

Cisco

Exam Questions 300-515

Implementing Cisco Service Provider VPN Services (SVPI)



NEW QUESTION 1

- (Exam Topic 1)

Which tool identifies the point of failure in a P2MP LSP from the ingress LSR?

- A. Jitter TLV
- B. SPAN
- C. P2MP traceroute
- D. P2MP ping

Answer: C

Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/routers/asr9000/software/asr9k_r5-3/mpls/configuration/guide/b-mpls-cg53x-asr9k/b-mpls-cg53x-asr9k_chapter_01000.html

NEW QUESTION 2

- (Exam Topic 1)

An ISP provides a major client MPLS VPN for managed services. The MPLS engineering team needs to use the advanced VPN feature of selective VRF import so that only specific prefixes are present in the required VPNs.

Which aspect of this feature must the team consider?

- A. A route must pass the import route map first and then the route target import filter.
- B. The routers that are imported in the VRF can be BGP and IGP routes, so other match conditions in the route map, besides communities, can be used.
- C. The import-map command is applied under the PE interface that connects to the CE router.
- D. A route is imported into the VRF only when at least one RT that is attached to the route matches one RT that is configured in the VRF and the route is permitted by the import route map.

Answer: D

Explanation:

Reference: <https://www.ccexpert.us/mpls/configuring-selective-vrf-import.html>

NEW QUESTION 3

- (Exam Topic 1)

Refer to the exhibit.

Router# show mpls forwarding-table					
Local	Outgoing	Prefix	Bytes label	Outgoing	Next Hop
label	label or VC	or Tunnel Id	switched	interface	
29	Pop tag	10.22.22.22/32	0	Gi1/1/0	172.32.0.1
32	0	10.24.24.24/32	0	Gi1/0/0	192.168.1.2
33	0	172.24.24.24/32	0	Gi1/0/0	192.168.1.2
34	0	192.168.0.0/8	0	Gi1/0/0	192.168.1.2
35	0	10.25.25.25/32	0	Gi1/0/0	192.168.1.2
36	0	172.16.0.0/8	0	Gi1/0/0	192.168.1.2
37	25	10.26.26.26/32	0	Gi1/0/0	192.168.1.22
38	0	10.34.34.34/32	0	Gi1/0/0	192.168.1.2

Which statement about this output is true?

- A. The router IP 192.168.1.2 sent an implicit null, and the output is from the penultimate LSR.
- B. The adjacent router is the egress LSR and has mpls ldp explicit-null configured.
- C. The adjacent LSR router configured mpls label range 0.
- D. The zero in the second column is the normal behavior of an egress router LSR.

Answer: B

NEW QUESTION 4

- (Exam Topic 1)

In a typical service provider environment, which two tools are used to help scale PE router connectivity requirements? (Choose two.)

- A. route reflectors
- B. VPNv4 address family
- C. originator ID
- D. cluster ID
- E. confederations

Answer: AE

NEW QUESTION 5

- (Exam Topic 1)

An engineer is investigating an EVPN traffic flow issue. Which type of traffic should the engineer allow in an EVPN Tree Service in order to fix this issue?

- A. known unicast from a leaf to another leaf

- B. unknown unicast from a leaf to another leaf
- C. multicast from a leaf to another leaf
- D. known unicast from a root to another root

Answer: D

Explanation:

Reference: <https://tools.ietf.org/html/draft-ietf-bess-evpn-etree-14>

NEW QUESTION 6

- (Exam Topic 1)

Refer to the exhibit.

<pre>PE1 ip vrf celvpn rd 111:1 route-target export 111:1 route-target import 222:2 interface FastEthernet0/0/0 ip vrf forwarding celvpn ip address 192.168.0.1 255.255.255.0 router ospf 1 vrf celvpn network 192.168.0.0 0.0.0.255 area 1</pre>	<pre>CE1 interface FastEthernet0/0/0 ip address 192.168.0.2 255.255.255.0 interface FastEthernet0/0/1 ip address 192.168.1.2 255.255.255.252 router ospf 100 network 192.168.0.0 0.0.0.255 area1 router bgp 65600 neighbor 192.168.1.1 remote-as 65600</pre>
---	--

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 7

- (Exam Topic 1)

An engineer needs to improve MPLS network management by implementing a set of tools to support the NOC engineers in troubleshooting network failures. Which feature should the engineer implement to check the connectivity of the MPLS LSP between the ingress and egress PE routers?

