Exam Questions 300-515

Implementing Cisco Service Provider VPN Services (SVPI)
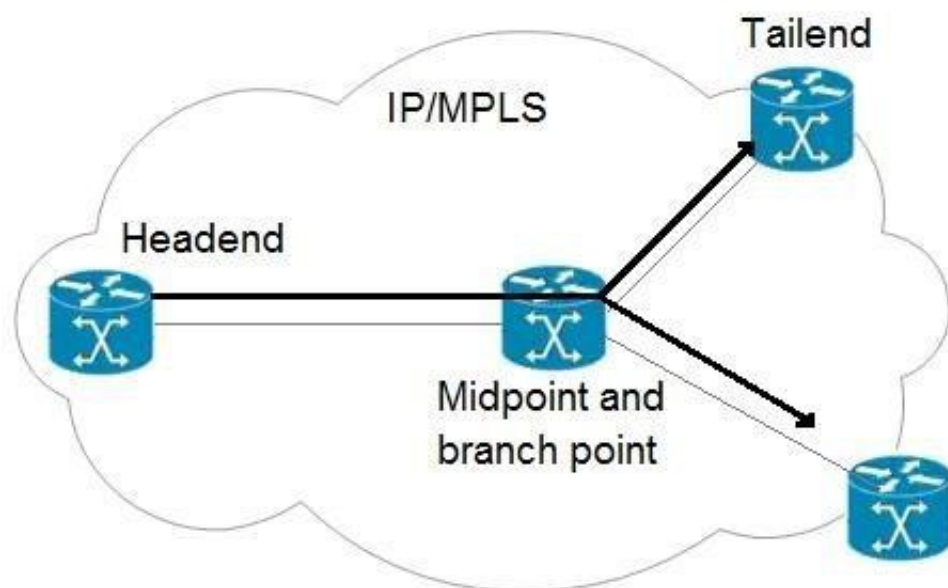
https://www.2passeasy.com/dumps/300-515/

NEW QUESTION 1
- (Exam Topic 1)
Refer to the exhibit.

An engineer is implementing an MPLS P2MP TE solution. Which type of router can serve as the midpoint router and the tailend router in this P2MP TE network implementation?

A. headend
B. source
C. transit
D. bud

Answer: D

Explanation:
https://www.cisco.com/c/en/us/td/docs/routers/asr920/configuration/guide/mpls/mp-te-path-setup-xe-3s-asr920-book/mp-te-path-setup-xe-3s-asr920-book_chapter_01.html

NEW QUESTION 2
- (Exam Topic 1)
Which two BGP attributes prevent loops in a route reflector environment? (Choose two.)

A. cluster ID
B. local preference
C. origin
D. originator ID
E. AS_PATH

Answer: AD

Explanation:
Reference: https://www.ciscopress.com/articles/article.asp?p=2756480&seqNum=10

NEW QUESTION 3
- (Exam Topic 1)
An engineer is investigating an MPLS LDP issue. Which command should an engineer use on a Cisco IOS XE device to display the contents of the LFIB?

A. show mpls forwarding-table
B. show mpls ldp neighbors
C. show mpls ldp labels
D. show mpls ldp bindings

Answer: A

Explanation:
Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/mpls/command/mp-cr-book/mp-s2.html

NEW QUESTION 4
- (Exam Topic 1)
Which two statements describe primary differences between MPLS Layer 2 and Layer 3 VPNs? (Choose two.)

A. Layer 2 VPNs use IPsec tunneling, but Layer 3 VPNs use L2TPv3 tunneling.
B. Layer 2 VPNs use AToM, but Layer 3 VPNs use MPLS/BGP.
C. Layer 2 VPNs use BGP, but Layer 3 VPNs use VPLS.
D. Layer 2 VPNs use L2TPv3 tunneling, but Layer 3 VPNs use GRE tunneling.
E. Layer 2 VPNs use IPsec tunneling, but Layer 3 VPNs use pseudowires to provide tunneling.

