

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/mps/configuration/guide/b-mpls-cg53x-asr9k/b-mpls-cg53x-asr9k_chapter_01000.html

NEW QUESTION 2

- (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/mps/command/mp-cr-book/mp-s2.html>

NEW QUESTION 3

- (Exam Topic 1)

Refer to the exhibit.

Router# show mpls forwarding-table					
Local label	Outgoing label or VC	Prefix or Tunnel Id	Bytes label switched	Outgoing interface	Next Hop
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)

While configuring the VRF Selection feature, you get an error message after typing the below statement: Router(config)#no vrf selection source 172.16.0.0 255.255.0.0 vrf VRF1

Which action caused this message?

- A. the entry of an inconsistent IP address and mask for VRF Selection
- B. an attempt to configure a VRF instance on an interface that already has VRF Selection configured

- C. an attempt to remove a VRF Selection entry that does not exist
- D. an attempt to configure a VRF Selection table that does not exist

Answer: C

Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/ios/12_2/12_2sz/feature/guide/122szvrf.html

NEW QUESTION 6

- (Exam Topic 1)

Which two frames can be configured on an Ethernet flow point? (Choose two.)

- A. of a specific VLAN
- B. with different type of service values
- C. with identical type of service value
- D. with different class of service values
- E. with no tags

Answer: AE

Explanation:

Reference: <https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/cether/configuration/xe-3s/asr903/16-5-1/b-ce-xe-16-5-asr900/trunk-efp-support.html>

NEW QUESTION 7

- (Exam Topic 1)

In an Ethernet Virtual Circuit environment, which restriction do bridge domains have when STP is running?

- A. The STP mode must be RSTP or PVST+
- B. Bridge domains must be mapped to a different VLAN.
- C. The STP mode must be MSTP
- D. Bridge domains must belong to different MST instances.

Answer: C

Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/routers/asr920/configuration/guide/ce/b_ce_xe-313s-asr920-book/b_ce_xe-313s-asr920-book_chapter_01.html#reference_770349446ED24E83821EF701DDC46BFD

NEW QUESTION 8

- (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 9

- (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 10

- (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 10

- (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/evpn_vpws_single_homed.pdf

NEW QUESTION 13

- (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 15

- (Exam Topic 3)

In Layer 3 MPLS VPN implementations, if some of the VPNv4 routes on one PE router do not appear on another PE router, what could be the problem?

- A. RD mismatch between the PE routers
- B. RT export and import configuration errors
- C. VRF name mismatch between the PE routers
- D. RD export and import configuration errors

Answer: B

Explanation:

Reference:

<http://blog.initialdraft.com/archives/1537/>

NEW QUESTION 18

- (Exam Topic 3)

A network engineer is implementing Layer 3 MPLS VPNs on Cisco IOS/IOS XE PE routers. Which PE-to-CE routing protocol requires a separate routing process to be created for each VRF?

- A. RIPv2
- B. OSPF
- C. BGP
- D. EIGRP

Answer: B

NEW QUESTION 20

- (Exam Topic 3)

Refer to the exhibit.

CE Router

```
router bgp 65001
  address-family ipv4 unicast
    redistribute ospf 1
    allocate-label all
  neighbor 192.168.1.25
    remote-as 65012
```

PE Router

```
router bgp 65012
  vrf custrouter
    rd 65001:65012
    address-family ipv4 unicast
      allocate-label all
    redistribute static
  neighbor 192.168.1.24
    remote-as 65001
  address-family ipv4 labeled-unicast
```

The CE router has established a BGP peering with the PE router, and the CE will use the core infrastructure of the PE as a backbone carrier to support CSC. Which additional task can you perform to complete the configuration?

- A. Configure static routing on the CE router.
- B. Configure the address-family ipv4 labeled-unicast command under the neighbor configuration of the CE router for the PE.
- C. Change the rd value to 65001:65001 under the VRF section of the PE router.
- D. Configure OSPF on the PE router.