- A. MPLS OAM
- B. MPLS-TP
- C. LDP autodiscovery
- D. extended ping

Answer: A

Explanation:

Reference:

https://www.cisco.com/c/en/us/td/docs/routers/asr9000/software/asr9k_r5-3/mpls/configuration/guide/b-mpls-cg

NEW QUESTION 8

- (Exam Topic 1)

Refer to the exhibit.

<pre>PE1 ip vrf CE1 rd 101:1 route-target export 100:1 route-target import 200:2</pre>	<pre>PE2 ip vrf CE2 rd 202:2 route-target export 200:2 route-target import 100:1</pre>
<pre>PE3 ip vrf CE3 rd 303:3 route-target export 300:3 route-target import 400:4</pre>	<pre>PE4 ip vrf CE4 rd 404:4 route-target export 400:4 route-target import 300:3</pre>

A network engineer has been called to configure the four PE devices in order to enable full communication among the four CE devices connected to them. While starting to configure, he experienced a connectivity issue. Which two tasks should the engineer perform in order to begin the process correctly? (Choose two.)

- A. Configure PE3 to export route-targets 100:1 and 200:2.
- B. Configure PE3 to import route-targets 100:1 and 200:2.
- C. Configure PE4 to import route-targets 101:1 and 202:2.

- D. Configure PE2 to export route-targets 300:3 and 400:4.
- E. Configure PE1 to import route-targets 300:3 and 400:4.

Answer: AB

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 underlying 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
```

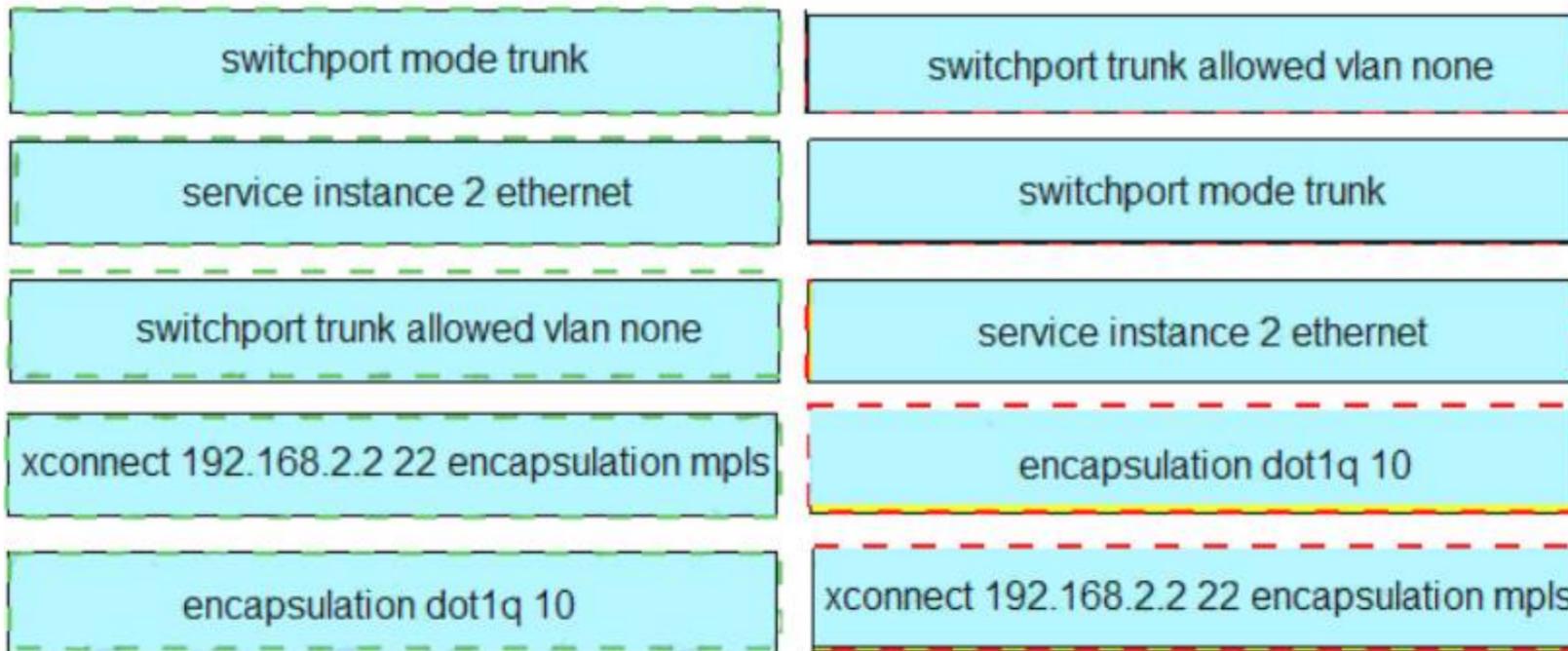
Drag and drop the EVC configuration items from the left onto the correct descriptions on the right.

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:



NEW QUESTION 13

- (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 17

- (Exam Topic 2)

What do EVPN single-active and all-active have in common?

- A. They are default gateway redundancy options.
- B. They are multihoming mechanisms used for CE devices.
- C. They are used to provide single connection from a CE device to a service provider.
- D. They are both roles that a designated router can take when MPLS is used with EVPN.

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 20

- (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 l2vpnconnect 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 l2vpnconnect 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 10l2vpnconnect 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 symmetricl2vpnconnect group 103588p2p 103588interface GigabitEthernet 0/10.10 neighbor ipv4 10.10.10.2 pw-id 103588

Answer: C

NEW QUESTION 25

- (Exam Topic 2)

