

Exam Questions 642-889

SPEDGE Implementing Cisco Service Provider Next-Generation Edge Network Services (SPEDGE)

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NEW QUESTION 1

When implementing MPLS Layer 3 VPNs with customers running OSPF as the CE-PE routing protocol, which situation will require a sham link to be implemented in the MPLS backbone?

- A. to connect customer sites in different OSPF areas
- B. to connect customer sites in the same OSPF area
- C. to prevent OSPF routing loops when a customer site has redundant CE-PE connections
- D. if there is a backdoor link between the CE routers, to ensure that the backdoor link is used only to back up the primary connection through the MPLS VPN

Answer: D

Explanation:

http://www.cisco.com/en/US/docs/ios/12_2t/12_2t8/feature/guide/ospfshmk.html

NEW QUESTION 2

When implementing CSC services, which two methods can be used to exchange label information between the downstream CSC customer carrier and the CSC backbone carrier? {Choose two.}

- A. using MP-BGP
- B. using RSVP
- C. using IGP and LDP
- D. using back-to-back VRF
- E. using front VRF and internal VRF

Answer: AC

Explanation:

http://www.cisco.com/en/US/docs/net_mgmt/ip_solution_center/4.0/mpls/user/guide/9_iscqsg.html

Since the CSC-PE routers do not have to carry external routes in the VRF routing table, they can use the incoming label in the packet to forward the customer carrier Internet traffic. Adding MPLS to the routers provides a consistent method of transporting packets from the customer carrier to the backbone carrier. MPLS allows the exchange of an MPLS label between the CSC-PE and the CSC-CE routers for every internal customer carrier route. The routers in the customer carrier have all the external routes either through IBGP or route redistribution to provide Internet connectivity.

When a backbone carrier and the customer carrier both provide BGP/MPLS VPN services, the method of transporting data is different from when a customer carrier provides only ISP services. The following list highlights those differences.

- When a customer carrier provides BGP/MPLS VPN services, its external routes are VPN-IPv4 routes. When a customer carrier is an ISP, its external routes are IP routes.
- When a customer carrier provides BGP/MPLS VPN services, every site within the customer carrier must use MPLS. When a customer carrier is an ISP, the sites do not need to use MPLS.

NEW QUESTION 3

When verifying Layer 3 MPLS VPN operations, which Cisco IOS XR show command is best used to verify that the PE router is receiving the routes from the CE router?

- A. show route
- B. show route vrf vrf-name
- C. show bgp vpnv4 vrf vrf-name
- D. show bgp vpnv4 unicast ip-prefix

Answer: B

Explanation:

http://www.cisco.com/en/US/docs/ios_xr_sw/iosxr_r3.7/routing/configuration/guide/rc37rib.html

NEW QUESTION 4

In Layer 3 MPLS VPN implementations, if a customer is using the same AS number at both customer sites and the PE- to-CE routing protocol is BGP, what must be enabled on the PE router?

- A. BGP AS override
- B. BGP allowas-in
- C. BGP SOO extended community
- D. BGP AS path prepending

Answer: A

Explanation:

<https://supportforums.cisco.com/docs/DOC-21837>

Loop prevention in BGP is done by verifying the AS number in the AS Path. If the receiving router sees its own AS number in the AS Path of the received BGP packet, the packet is dropped. The receiving Router assumes that the packet was originated from its own AS and has reached the same place from where it originated initially.

The feature could be a disaster if customers are using same AS number along the various sites and disallows customer sites having identical AS numbers to be linked by another AS number. In such a scenario, routing updates from one site will be dropped when the other site receives them.

To override this feature, AS-Override function causes to replace the AS number of originating router with the AS number of the sending BGP router. The command is neighbor ip-address as-override and can only be executed under the VPNv4 address-family

NEW QUESTION 5

When troubleshooting EoMPLS configuration problems, which three parameters must match between the two ends of the pseudowire configurations? {Choose three.}

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

Answer: ABC

Explanation:

Provisioning an AToM Static Pseudowire

In this configuration task, you use options in the xconnect Ethernet interface configuration command to specify a static connection, and mpls commands in xconnect mode to statically set the following pseudowire parameters:

- Set the local and remote pseudowire labels
- Enable or disable sending the MPLS control word