Answer: D

NEW QUESTION 23

- (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 24

- (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 26

- (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 28

- (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	

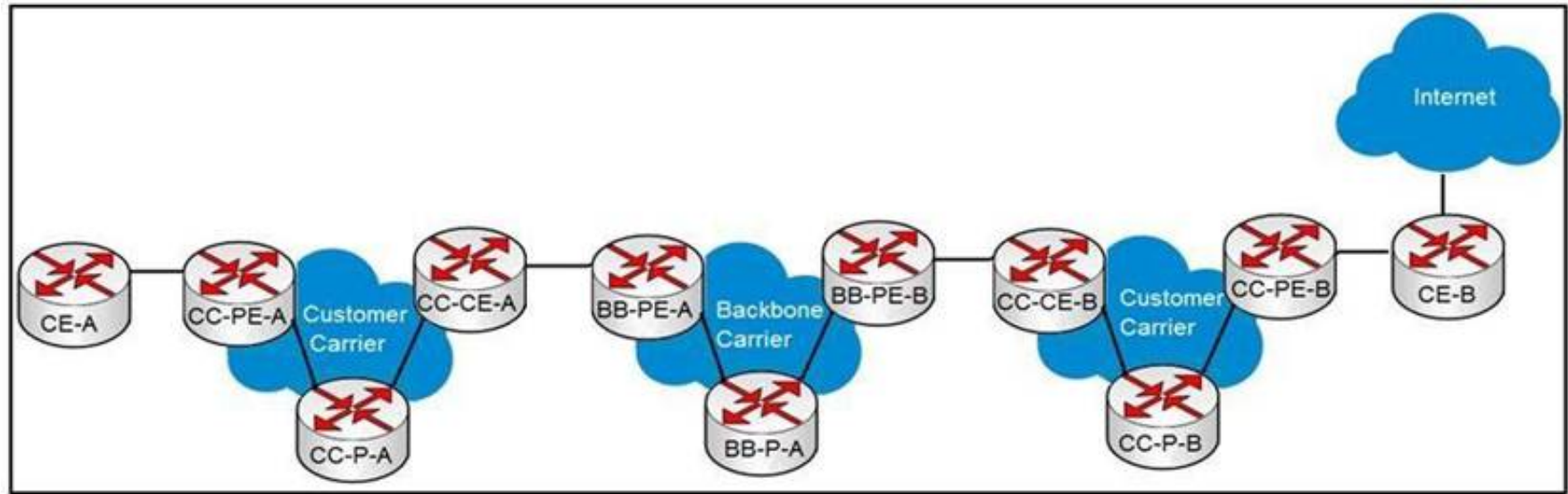
PE1 and PE2 are exchanging VPNv4 routes for CE1 and CE2, and PE3 contains the default route to the internet. If the three devices are operating normally, which two conclusions describe this configuration? (Choose two.)

- 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 32

- (Exam Topic 3)
Refer to the exhibit.



A customer carrier running MPLS VPN wants to utilize a backbone carrier to forward traffic and exchange VPNv4 prefixes between the two customer carriers networks depicted. Which two sets of routers must establish MP-iBGP sessions? (Choose two.)

- A. BB-PE-A and CC-PE-B
- B. CC-PE-A and CC-PE-B
- C. BB-PE-A and BB-PE-B
- D. CC-PE-A and BB-PE-A
- E. BB-PE-A and BB-P-A
- F. CC-PE-A and CC-P-A

Answer: BC

Explanation:

Reference: https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/mp_ias_and_csc/configuration/12-2sx/mp-ias-and-csc-12-2sx-book/mp-carrier-bgp.html

NEW QUESTION 34

- (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 35

- (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 37

- (Exam Topic 4)

How do Ethernet virtual circuits provide a way for service providers to maximize the use of VLAN tags? -1

- A. They add an additional tag to VLANs that allows up to two switch ports to use the same globally configured VLAN ID.
- B. They redefine the VLAN tag to include classification, forwarding, and QoS using MPLS labels and EXP bits.
- C. They separate the classification and forwarding concepts for VLAN tagging which allows multiple switch ports to use the same VLAN ID without it being configured globally.
- D. They assign VLAN IDs to VTP domains so that the same VLAN ID are used more than once globally.

Answer: C

NEW QUESTION 38

- (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 42

- (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 43

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