

Cisco

Exam Questions 300-515

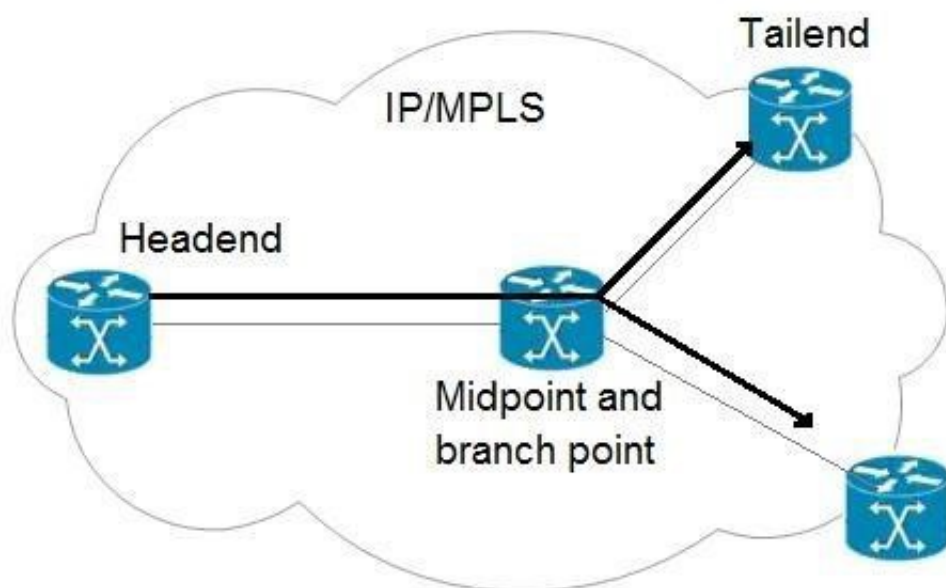
Implementing Cisco Service Provider VPN Services (SVPI)



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)

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 4

- (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 5

- (Exam Topic 1)

What is the primary function of a VRF on a router?

- A. It enables the router to support multiple separate routing tables, which allows the device to handle overlapping IP addresses.
- B. It enables a router to run BGP and a distance vector routing protocol at the same time, which allows it to serve as a VPN endpoint between remote sites.
- C. It enables a router to configure VLANs locally, which provides segregation between networks.
- D. It enables the router to provide faster switching through the network by using labels to identify the input and output interfaces for neighbor routers.

Answer: A

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)

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 8

- (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 9

- (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 10

- (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:

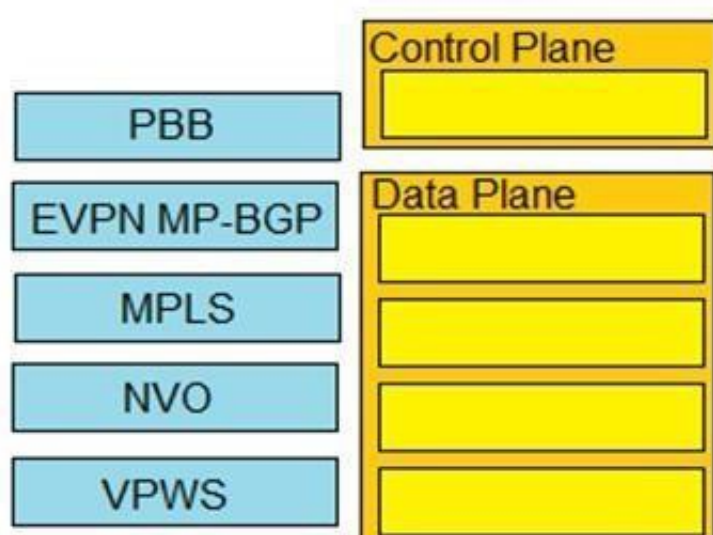
Reference:

<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)

Drag and drop the EVPN components from the left onto the correct planes on the right.



- A. Mastered
- B. Not Mastered

Answer: A

Explanation:

Reference:

https://www.cisco.com/c/dam/m/en_us/network-intelligence/service-provider/digital-transformation/knowledge-network-webinars/pdfs/0420-eqn-ckn.pdf slide 8

NEW QUESTION 14

- (Exam Topic 2)

```
configure
router bgp 64520
 address-family 12vpn evpn
  neighbor 192.168.1.1

configure
12vpn
 xconnect group evpn-test
 p2p evpn12
 interface TenGigE0/1/0/1
 neighbor evpn evi 12 target 10 source 11
```

Which effect of this configuration is true?

- A. It configures VPWS multihomed.
- B. It configures VPWS single homed.
- C. It configures an IPv4 peering with 192.168.1.1
- D. It configures MPLS traffic engineering.

Answer: B

Explanation:

Reference: <https://www.ciscolive.com/c/dam/r/ciscolive/emea/docs/2019/pdf/BRKSPG-2798.pdf>

NEW QUESTION 16

- (Exam Topic 2)

While troubleshooting an AToM L2VPN service, a network consultant notices that the AC Layer 2 encapsulations are different. Which action should the consultant take in order to make the MPLS L2VPN work?

- A. tag-rewrite on the ingress and egress PE router
- B. interworking IP configuration on the last PE router before label disposition
- C. nonrouted interworking setup to properly translate only the Layer 2 information from the AC
- D. interworking IP configuration on both the AC terminations on the PEs

Answer: D

Explanation:

Reference:

https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/mp_l2_vpn/configuration/xr-16-11/mp-l2-vpn-xr-16-11-book/l2vpn-interworking.html

NEW QUESTION 18

- (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 20

- (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 22

- (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 26

- (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/lsmmldp.html>

NEW QUESTION 30

- (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 35

- (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 nlabel/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 36

- (Exam Topic 3)

While implementing Layer 3 MPLS VPN, which feature should an engineer use at the PEs to transform the customer IPv4 prefixes into a unique 96-bit prefix

- A. RT
- B. VC ID
- C. RD
- D. PW ID

Answer: C

NEW QUESTION 39

- (Exam Topic 3)

Which two statements about MPLS L3 VPN RDs are true? (Choose two.)

- A. They enable EIGRP to use address families to separate traffic between IPv4 and VPNv4.
- B. They are represented as 32-bit values
- C. They are represented as 64-bit values.
- D. They enable OSPF to import and export routes into the global routing table of a router.
- E. E.They allow BGP to uniquely identify duplicate routes.

Answer: CE

NEW QUESTION 40

- (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 41

- (Exam Topic 3)

You are writing the requirements for an MPLS L3VPN environment that uses MP-BGP between PE routers. In this environment, route targets and route distinguishers need to be advertised between the PE routers.

Which three operations meet these requirements? (Choose three.)

- A. mandatory creation of PE-to-PE BGP sessions between the outgoing interface IP addresses
- B. advertisement of standard communities, enabled on the PE-to-PE BGP neighbors
- C. creation of PE-to-PE BGP sessions between loopback IP addresses
- D. full mesh of IBGP sessions
- E. full mesh of EBGP sessions and partial mesh of IBGP sessions
- F. advertisement of extended communities, enabled on the PE-to-PE BGP neighbors

Answer: CDF

NEW QUESTION 44

- (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 49

- (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 53

- (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 56

- (Exam Topic 4)

Which optional information can be included with an IPv6 ping to support the troubleshooting process?

- A. IPv4 IP address
- B. source MAC address
- C. destination MAC address
- D. IPv6 hostname

Answer: D

Explanation:

Reference: <https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/ipv6/configuration/xr-3s/ipv6-xr-36s-book/ipv6-mng-apps.html>

NEW QUESTION 60

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