Step 1	<code>enable</code> Example: Router> enable	Enables privileged EXEC mode. <ul style="list-style-type: none">• Enter your password if prompted.
Step 2	<code>configure terminal</code> Example: Router# configure terminal	Enters global configuration mode.
Step 3	<code>interface Ethernet-type interface-number</code> Example: Router(config)# interface Ethernet 1/0	Enters configuration mode for the specified interface.
Step 4	<code>xconnect peer-ip-address void encapsulation mpls manual pw-class class-name</code> Example: Router(config-if)# xconnect 10.131.191.252 100 encapsulation mpls manual pw-class mpls	Configures a static AToM pseudowire and enters xconnect configuration mode where the local and remote pseudowire labels are set.
Step 5	<code>mpls label local-pseudowire-label remote-pseudowire-label</code> Example: Router(config-if-xconn)# mpls label 100 150	Sets the local and remote pseudowire labels. <ul style="list-style-type: none">• The label must be an unused static label within the static label range configured using the <code>mpls label range</code> command.• The <code>mpls label</code> command checks the validity of the label entered and displays an error message if it is not valid. The label supplied for the <code>remote-pseudowire-label</code> argument must be the value of the peer PE's local pseudowire label.
Step 6	<code>[no] mpls control-word</code> Example: Router(config-if-xconn)# no mpls control-word	Sets whether or not the MPLS control word is sent. <ul style="list-style-type: none">• This command must be set for Frame Relay data-link connection identifier (DLCI) and ATM adaptation layer 5 (AAL5) attachment circuits. For other attachment circuits, the control word is included by default.• If you enable inclusion of the control word, it must be enabled on both ends of the connection for the circuit to work properly.• Inclusion of the control word can be explicitly disabled using the <code>no mpls control-word</code> command.

Haven't been able to find where MTU Must match

NEW QUESTION 6

When implementing VPLS on Cisco routers, which data structure resembles a virtual switch and is used for learning the MAC addresses?

- A. VRF
- B. VFI
- C. SVI
- D. BVI

Answer: B

Explanation:

Restrictions for Implementing Virtual Private LAN Services on Cisco IOS XR Software

The following restrictions are listed for implementing VPLS:

- All attachment circuits in a bridge domain on an Engine 3 line card must be the same type (for example, port, dot1q, QinQ, or QinQany), value (VLAN ID), and EtherType (for example, 0x8100, 0x9100, or 0x9200). The Cisco CRS-1 router supports multiple types of attachment circuits in a bridge domain.
- The Engine 3 line cards, cannot simultaneously have attachment circuits and MPLS-enabled on any one of its interfaces. The line card cannot be Edge-facing and Core-facing at the same time. Line cards on the Cisco CRS-1 router can be Edge-facing and Core-facing at the same time.
- The line card requires ternary content addressable memory (TCAM) Carving configuration. The Cisco CRS-1 router however, does not require the TCAM Carving configuration.
- Virtual Forwarding Instance (VFI) names have to be unique, because a bridge domain can have only one VFI.
- On the Cisco CRS-1 router, a VPLS pseudowire (PW) can be configured only under VFI.
- The Cisco CRS-1 router does not support VPLS with TE core tunnels.
- A PW cannot belong to both a peer-to-peer (P2P) cross-connect group and a VPLS bridge-domain. This means that the neighboring IP address and the pseudowire ID have to be unique on the router, because the pseudowire ID is signaled to the remote provider edge.
- You cannot manually set up a PW on one PE and use auto-discovery on the other PE to configure the same PW in the other direction. The auto-discovery feature is supported only on the Cisco XR 12000 Series Router.

NEW QUESTION 7

When using the Cisco EVC software infrastructure, a double-tagged frame with a customer VLAN of 10 and a service provider VLAN of 150 will be best matched by which encapsulation configuration?

- A. encapsulation dot1q 10 second-dot1q any
- B. encapsulation dot1q 10 second-dot1q 150
- C. encapsulation dot1q 10 second-dot1q 50-200
- D. encapsulation dot1q 10
- E. encapsulation dot1q 150

Answer: E

NEW QUESTION 8

In MPLS Layer 3 VPN implementations, what is used at the PEs to transform the customer IPv4 prefixes into a unique 96-bit prefix?

