution to secure communication for VoIP, video, and FTP traffic between the remote branches and the headquarters.
The customer also wants the branches to communicate directly, thereby reducing traffic at the headquarters location. The solution must consider that the branch routers are limited in available memory.
Which VPN solution meets these requirements?

A. DMVPN Phase 2 Hub and Spoke design
B. DMVPN Phase 3 Hub and Spoke design
C. DMVPN Phase 1 Hub and Spoke design
D. DMVPN Phase 3 Hierarchical design

Correct Answer: B
Section:

QUESTION 131
Refer to Exhibit.



Refer to the exhibit. An engineer is planning an IPv4 to IPv6 migration solution for a customer. The routers in the network can support IPv4 and IPv6, except for the DWDM routers. The DWDM routers provide a Layer 2 link in which the routers peer directly with each other across a DWDM circuit. The circuit also provides connectivity between the mail servers. Which IPv6 migration technique must the engineer deploy?

A. dual-stack
B. 6to4
C. ISATAP
D. 6rd

Correct Answer: D
Section:

QUESTION 132
An engineer must design a routing solution for a company that is single-homed to an ISP. The company's goal is to run BGP between the CE and the PE devices. To support running BGP, the company obtained a public AS number and IP subnet from ARIN. Which solution must the engineer select?

A. • The customer announces the public IP subnet to the ISP
   • The ISP announces the default route to the customer.
B. • The customer announces the public IP subnet to the ISP
   • The ISP announces the BGP table to the customer
C. • The ISP announces the customer public IP subnet.
   • The ISP announces the partial BGP table to the customer.
D. • The customer announces the default route to the ISP
   • The ISP announces the default route to the customer

Correct Answer: C
Section:

QUESTION 133

Which function do reverse path forwarding mechanisms perform in a multicast deployment?

A. They notify the upstream router of multicast traffic.
B. They send PIM prune message toward multicast sources.
C. They eliminate overlapping multicast addresses
D. They prevent loops and duplicate packets.

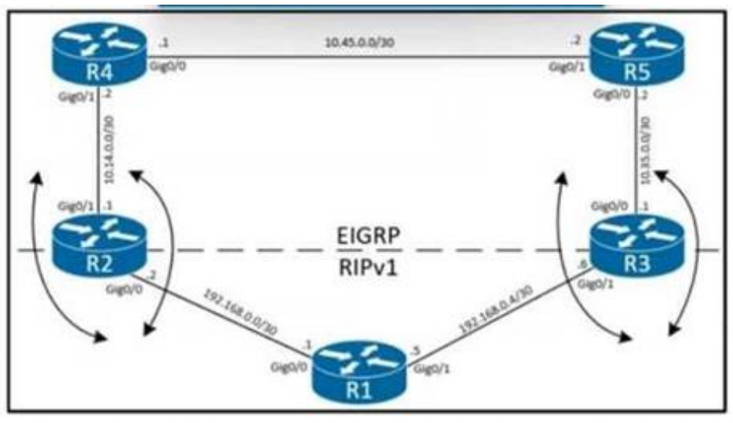
Correct Answer: D
Section:
Explanation:
Reverse path forwarding (RPF) mechanisms are used to prevent loops and duplicate packets in multicast deployments [1]. The RPF check verifies that all multicast traffic received on a router is sourced from the expected direction, ensuring that multicast traffic is not looped back in the network. The RPF check works by comparing the source IP address of a multicast packet with the routing table, and only forwarding it if it matches the expected entry.

QUESTION 134
An engineer must design a management network for a customer's enterprise network. The design must:
provide the ability to grant and revoke access privileges allow only protocols SSH, NTP, FTP, and SNMP restrict access to management Interfaces
Which solution must the engineer choose to meet the requirements?

A. in-band
B. enterprise internal private
C. out-of-band
D. mGRE

Correct Answer: C
Section:

QUESTION 135
Refer to Exhibit.



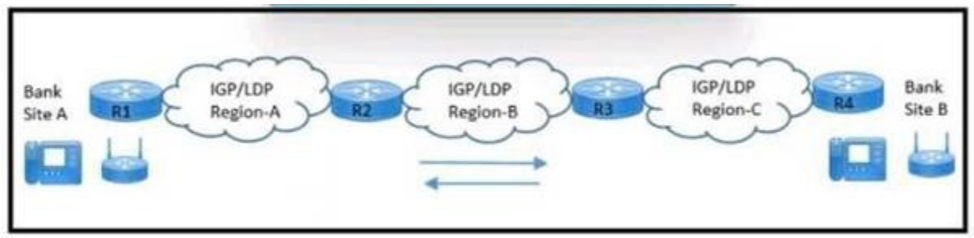
Refer to the exhibit. An engineer Is designing a redistribution solution for a customer. The customer recently acquired another company and decided to integrate the new network running RlPv1 with the company's existing network. Which redistribution technique must the engineer select to ensure the multipoint two-way redistribution does not cause routing loops?

A. distribute-lists inbound under the EIGRP process denying RIPv1 learned prefixes
B. distribute-lists outbound under the EIGRP process denying RIPv1 learned prefixes
C. distribute-lists outbound under the RIPv1 process denying EIGRP learned prefixes

D. distribute-lists inbound under the RIPv1 process denying EIGRP learned prefixes

Correct Answer: C
Section:

QUESTION 136
Refer to Exhibit.