Answer: BD

NEW QUESTION 5

- (Exam Topic 1)
Which two are characteristics of using a non-MPLS peer-to-peer model over a traditional overlay model? (Choose two.)

A. The model is suited for nonredundant configurations.
B. The configuration on a newly added site PE is updated automatically.
C. Provider routers know the customer network topology.
D. The customer specifies the exact site-to-site traffic profile.
E. Routing information is exchanged between the customer router and one or a few PEs.

Answer: CE

Explanation:
Reference:
http://etutorials.org/Networking/MPLS+VPN+Architectures/Part+2+MPLS-based+Virtual+Private
+Networks/Chapter+7.+Virtual+Private+Network+VPN+Implementation+Options/Overlay+and+Peer-to-peer
+VPN+Model/

NEW QUESTION 6
- (Exam Topic 1)
Refer to the exhibit.

```
RP/0/0/CPU0:PE1#show run
evpn
no evi 100
no advertise-mac
!
!
vrf EVPN
address-family ipv4 unicast
import route-target
133:100
export route-target
133:100
!
!
interface BVI651
vrf EVPN
ipv4 address 192.168.100.1 255.255.255.0
mac-address 1337.1337.1337
```

A network operator is implementing EVPN IRB on PE1. Which two command placements enable the advertisement of Type 2 routes and what information do Type 2 routes contain? (Choose two.)

A. The operator adds in "host-routing" under the VRF EVPN.
B. Type 2 routes contain MAC/IP information.
C. Type 2 routes contain Ethernet Auto-Discovery information.
D. The operator adds in "host-routing" under the BVI651 interface.
E. Type 2 routes contain inclusive source-specific multicast route information.

Answer: BD

Explanation:
Reference: https://www.cisco.com/c/en/us/td/docs/iosxr/ncs5500/vpn/61x/b-ncs5500-l2vpn-configuration- guide-61x/b-ncs5500-l2vpn-configuration-
guide-61x_chapter_01010.html

NEW QUESTION 7
- (Exam Topic 1)
Refer to the exhibit.

```
PE1                                         CE1
ip vrf ce1vpn                               interface FastEthernet0/0/0
  rd 111:1                                    ip address 192.168.0.2 255.255.255.0
    route-target export 111:1
    route-target import 222:2                interface FastEthernet0/0/1
                                               ip address 192.168.1.2
interface FastEthernet0/0/0                 255.255.255.252
  ip vrf forwarding ce1vpn
  ip address 192.168.0.1 255.255.255.0      router ospf 100
                                               network 192.168.0.0 0.0.0.255 area1

router ospf 1 vrf ce1vpn                    router bgp 65600
  network 192.168.0.0 0.0.0.255 area 1        neighbor 192.168.1.1 remote-as 65600
```

If the two devices are operating normally, which two conclusions can you draw from this configuration? (Choose two.)

A. CE1 must use OSPF to establish a neighbor relationship with PE1.
B. PE1 labels the routes it learns from CE1 with the route-target 222:2 and shares them with its VPNv4 peers.
C. PE1 labels the routes it learns from CE1 with the route-target 111:1 and shares them with its VPNv4 peers.
D. The PE-CE routes between the devices are being exchanged by OSPF
E. CE1 is supporting CSC.

Answer: AD

NEW QUESTION 8
- (Exam Topic 1)
An engineer is troubleshooting an ongoing network outage. Which command should he use that can display the live log files for a process or service running on a network device?

A. traceroute
B. show run
C. ping
D. debug

Answer: D

NEW QUESTION 9
- (Exam Topic 2)
While troubleshooting EoMPLS configuration problems, which three parameters should an engineer match between the two ends of the pseudowire configurations? (Choose three.)