- A. RT
- B. RD
- C. VC ID
- D. PW ID
- E. AS number

Answer: B

NEW QUESTION 9

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-vrf}#
- B. RP/0/RP0/CPU0:PE{config-if}#
- C. RP/0/RP0/CPU0:PE{config-bgp}#
- D. RP/0/RP0/CPU0:PE{config-bgp-af}#

Answer: B

Explanation:

	Command or Action	Purpose
Step 1	<code>configure</code> Example: RP/0/RP0/CPU0:router# configure	Enters global configuration mode.
Step 2	<code>interface type instance</code> Example: RP/0/RP0/CPU0:router (config)# interface pos 0/3/0/0	Enters interface configuration mode.
Step 3	<code>vrf vrf-name</code> Example: RP/0/RP0/CPU0:router (config-if)# vrf vrf_A	Configures a VRF instance and enters VRF configuration mode.
Step 4	<code>ipv4 address ipv4-address mask</code> Example: RP/0/RP0/CPU0:router (config-if)# ipv4 address 192.168.1.27 255.255.255.0	Configures a primary IPv4 address for the specified interface.
Step 5	<code>end</code> Or <code>commit</code> Example: RP/0/RP0/CPU0:router (config-if)# end Or RP/0/RP0/CPU0:router (config-if)# commit	Saves configuration changes. <ul style="list-style-type: none"> • When you issue the end command, the system prompts you to commit changes: <pre>Uncommitted changes found, commit them before exiting(yes/no/cancel)? [cancel]:</pre> <ul style="list-style-type: none"> – Entering yes saves configuration changes to the running configuration file, exits the configuration session, and returns the router to EXEC mode. – Entering no exits the configuration session and returns the router to EXEC mode without committing the configuration changes. – Entering cancel leaves the router in the current configuration session without exiting or committing the configuration changes. • Use the commit command to save the configuration changes to the running configuration file and remain within the configuration session.

NEW QUESTION 10

What happens if the destination MAC address is not present in the table for the packets that are received on one of the ACs in VPLS?

- A. Packets are switched only to the PW.
- B. Packets are flooded only to the other local ACs.
- C. Packets are flooded on all other ACs and on all PWs that are associated with the bridge domain.
- D. Packets are dropped.

Answer: C

NEW QUESTION 11

Refer the exhibit.

Instructions

Enter the proper CLI commands and analysis the outputs on the Cisco routers to answer the multiple-choice questions.

From the network topology diagram, click on the router icon to gain access to the console of the router.

No console or enable passwords are required.

There are four multiple-choice questions with this task. Be sure to answer all four questions before selecting the Next button.

Not all the CLI commands or commands options are supported or required for this simulation.

For example, the show running-config command is **NOT** supported in this simulation.

All the devices in this simulation have been pre-configured and you are not required to enter in any configurations.