```

interface Loopback0
 ip address 1.1.1.1 255.255.255.255
 ip ospf 1 area 0
!
interface GigabitEthernet0/1/0
 ip address 10.0.2.1 255.255.255.252
!
service instance 101 ethernet
 encapsulation dot1q 101
 rewrite ingress tag pop 1 symmetric

12vpn evpn instance 100 point-to-point
!
vpws context vc100
 service target 2 source 1
 member GigabitEthernet0/1/0 service-instance 101
!
interface GigabitEthernet0/1/1
 ip address 10.0.1.1 255.255.255.0
 ip ospf 1 area 0
 mpls ip
!
router bgp 65500
 bgp router-id 1.1.1.1
 neighbor 2.2.2.2 remote-as 65501
 neighbor 2.2.2.2 update-source Loopback0
!
 address-family ipv4
  neighbor 2.2.2.2 activate
 exit-address-family
!
 address-family 12vpn evpn
  neighbor 2.2.2.2 activate
 exit-address-family
!
12vpn evpn instance 100 point-to-point
!
vpws context vc100
 service target 2 source 1
 member GigabitEthernet0/0/0
!

```

An engineer is trying to configure an EVPN VWPS. What is the issue with this configuration?

- A. The member in the VPWS context should be the PE-facing interface.
- B. The 12vpn evpn command should be instance 101.
- C. Interface GigabitEthernet0/1/0 should not have any IP address.
- D. The service instance and the EVPN instance are different.

Answer: C

Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/mp_l2_vpns/configuration/xr-3s/asr903/16-7-1/b-mpls-l2-vpns-xr-16-7-asr900/epvn_vpws_single_homed.pdf

NEW QUESTION 26

- (Exam Topic 3)

Which condition must be met before an environment can support CSC?

- A. The CSC-PE and CSC-CE must each be able to ping an interface in its respective global routing table.
- B. The CSC-PE and the CSC-CE must support IPv6.
- C. The CSC-PE and CSC-CE devices must be able to send labels to one another using BGP.
- D. The CSC-CE must support OSPFv3.

Answer: C

NEW QUESTION 28

- (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 33

- (Exam Topic 3)
 Refer to the exhibit.

```
mdt default mpls mldp 2.2.2.2
```

Which statement about this command is true?

- A. It must be configured on each PE router to enable the PE routers to receive multicast traffic for this particular MVRF.
- B. It is used to set the designated router on a link using PIM-SM.
- C. It must be configured on the PE and CE router to enable MP-BGP to send labels for CSC.
- D. It is used to set the router that will server as the root bridge for STP.

Answer: A

Explanation:

Reference: <https://www.cisco.com/c/en/us/td/docs/routers/asr1000/configuration/guide/chassis/asrswcfg/lsmldp.html>

NEW QUESTION 34

- (Exam Topic 3)
 Refer to the exhibit.