A. VLAN name
B. Xconnect group name
C. EFP subinterface number
D. pseudowire ID
E. MTU size
F. control word usage

Answer: DEF

Explanation:
Reference:
https://www.cisco.com/c/en/us/support/docs/multiprotocol-label-switching-mpls/mpls/213238-mpls-l2vpn-pseudowire.html

NEW QUESTION 10
- (Exam Topic 2)
A network architect is troubleshooting the L2TPv3 tunneling security due to the untrusted nature of the underlaying network. Which two L2TPv3 features does the architect deploy to address the ongoing issues? (Choose two.)

A. TCP MD5 authentication
B. control message hashing
C. CHAP authentication
D. control message rate limiting
E. asymmetric mutual authentication with PSK

Answer: BC

NEW QUESTION 10
- (Exam Topic 2)
Refer to the exhibit.

```
interface GigabitEthernet0/1
switchport trunk allowed vlan none
switchport mode trunk
service instance 2 ethernet
  encapsulation dot1q 10
  xconnect 192.168.2.2 22 encapsulation mpls
```

Drag and drop the EVC configuration items from the left onto the correct descriptions on the right.

|	
switchport mode trunk	It denies globally defined VLANs from egressing and ingressing the port.
service instance 2 ethernet	It allows the port to operate as an 802.1q trunk.
switchport trunk allowed vlan none	It classifies traffic under a defined process.
xconnect 192.168.2.2 22 encapsulation mpls	It allows the port to process VLAN 10 traffic in Service Instance 2.
encapsulation dot1q 10	It defines the pseudowire parameters.

A. Mastered
B. Not Mastered

Answer: A

Explanation:

switchport mode trunk	switchport trunk allowed vlan none
service instance 2 ethernet	switchport mode trunk
switchport trunk allowed vlan none	service instance 2 ethernet
xconnect 192.168.2.2 22 encapsulation mpls	encapsulation dot1q 10
encapsulation dot1q 10	xconnect 192.168.2.2 22 encapsulation mpls

NEW QUESTION 15
- (Exam Topic 2)
Refer to the exhibit.
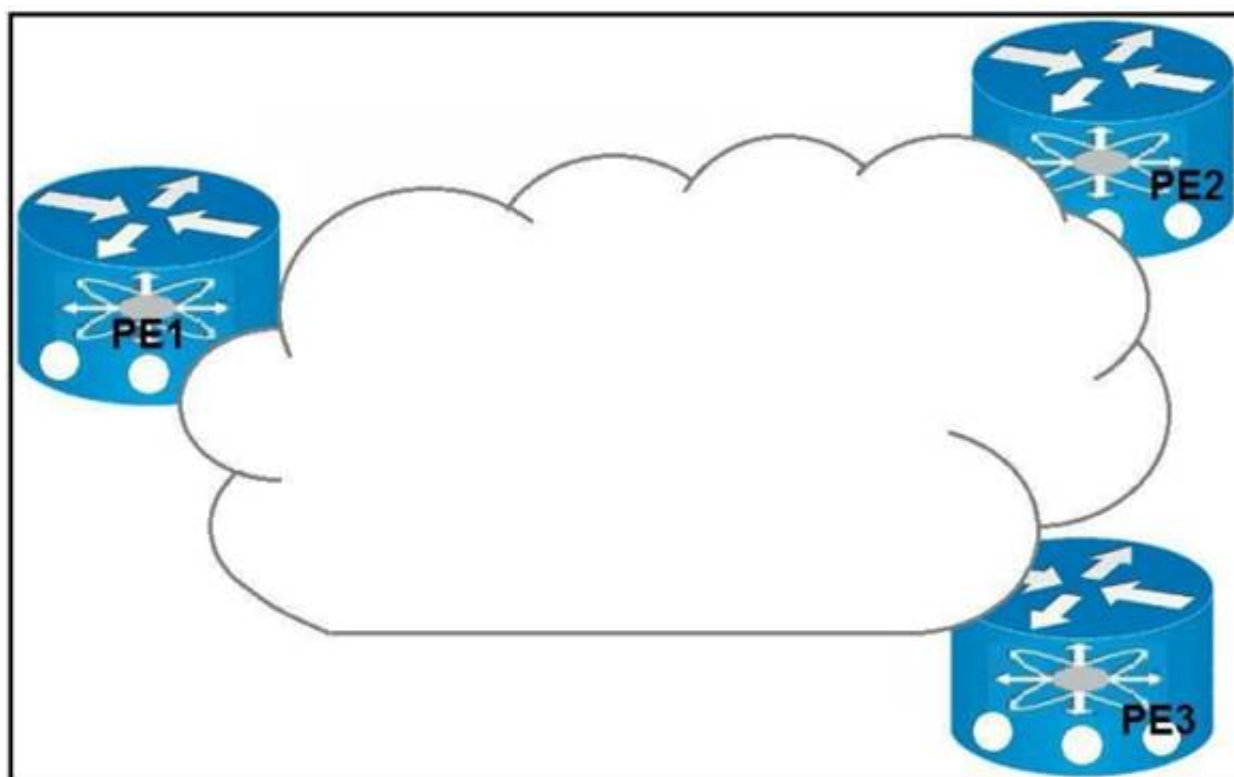
Which result occurs when PE1 learns a new MAC address and all three PEs are enabled with EVPN native?