Scenario

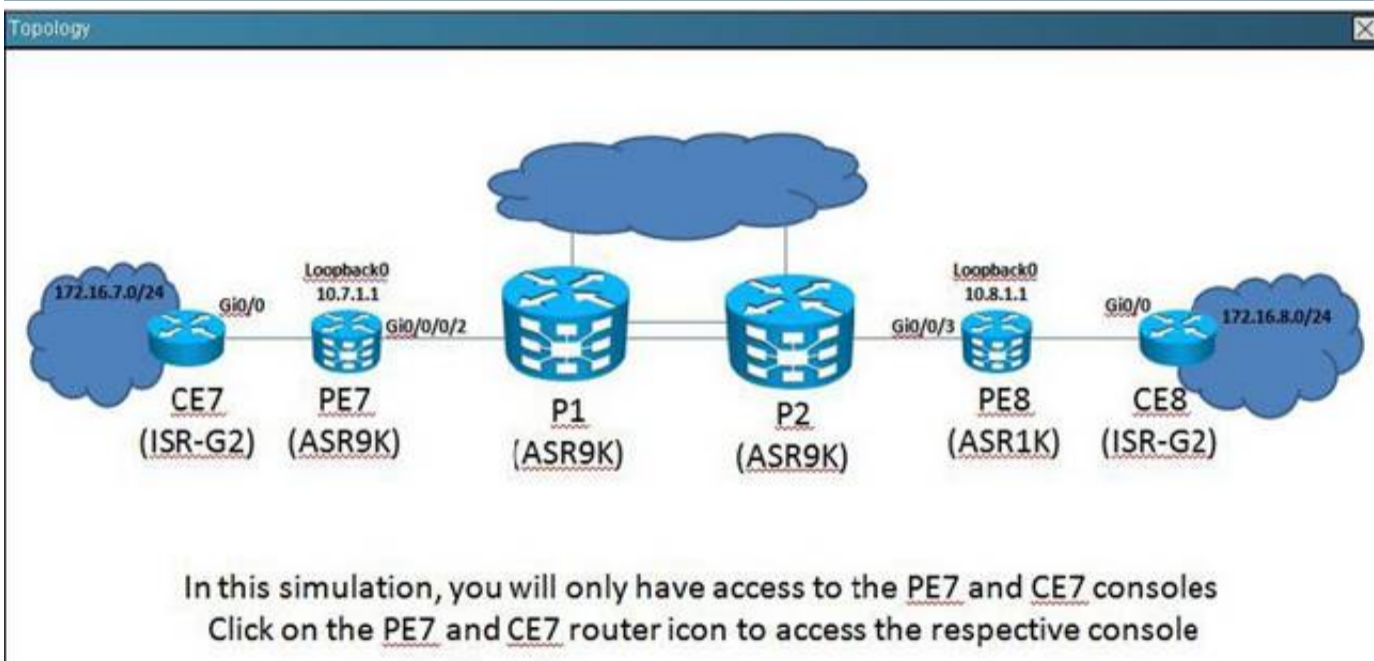
Referring to the network topology diagram shown in the exhibit, use the proper CLI commands on the CE7 and PE7 routers and interpret the supported CLI commands outputs to answer the four multiple choice questions.

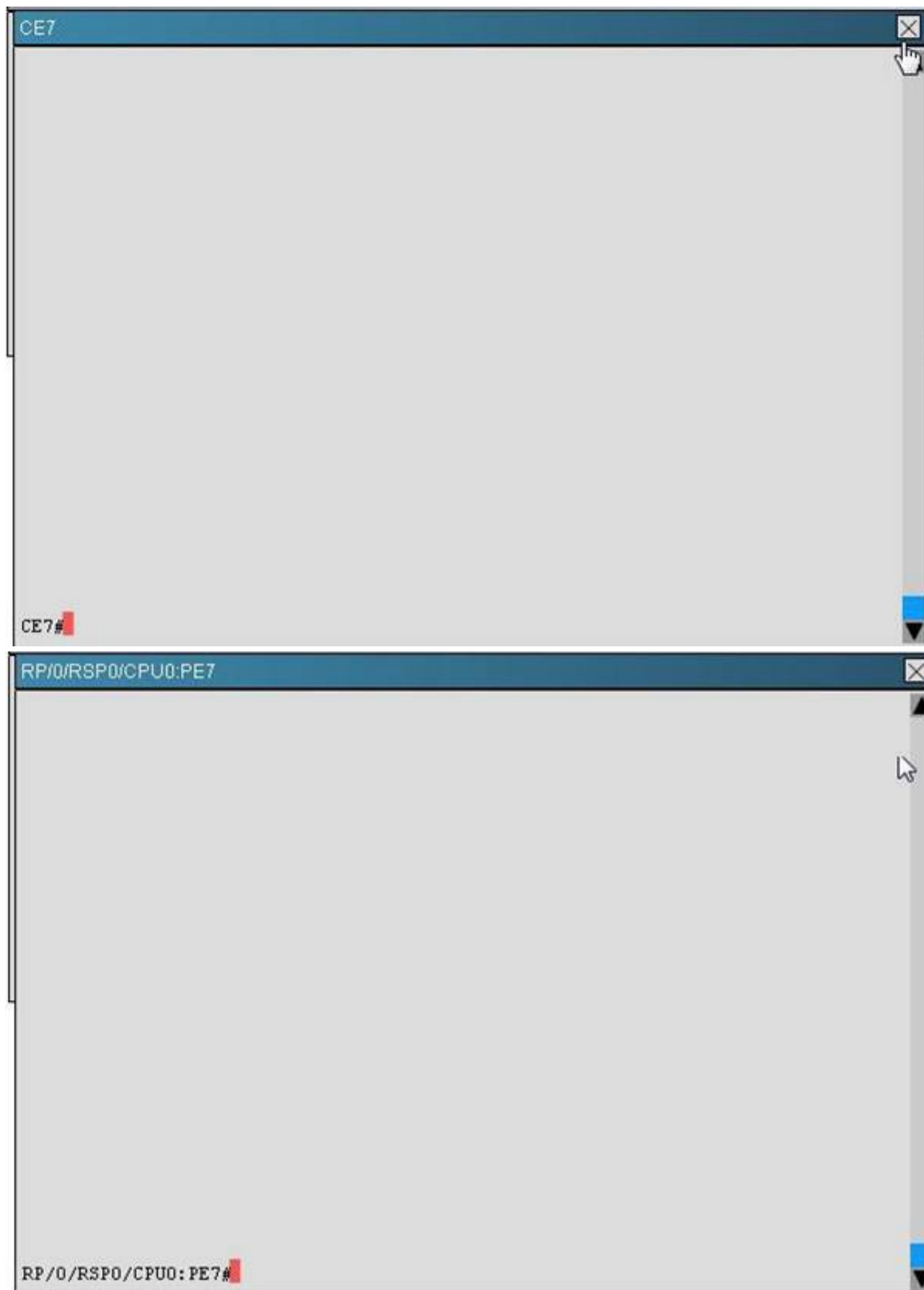
The CE7 router is an ISR-G2 router and the PE7 router is an ASR9K router.