```
R1

router ospf 1 vrf custabc
 network 192.168.1.0 0.0.0.255 area 1
 redistribute bgp 65001 metric-type 1 subnets
```

Which statement describes the result of this configuration?

- A. R1 redistributes BGP routes into the OSPF process of VRF custabc as E1 routes.
- B. R1 redistributes BGP routes into the OSPF process of VRF custabc as E2 routes.
- C. R1 mutually redistributes routes between BGP 65001 and the OSPF process of VRF custabc.
- D. R1 redistributes BGP routes into the OSPF process of VRF custabc as OIA routes.

Answer: A

NEW QUESTION 39

- (Exam Topic 3)
 Refer to the exhibit.

```
R1#sho run sec router isis
ip router isis
router isis
net 49.0002.1010.2021.00
is-type level-1
spf-interval 110

R2#sho run sec router isis
ip router isis
router isis
net 49.0001.1010.2020.00
is-type level-2-only
set-overload-bit
spf-interval 100
redistribute static ip
```

A technician is troubleshooting a connectivity issue and notices that there is no IS-IS adjacency between R1 and R2. What can the technician change to bring the IS-IS adjacency up?

- A. Change R2's net address to be in the same area as R1.
- B. Change R1's is-type to level-2-only
- C. Change R1's net address to be in the same area as R2.
- D. Change R2's configuration to no longer set the overload bit.

Answer: B

NEW QUESTION 41

- (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 43

- (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/xr-16/imc-mvpn-xr-16-book/imc-mc-vpn-extranet.html

NEW QUESTION 48

- (Exam Topic 3)

Which is the primary function of a MPLS L3 VPN route target?

- A. It imports and exports identified routes into selected VRFs.
- B. It uniquely identifies NLRIs that have the same numeric value.
- C. It imports the external routes it identifies into VRFs that support Internet traffic
- D. It supports QoS by classifying traffic by file type when it applies MPLS EXP bits to each packet.

Answer: A

NEW QUESTION 49

- (Exam Topic 3)

Refer to the exhibit.

PE1 ip vrf CE1 rd 111:1 route-target export 100:1 route-target import 200:2	PE2 ip vrf CE2 rd 112 :2 route-target export 200:2 route-target import 100:1 route-target import 300:3
PE3 ip vrf Internet rd 333:3 route-target export 300:3 route-target import 100:1 route-target import 200:2	

PE1 and PE2 are exchanging VPNv4 routes for CE1 and CE2, and PE3 contains the default route to the internet. If the three devices are operating normally, which two conclusions describe this configuration? (Choose two.)

- A. The CE1 and CE2 VRFs can exchange routes only between their respective VRFs on PE1 and PE2.
- B. All three routers must be running a distance-vector routing protocol.
- C. All three routers must be running MP-BGP.
- D. The CE1 and CE2 VRFs can access the default route provided by the Internet VRF.
- E. Only the CE2 VRF can access the default route provided by the Internet VRF.

Answer: AC

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 54

- (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 59

- (Exam Topic 4)

An engineer noticed that PE3 is failing to accept IPv6 traffic information from PE1 The engineer confirmed that both PE3 and PE1 routers are configured accurately with IPv6 protocol To eliminate IPv6 traffic loss issue, which action must the engineer take to solve the problem?

- A. Disable 6PVE that provides local IPv6 reachability over MPLS.
- B. Configure 6PE that provides global IPv6 reachability over IPv4 MPLS
- C. Allow PE routers use the MP-iBGP extensions in the IPv6 network configuration to exchange IPv6 reachability information.
- D. Configure 6PE forwarding between 6PE routers based on the IPv6 header

Answer: B

NEW QUESTION 60

- (Exam Topic 4)

Refer to the exhibit.

```
PE1#show mpls forwarding
```

Local Label	Outgoing Label	Prefix or ID	Outgoing Interface	Next Hop	Bytes 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 62

- (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 63

- (Exam Topic 4)

Refer to the exhibit.

```
Router 1:
vrf cisctest
  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 65

- (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 68

- (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 73

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