A. A system notification is sent to the network administrator that triggers the manual configuration of the new MAC address on PE2 and PE3.
B. The new MAC address is sent by BGP to PE2 and PE3 as a Type 2 BGP route.

C. The MAC address is entered into the CAM table and is classified for use on the native VLAN
D. The MAC address is entered into the CAM table only if it is learned on the native VLAN.

Answer: B

Explanation:
Reference: https://www.cisco.com/c/en/us/td/docs/routers/asr9000/software/asr9k-r6-4/lxvpn/configuration/ guide/b-l2vpn-cg-asr9000-64x/b-l2vpn-cg-asr9000-64x_chapter_01011.html

NEW QUESTION 18
- (Exam Topic 2)
What must match in the EVPN and L2VPN configuration mode when configuring EVPN native in a router?

A. interface
B. address family
C. bridge domain
D. EVI

Answer: D

Explanation:
Reference: https://www.cisco.com/c/en/us/td/docs/routers/asr9000/software/asr9k-r6-2/lxvpn/configuration/ guide/b-l2vpn-cg-asr9000-62x/b-l2vpn-cg-asr9000-62x_chapter_01011.html

NEW QUESTION 23
- (Exam Topic 2)
An engineer is troubleshooting an EoMPLS circuit on a Cisco IOS XR router interface that removes a VLAN

A. interface GigabitEthernet 0/10.l2transport encapsulation dot1q 10rewrite ingress tag pop 1 symmetric l2vpnxconnect group 103588p2p 103588interface GigabitEthernet 0/10.10 neighbor ipv4 10.10.10.2 pw-id 103588
B. interface GigabitEthernet 0/10.10 encapsulation dot1q 10rewrite ingress tag pop 1 symmetric l2vpnxconnect group 103588p2p 103588interface GigabitEthernet 0/10.10 neighbor ipv4 10.10.10.2 pw-id 103588
C. interface GigabitEthernet 0/10.10 l2transport encapsulation dot1q 10l2vpnxconnect group 103588p2p 103588interface GigabitEthernet 2/10.10 neighbor ipv4 10.10.10.2 pw-id 103588
D. interface GigabitEthernet 0/10.10 l2transport encapsulation dot1q 10rewrite ingress tag translate 1-to-1 dot1ad 10 symmetricl2vpnxconnect group 103588p2p 103588interface GigabitEthernet 0/10.10 neighbor ipv4 10.10.10.2 pw-id 103588

Answer: C

NEW QUESTION 27
- (Exam Topic 3)
Refer to the exhibit.

```
ip vrf mvpn-intranet
  rd 12:1
  vpn id 12:1
  route-target import 12:2
  route-target export 12:1
  mdt default mpls mldp 192.168.1.2
  exit
ip multicast-routing vrf mvpn-intranet
```

Which statement about this configuration is true?