OSPF is the IGP running between all the PE and P routers and LDP is also running between all the PE and P routers.

The questions in this simulation are regarding the MPLS layer 3 VPN configurations on the PE routers where CE7

Scenario	Instructions	Topology	CE7	RP/0/RSP0/CPU0:PE7	Questions
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On PE7, how many multiprotocol IBGP routes are learned from PE8 and what is the next-hop IP address? {Choose two.}

- A. 1
- B. 2
- C. 3
- D. 10.8.1.1
- E. 172.16.8.1
- F. 192.168.108.81

Answer: BE

Explanation:

Show ip bgp vpnv4 all --- i tag field is the answer

NEW QUESTION 12

Refer the exhibit.

Instructions

Enter the proper CLI commands and analysis the outputs on the Cisco routers to answer the multiple-choice questions.

From the network topology diagram, click on the router icon to gain access to the console of the router.

No console or enable passwords are required.

There are four multiple-choice questions with this task. Be sure to answer all four questions before selecting the Next button.

Not all the CLI commands or commands options are supported or required for this simulation.

For example, the show running-config command is **NOT** supported in this simulation.

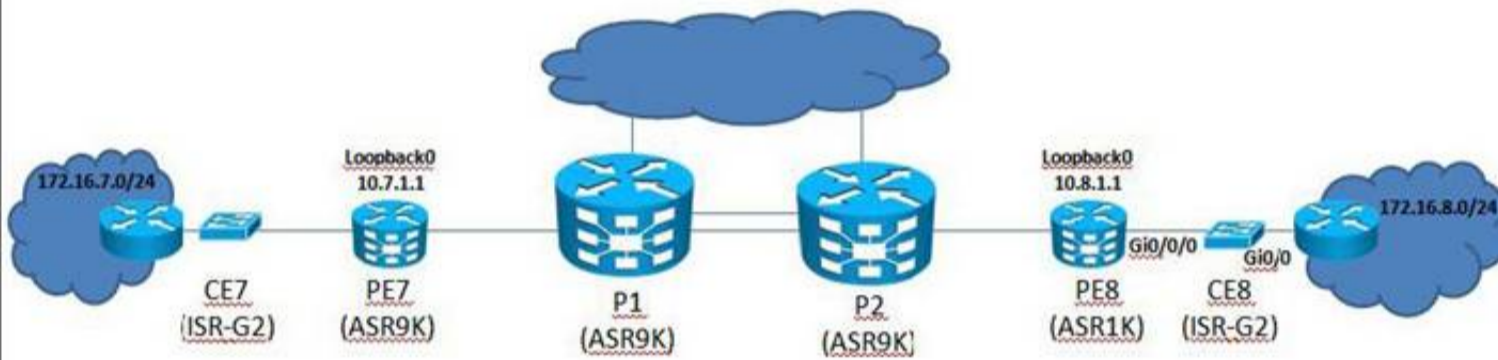
All the devices in this simulation have been pre-configured and you are not required to enter in any configurations.

