

300-515



# IT - Libraries

Vendor: Cisco

Exam Code: 300-515

Exam Name: Implementing Cisco Service Provider VPN Services (SVPI)

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## Exam A

### QUESTION 1

Which utility can you use to validate an LSP in an MPLS environment?

- A. uRPF
- B. MPLS LSP ping
- C. logging
- D. RSVP

**Correct Answer:** B

### QUESTION 2

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.

**Correct Answer:** BD

### QUESTION 3

<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>

Refer to the exhibit. 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.

**Correct Answer:** AB

### QUESTION 4

<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>
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Refer to the exhibit. 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.

**Correct Answer:** AD

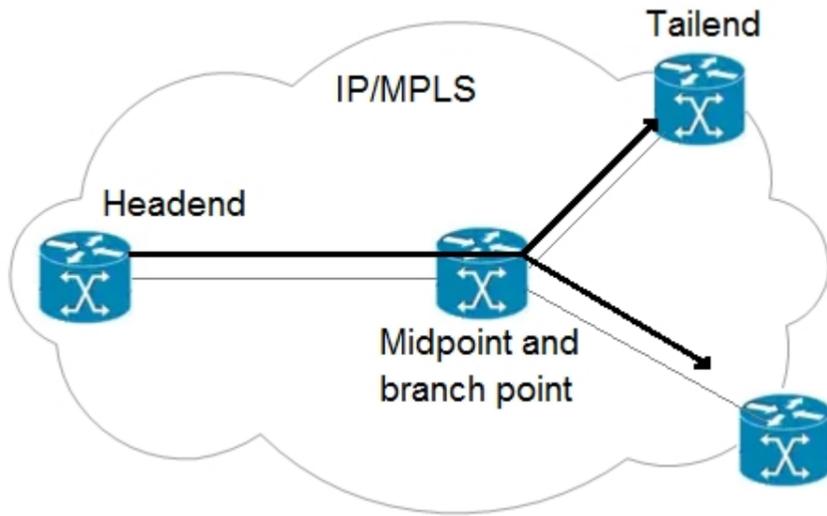
### QUESTION 5

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

Correct Answer: AE

QUESTION 6



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

Correct Answer: D

QUESTION 7

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**

Correct Answer: A

QUESTION 8

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

Correct Answer: AE

QUESTION 9

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.

Correct Answer: D

QUESTION 10

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

Correct Answer: C

QUESTION 11

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

**Correct Answer:** AD

**QUESTION 12**

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

**Correct Answer:** A

**QUESTION 13**

You try to configure MPLS VPN VRF Selection based on a source IP address on an interface that has VRF configured, but you receive an error.

Which action must you take to correct the problem?

- A. Change the source IP address.
- B. Add the IP address to the VRF table.
- C. Remove the VRF from the interface.
- D. Configure static routes for the VRF.

**Correct Answer:** C

**QUESTION 14**

The CTO of a company requires the support of a network consultant to deliver an MPLS solution without resigning to a certain degree of redundancy and scalability. Which solution effectively scales to hundreds or thousands of sites?

- A. L2VPN with the broadcast traffic processed at the ingress PE.
- B. L3VPN with direct LSP connectivity between all PEs.
- C. L2VPN by encapsulating multiple frame formats with interworking.
- D. L3VPN using a hierarchical topology of N-PEs and U-PEs.

**Correct Answer:** D

**QUESTION 15**

You are troubleshooting ARP connectivity issues for an Ethernet interface on an IOS XR network that runs IS-IS. You verify that the IGP protocol is running, but an ARP entry has not yet been created.

Which action should you take?

- A. debug ping packets
- B. debug ARP
- C. ping the connected neighbor
- D. verify the RIB table routes

**Correct Answer:** C

**QUESTION 16**

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.