A. Router 1 will accept multicast routes with a route-target of 12:1.
B. 192.168.1.2 must be reachable by all routers participating in the mvpn-intranet MVRF.
C. Router 1 has statically defined thresholds for data MDT.
D. The MVRF must be configured on each router on the customer and service provider networks.

Answer: A

NEW QUESTION 30
- (Exam Topic 3)

```
R1

router bgp 65010
no bgp default ipv4-unicast
neighbor 192.168.1.1 remote-as 65010
address-family ipv4
neighbor 192.168.1.1 activate
```

Which statement describes the result of this BGP configuration?

A. R1 operates using IPv4 and VPNv4 address families.

B. R1 operates on IPv6 only because the bgp default ipv4-unicast command is missing.
C. R1 establishes a VPNV4 eBGP relationship with neighbor 192.168.1.1.
D. R1 establishes an iBGP relationship with peer 192.168.1.1.

Answer: D

NEW QUESTION 32
- (Exam Topic 3)
Which BGP feature causes to replace the AS number of originating router with the AS number of the sending router?

A. route reflectors
B. route dampening
C. confederations
D. AS override

Answer: D

Explanation:
Reference: https://community.cisco.com/t5/networking-documents/understanding-bgp-as-override-feature/ta-p/3111967

NEW QUESTION 34
- (Exam Topic 3)

```
ip vrf mvpn-extranet
  rd 12:1
  vpn id 12:1
  route-target import 12:2
  route-target export 12:3
  mdt default mpls mldp 192.168.1.2
  exit
ip multicast-routing vrf mvpn-extranet
```

What is the effect of this configuration?

A. The mroute table is cleared.
B. Router 1 accepts multicast routes with a tag of 12:1
C. A Cisco MPLS TE tunnel is generated with 192.168.1.2 as the source IP address of router 1.
D. An LSP virtual interface tunnel is created.

Answer: B

NEW QUESTION 36
- (Exam Topic 3)
Refer to the exhibit.

```
PE(config-router-af)#neighbor 10.10.10.1 local-as 100
PE(config-router-af)#neighbor 10.10.10.1 remote-as 65000
PE(config-router-af)#neighbor 10.10.10.1 as-override

PE#show ip bgp vpnv4 vrf BLUE 10.10.10.10/32
BGP routing table entry for 111:1234:10.10.10.10/32, version 624
Paths: (1 available, best #2, table BLUE)
  Advertised to update-groups:
      38          39
  65000 65100 65222 65000
      192.168.40.1 (metric 31410) from 192.168.10.1 (192.168.10.1)
      Origin incomplete, localpref 100, valid, internal, best
      Extended Community:  RT:111:1234
      Originator: 192.168.20.1, Cluster list: 192.168.30.1
      mpls labels in/out nolabel/1146
```

While provisioning a new BGP session between the PE and CE router, you issue the as- override command. Which statement describes modification of the prefix before being sent to the CE router (10.10.10.1)?

A. The fourth AS changes, but no other autonomous systems change.
B. The first and fourth autonomous systems change.
C. The second and third autonomous systems change.
D. The first AS changes, but no other autonomous systems change.

Answer: D

NEW QUESTION 40
- (Exam Topic 3)

Which kind of traffic is supported in an MVPN Extranet?

A. PIM dense mode with Reverse Path Forwarding
B. PIM dense mode
C. PIM sparse mode
D. Bidirectional PIM

Answer: C

Explanation:
Reference:
https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipmulti_mvpn/configuration/xe-16/imc-mvpn-xe-16-book/imc-mc-vpn-extranet.html

NEW QUESTION 41
- (Exam Topic 3)
With Layer 3 MPLS VPN implementations on Cisco IOS XR PE routers, an interface is assigned to a VRF using the vrf command in which configuration mode?