Scenario

Referring to the network topology diagram shown in the exhibit, use the proper CLI commands on PE7 router and interpret the supported CLI commands outputs to answer the four multiple choice questions.

The PE7 router is an ASR9K router.

Topology



In this simulation, you will only have access to the PE7 router console
 Click on the PE7 router icon to access the PE7 router console

RP/0/RSP0/CPU0:PE7

```

RP/0/RSP0/CPU0: PE7#
    
```

On PE7, which encapsulation method is used on the pseudowire that connects to the 10.8.1.1 neighbor?

- A. MPLS
- B. L2TPv3
- C. IP
- D. LDP
- E. Ethernet

Answer: B

Explanation:

show xconnect all
 check value is mpls or l2tp or Ethernet etc in segment field

NEW QUESTION 13

Which three options are features of MPLS Layer 2 VPNs? {Choose three.}

- A. Routing occurs on customer devices.
- B. Routing occurs on service provider and customer devices.
- C. Customer sites appear to be on the same LAN.
- D. Customer sites appear to be on different LANs in the same routing domain.
- E. A routing protocol must be configured between the CE and PE device.
- F. Traffic between CE and PE is forwarded in Layer 2 format.

Answer: ACF

NEW QUESTION 14

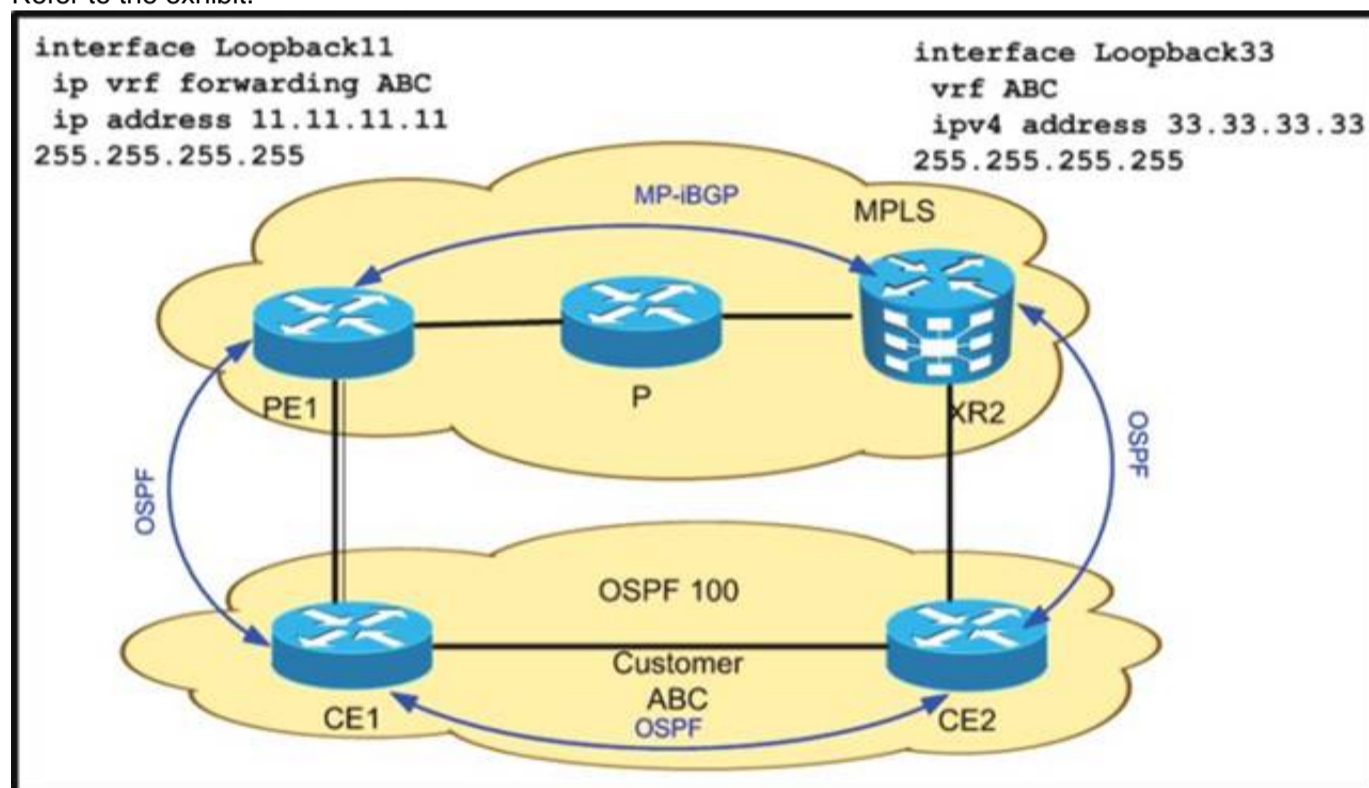
A Cisco IOS XR router is acting as a PE and is running EIGRP as the CE-PE routing protocol. SOO must be configured. Under which subconfiguration mode should SOO be configured?