**Correct Answer:** CE

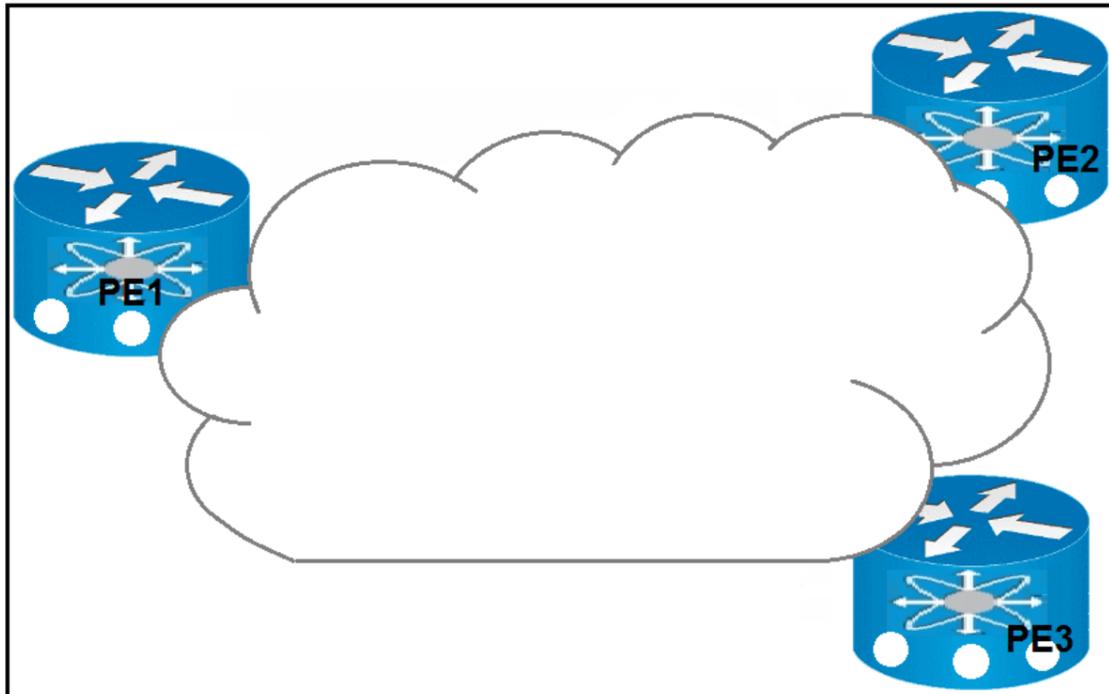
**QUESTION 17**

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

**Correct Answer:** D

**QUESTION 18**



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.

**Correct Answer: B**

**QUESTION 19**

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

**Correct Answer: DEF**

**QUESTION 20**

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

**Correct Answer: BC**

**QUESTION 21**

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

**Correct Answer: D**

**QUESTION 22**

An engineer is troubleshooting AToM on an IOS XE router and receives an error when creating the xconnect.

Which command does he need to complete to create the xconnect in AToM?

- A. **encapsulation mpls**
- B. **encapsulation 12tpv3**
- C. **protocol 12tpv3**
- D. **protocol none**

**Correct Answer: A**

**QUESTION 23**

An engineer is troubleshooting an EoMPLS circuit on a Cisco IOS XR router interface that removes a VLAN from the distribution layer. Which configuration should the engineer apply in order to accomplish the task?

- A. **interface GigabitEthernet 0/10.I2transport encapsulation dot1q 10**

- ```

rewrite ingress tag pop 1 symmetric
l2vpn
xconnect group 103588
p2p 103588
interface GigabitEthernet 0/10.10
neighbor ipv4 10.10.10.2 pw-id 103588

```
- B. interface GigabitEthernet 0/10.10  
encapsulation dot1q 10  
rewrite ingress tag pop 1 symmetric  
l2vpn  
xconnect group 103588  
p2p 103588  
interface GigabitEthernet 0/10.10  
neighbor ipv4 10.10.10.2 pw-id 103588
- C. interface GigabitEthernet 0/10.10 l2transport  
encapsulation dot1q 10  
l2vpn  
xconnect group 103588  
p2p 103588  
interface GigabitEthernet 2/10.10  
neighbor ipv4 10.10.10.2 pw-id 103588
- D. interface GigabitEthernet 0/10.10 l2transport  
encapsulation dot1q 10  
rewrite ingress tag translate 1-to-1 dot1ad 10  
symmetric  
l2vpn  
xconnect group 103588  
p2p 103588  
interface GigabitEthernet 0/10.10  
neighbor ipv4 10.10.10.2 pw-id 103588

Correct Answer: C

#### QUESTION 24

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

Correct Answer: B

#### QUESTION 25

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

Correct Answer: C

#### QUESTION 26

```

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

```

Refer to the exhibit. 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.

**Correct Answer:** D

**QUESTION 27**

```
R1
router ospf 1 vrf custabc
  network 192.168.1.0 0.0.0.255 area 1
  redistribute bgp 65001 metric-type 1 subnets
```

Refer to the exhibit. 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.

**Correct Answer:** A

**QUESTION 28**

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. They allow BGP to uniquely identify duplicate routes.

**Correct Answer:** CE

**QUESTION 29**

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.

**Correct Answer:** D

**QUESTION 30**

```
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
```

Refer to the exhibit. 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.

**Correct Answer:** B

**QUESTION 31**

```
mdt default mpls mldp 2.2.2.2
```

Refer to the exhibit. 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.

**Correct Answer:** A

**QUESTION 32**

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
```

Refer to the exhibit. 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.

Correct Answer: D

#### QUESTION 33

```
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
```

Refer to the exhibit. 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.

Correct Answer: D

#### QUESTION 34

```
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
```

Refer to the exhibit. 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.

Correct Answer: B

#### QUESTION 35

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

Correct Answer: D