A. RP/0/RP0/CPU0:PE(config-bgp)#
B. RP/0/RP0/CPU0:PE(config-if)#
C. RP/0/RP0/CPU0:PE(config-bgp-af)#
D. RP/0/RP0/CPU0:PE(config-vrf)#

Answer: B

Explanation:
Reference:
https://www.cisco.com/c/en/us/td/docs/ios_xr_sw/iosxr_r3-7/mpls/configuration/guide/gc37v3.html

NEW QUESTION 45
- (Exam Topic 3)
Which statement describes the no bgp default route-target filter command?

A. Prefixes that are received with route targets and distinguisher are accepted.
B. Prefixes that are received with route targets and distinguisher are not accepted.
C. Prefixes that are received with route targets that are not imported at the PE are not accepted.
D. Prefixes that are received with route targets that are not imported at the PE are accepted.

Answer: D

NEW QUESTION 50
- (Exam Topic 4)
Refer to the exhibit:

```
R1
interface FastEthernet0/0
ip address 10 1 12 1 255 255 255 0
duplex full
end
!
!
!
R1(config)#interface FastEthernet0/0
R1(config-if)#ospfv3 1 area 1 ipv4
% IPv6 routing not enabled
```

A network engineer is implementing an OSPF configuration Based on the output, which statement is true?

A. In the ospfv3 1 area 1 ipv4 command, area 0 must be configured instead of area 1.
B. OSPFv3 does not run for IPv4 on FastEthemet0/0 until IPv6 routing is enabled on the router and IPv6 is enabled on interface Fastfc.thernet0/0
C. OSPFv3 cannot be configured for IPv4; OSPFv3 works only for IPv6.
D. IPv6 routing not enabled" is just an informational message and OSPFv3 runs for IPv4 on interface FastEthernet0/0 anyway

Answer: B

NEW QUESTION 52
- (Exam Topic 4)
Refer to the exhibit.

```
Router 1:

interface loopback0
192.168.10.1 255.255.255.0

router ospf 1
network 192.168.10.1 0.0.0.0 area 5
```

Refer to the exhibit Router 1 is a P router in the ISP MPLS core A connected P router cannot generate an MPLS label for the router 1 loopback0 interface Which action resolves this issue?

A. The loopback0 interface must be in OSPF area 0.
B. The network statement under the routing process must have a wildcard mask of 0 0.0 255.
C. The OSPF network type must be changed on loopback0 to point-to-point
D. A static route to null 0 must be added for the loopback interface and then static routes must be redistributed into OSPF

Answer: B

NEW QUESTION 53
- (Exam Topic 4)
What do routers on the network use to avoid routing loops when OSPF is running as the PE-CE routing protocol on a service provider network?

A. the AS-Override feature
B. the DN bit with type 3, 5, or 7 LSA
C. the domain tag for type 2 LSA
D. sham links to create a super backbone over the service provider network

Answer: B

NEW QUESTION 55
- (Exam Topic 4)
How do PE routers exchange CE routes between remote sites?

A. by converting CE routes into VPNv4 routes and exchanging them using MP-BGP
B. by establishing BGP neighbor relationships between all connected CEs to exchange routing information
C. by learning IPv4 routes from connected CEs and redistributing them into the global IGP
D. by converting CE routes into VPNv4 routes and exchanging them using the global IGP

Answer: A

NEW QUESTION 60
- (Exam Topic 4)
Refer to the exhibit.

```
PE1#show mpls forwarding
Local   Outgoing   Prefix               Outgoing       Next Hop        Bytes
Label   Label      or ID                Interface                      Switched
------  ---------  -------------------  ------------    --------------  ------------
22095   Pop        192.168.10.1/32      Hu0/0/0/2       192.168.1.2     100000
22096   22286      192.168.20.1/32      Hu0/0/0/2       192.168.1.2     1000
22098   22288      192.168.30.1/32      Hu0/0/0/2       192.168.1.2     250000
<output omitted>
```

What is shown in this output?

A. local and outgoing abels are updated in hardware
B. BGP is used between neighbors that are exchanging MPLS labels
C. LDP neighbor statuses
D. the labels received and advertised on PE1

Answer: D

NEW QUESTION 63
- (Exam Topic 4)
What is a requirement to share VRF reachability information to all members of a VPN when using IPv6?

A. PE and CE routers must be running BGP as the PE-CE routing protocol
B. PE routers must have MPLS disabled and be running MP-BGP between all P and PE routers.
C. PE routers must be running MP-BGP and bgp default ipv4-unicast must be disabled
D. All PEs must have the same VRFs configured.

Answer: D

NEW QUESTION 68
- (Exam Topic 4)
Refer to the exhibit.

```
Router 1:

vrf  ciscotest
        address-family ipv4 unicast
                import route-target
                        101:102
                        301:202

                export route-target
                        201:202
                        401:402
```

An engineer has configured router 1 to provide shared services to clients behind router 2. To complete the implementation so that routes from router 1 are accepted, what must the engineer configure on router 2?

A. with import route targets 101:102 and 202:201
B. with import route targets 201:202 and 401:402
C. with export route targets 301:202 and 101:102
D. with export route targets 201:202 and 401:402

Answer: B

NEW QUESTION 71
- (Exam Topic 4)
Refer to the exhibit.

```
R1
vfi ciscotest manual
    vpn id 101
    neighbor 192.168.1.2 encapsulation mpls
    neighbor 192.168.10.2 encapsulation mpls
    neighbor 192.168.20.2 encapsulation mpls
```

An organization is running H-VPLS on a network comprising four routers in a hub-and-spoke topology with R1 as the hub An engineer added a new spoke with multiple VCs to the network, and now traffic cannot flow properly How should the engineer update the configuration on R1 to correct the problem?

A. Disable spanning tree to allow loops to occur within the hub-and-spoke topology.
B. Disable split horizon to allow multiple VCs per spoke
C. Disable Cisco Discovery Protocol to allow MPLS to share labels between the designated spokes
D. Disable Cisco Discovery Protocol to allow for neighbor discovery

Answer: B

NEW QUESTION 73
- (Exam Topic 4)
The network engineering group of a large ISP needs to harden the management plane of its Cisco 9000 Series ASRs. While addressing IPv6 ICMP issues, they realized they have to limit the rate at which IPv6
ICMP error messages are sent out on the network. Which command do they need to apply?

A. icmp ipv6 rate-limit unreachable 1000
B. ipv6 rate-limit 1000
C. icmp ipv4 rate-limit unreachable 1000
D. ipv6 icmp error-interval 50 20

Answer: D

Explanation:
Reference:
https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipv6_basic/configuration/xe-3s/ip6b-xe-3s-book/ip6-icmp-rate-lmt-xe.html

NEW QUESTION 75
- (Exam Topic 4)
Refer to the exhibit.

```
Router 1:

router bgp 65515
no bgp default ipv4-unicast
bgp router-id 192.168.0.1
neighbor 191.168.0.2 remote-as 65515

address-family ipv4
   neighbor 191.168.0.2 route-reflector-client

address-family vpnv4
   neighbor 191.168.0.2 activate
   neighbor 100.1.3.3 send-community extended
```

Router 1 is a route reflector client within a service provider core PE1 cannot see VPNv4 routes received from the ASBR PE1 only has an iBGP relationship with Router 1. Which action resolves this issue?

A. Activate PE1 as a neighbor under the IPv4 address family.
B. Configure Router 1 as a route reflector for PE1 under the VPNv4 address family.
C. Configure PE1 to have an eBGP relationship with Router 1.
D. Enable BGP default ipv4-unicast

Answer: B

NEW QUESTION 79
- (Exam Topic 4)
How does Layer 3 VPN traffic traverse an ISP network?

A. Devices on the network use MPLS labels to share VPN routes between P routers in the network.
B. Devices on the network use LSAs to share routes between P routers in the network.
C. Devices on the network use MPLS labels to move VPN traffic through the network.
D. Devices on the network use GRE tunnels to move traffic between VRFs.

Answer: C

NEW QUESTION 84
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