- A. RP/0/0/CPU0:XR1{config-eigrp}
- B. RP/0/0/CPU0:XR1{config-eigrp-vrf-af-if}
- C. RP/0/0/CPU0:XR1{config-eigrp-vrf}
- D. RP/0/0/CPU0:XR1{config-eigrp-vrf-af}

Answer: B

NEW QUESTION 15

Refer to the exhibit.



XR2 must be configured with OSPF sham-link to PE1. Which configuration achieves this goal?

- A. router ospf 100 area 0 sham-link 11.11.11.11 33.33.33.33
- B. router ospf 100vrf ABC area 0 sham-link 33.33.33.33 11.11.11.11
- C. router ospf 100area 0 sham-link 33.33.33.33 11.11.11.11
- D. router ospf 100 vrf ABCarea 0 sham-link 11.11.11.11 33.33.33.33

Answer: B

NEW QUESTION 16

Which organization provides and promotes a standards-based description of service provider services offering?

- A. MEF
- B. IETF
- C. IEEE
- D. ITU

Answer: A

NEW QUESTION 17

Which option is the minimal configuration required inside the L2VPN section of a Cisco IOS XR PE router to activate VPLS functionality?

- A. l2vpnbridge group test bridge-domain testinterface TenGigE0/0/0/1.30!vfi testvpn-id 600 autodiscovery bgp rd 10.10.10.1:30route-target 1:300 signaling-protocol bgp ve-id 10
- B. l2vpnbridge group test bridge-domain testinterface TenGigE0/0/0/1.30!vfi testneighbor 10.10.10.2 pw-id 1400mpls static label local 1400 remote 1500

- C. l2vpnbridge group test bridge-domain testinterface TenGigE0/0/0/1.30!vfi testneighbor 10.10.10.2 pw-id 1400
- D. l2vpnbridge group test bridge-domain testinterface TenGigE0/0/0/1.30!vfi testvpn-id 600 autodiscovery bgp rd 10.10.10.1:30route-target 1:300 signaling-protocol bgp
- E. l2vpnbridge group test bridge-domain test vfi test autodiscovery bgp rd 10.10.10.1:30route-target 1:300 signaling-protocol bgp ve-id 10

Answer: C

NEW QUESTION 18

Which Layer 2 encapsulations can AToM solution support with interworking IP feature enable?

- A. Ethernet to ATM AAL5
- B. ATM AAL5 to Frame Relay
- C. PPP to Frame Relay
- D. multipoint PPP to Frame Relay

Answer: A

NEW QUESTION 19

Which option represents an AToM pseudowire basic configuration in Cisco IOS XR device?

- A. pseudowire-class name_class encapsulation mpls!
- B. pseudowire-class name_class encapsulation l2tpv3!
- C. l2vpn pw-class name encapsulation mpls!
- D. l2vpn xconnect group group-name p2p xconnect-name
- E. neighbor ip-address pw-id pseudowire-id

Answer: C

NEW QUESTION 20

A service provider is tasked to write up a template for the network operations center to set up a Layer 2 VPN. Which command is the first command to issue on a Cisco IOS XR router?

- A. xconnect peer_ip vc_id encapsulation encapsulation_type
- B. connect name_pw interface_path_id dci_value l2transport
- C. l2vpn
- D. pseudowire-class class_name

Answer: C

NEW QUESTION 21

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