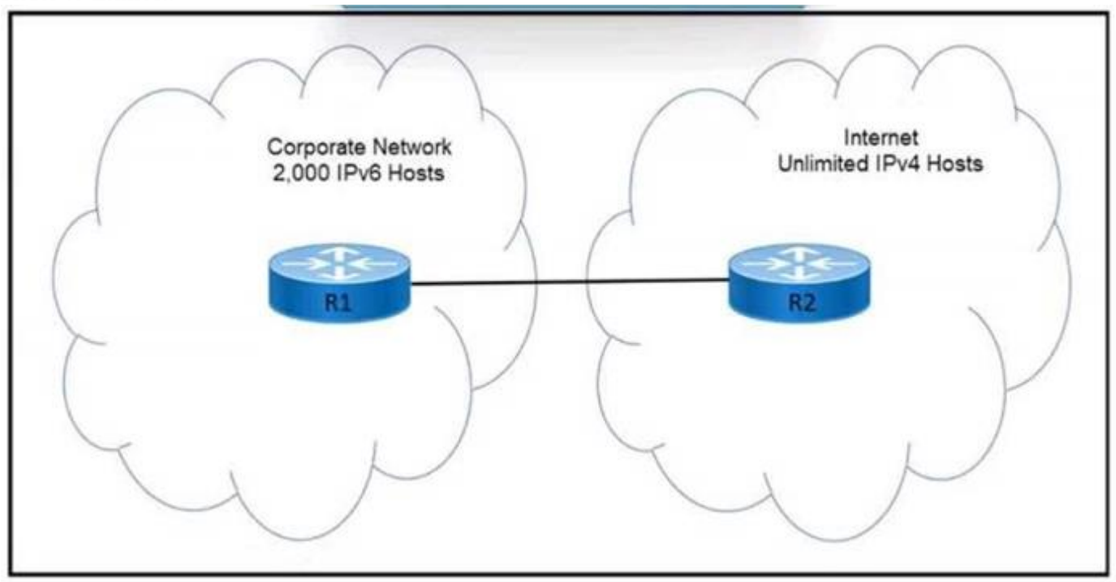


Refer to the exhibit. An architect must design a solution to connect bank site A with bank site B and support:
network operation center monitoring end-to-end L3VPN and L2VPN traffic company adding thousands of routes in the next two years
Which two BGP solutions must the design include? (Choose two.)

A. Establish full mesh IBGP peering with ail routers in different IGP domains.
B. Redistribute different IGP domain routes in a BGP IPv4 routing instance.
C. Transport site routes using a BGP VPNv4 address family on the PE routers.
D. Apply BGP policies on all routers to filter out ABR and PE loopback IP addresses.
E. Connect multiple IGP'LDP domains using a BGP IPv4 unicast family on the ABR.

Correct Answer: A, C
Section:

QUESTION 137
Refer to Exhibit.



Refer to the exhibit. An engineer must design an address translation solution to provide Internet connectivity for the corporate network. The design Is restricted to the 172.16.168.0/22 subnet.

Which solution must the engineer choose?

A. stateful NAT64
B. stateless NAT64
C. stateful NAT66
D. stateless NAT66

Correct Answer: A
Section:

QUESTION 138
Which feature provides the capability for intra-VN traffic filtering and control within the Cisco SO- Access architecture?

A. scalable groups
B. MAC ACL
C. prefix list
D. service policy

Correct Answer: A
Section:

QUESTION 139
How does a model-driven telemetry dial-out approach function?

A. The device initiates a session to the collector based on the subscription.
B. The collector initiates a session to the device and subscribes to data to be streamed.
C. The collector Initiates a session to the device and gets the data of a previously defined subscription.
D. The device initiates a session to the collector and negotiates a subscription.

Correct Answer: D
Section:

QUESTION 140
How do IETF. OpenConfig and Cisco nativo YANG models differ when used to configuro the same feature on an infrastructure device?

A. OpenConfig models are more comprehensive than IETF.
B. Cisco native models are less comprehensive than OpenConfig.
C. Cisco native models are less comprehensive than IETF.
D. IETF models are more comprehensive than OpenConfig.

Correct Answer: A
Section:

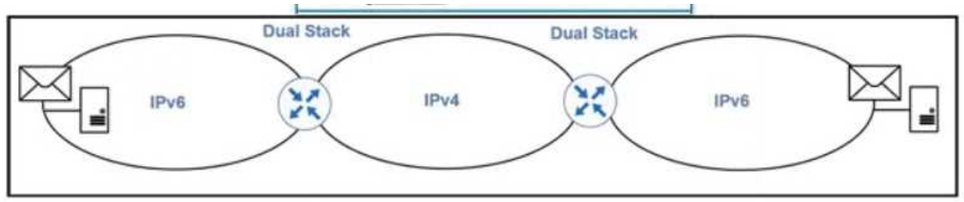
QUESTION 141
Which protocol is deployed through LAN automation to build node-to-node underlay adjacencies in SDA?

A. IS-IS

B. OLISP
C. OSPF
D. VXLAN

Correct Answer: A
Section:

QUESTION 142
Refer to the exhibit.



Refer to the exhibit. Which method must an architect use to provide connectivity between the mail servers?

A. ISATAP
B. 6to4
C. IPv4 compaliDie
D. 6rd

Correct Answer: C
Section: