Exam Questions 642-889

SPEDGE Implementing Cisco Service Provider Next-Generation Edge Network Services (SPEDGE)
NEW QUESTION 1
Which three Layer 3 VPN technologies are based on the overlay model? {Choose three.}

A. ATM virtual circuits
B. Frame Relay virtual circuits
C. GRE/IPsec
D. L2TPv3
E. MPLS Layer 3 VPNs
F. DMVPNs

Answer: CDF

Explanation:
The overlay model, where the service provider provides emulated leased lines to the customer.
The service provider provides the customer with a set of emulated leased lines. These leased lines are called VCs, which can be either constantly available (PVCs) or established on demand (SVCs). The QoS guarantees in the overlay VPN model usually are expressed in terms of bandwidth guaranteed on a certain VC (Committed Information Rate or CIR) and maximum bandwidth available on a certain VC (Peak Information Rate or PIR). The committed bandwidth guarantee usually is provided through the statistical nature of the Layer 2 service but depends on the overbooking strategy of the service provider. The peer-to-peer model, where the service provider and the customer exchange Layer 3 routing information and the provider relays the data between the customer sites on the optimum path between the sites and without the customer's involvement.

The peer-to-peer VPN model was introduced a few years ago to alleviate the drawbacks of the overlay VPN model. In the peer-to-peer model, the Provider Edge (PE) router is a router (PE-router) that directly exchanges routing information with the CPE router. The Managed Network service offered by many service providers, where the service provider also manages the CPE devices, is not relevant to this discussion because it's only a repackaging of another service. The Managed Network provider concurrently assumes the role of the VPN service provider providing the VPN infrastructure and part of the VPN customer role (managing the CPE device).

The peer-to-peer model provides a number of advantages over the traditional overlay model:
Routing (from the customer's perspective) becomes exceedingly simple, as the customer router exchanges routing information with only one (or a few) PE-router, whereas in the overlay VPN network, the number of neighbor routers can grow to a large number.
Routing between the customer sites is always optimal, as the provider routers know the customer's network topology and can thus establish optimum inter-site routing.
Bandwidth provisioning is simpler because the customer has to specify only the inbound and outbound bandwidths for each site (Committed Access Rate [CAR] and Committed Delivery Rate [CDR]) and not the exact site-to-site traffic profile.
The addition of a new site is simpler because the service provider provisions only an additional site and changes the configuration on the attached PE-router.
Under the overlay VPN model, the service provider must provision a whole set of VCs leading from that site to other sites of the customer VPN.
Prior to an MPLS-based VPN implementation, two implementation options existed for the peer-to-peer VPN model: The shared-router approach, where several VPN customer sites share the same PE-router.
The dedicated-router approach, where each VPN customer has dedicated PE-routers.

NEW QUESTION 2
Which VPN technology uses the Group Domain of Interpretation as the keying protocol and IPsec for encryption that is often deployed over a private MPLS core network?

A. DMVPN
B. GET VPN
C. SSL VPN
D. L2TPv3

Answer: B

Explanation:

NEW QUESTION 3
Which flavor of MPLS Layer 3 VPN has MPLS enabled on PE-CE links?

A. basic
B. CSC
C. inter-AS
D. AToM
E. VPLS

Answer: B

Explanation:
NEW QUESTION 4
In MPLS Layer 3 VPN implementations, which mechanism is used to control which routes are imported to a VRF?

A. RT  
B. RD  
C. VC ID  
D. PW ID  
E. VRF ID  

Answer: A

Explanation:
http://blog.initialdraft.com/archives/1537/

NEW QUESTION 5
Refer to the partial Cisco IOS XR PE router VRF configuration exhibit.
To implement a central-service VPN supporting both customer1 and customer2, what will be the required corresponding VRF configuration on the central-service-server PE router?

A. vrf central-service-server address-family ipv4 unicast import route-target3:12:2 export route-target 3:12:1!
B. vrf central-service-server address-family ipv4 unicast import route-target3:12:1 export route-target 3:12:2!
C. vrf central-service-server address-family ipv4 unicast import route-target3:11:2 export route-target 3:11:2!
D. vrf central-service-server address-family ipv4 unicast import route-target3:12:2 export route-target 3:11:2:2!

Answer: A

NEW QUESTION 6
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:
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 IGBP 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, 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 7
Which two Layer 2 VPN methods support interworking between customer sites with different Layer 2 encapsulation at each end (for example, Frame Relay to Ethernet interworking)? (Choose two.)

A. AToM
B. VPLS
C. GET VPN
D. L2TPv3

Answer: AD

Explanation:
The Layer 2 Tunnel Protocol Version 3 feature expands on Cisco support of the Layer 2 Tunnel Protocol Version 3 (L2TPv3). L2TPv3 is an Internet Engineering Task Force (IETF) I2tpext working group draft that provides several enhancements to L2TP for the capability to tunnel any Layer 2 payload over L2TP. Specifically, L2TPv3 defines the L2TP protocol for tunneling Layer 2 payloads over an IP core network using Layer 2 virtual private networks (VPNs). Benefits of this feature include the following:
• L2TPv3 simplifies deployment of VPNs
• L2TPv3 does not require Multiprotocol Label Switching
• L2TPv3 supports Layer 2 tunneling over IP for any payload
Without separate networks that each have network management environments, Service Providers can deliver Layer 2 connections over an MPLS backbone. Cisco AToM provides a common framework to encapsulate and transport supported Layer 2 traffic types over an MPLS network core. Service Providers can use a single MPLS network infrastructure to offer connectivity for supported Layer 2 traffic and for IP traffic in Layer 3 VPNs.
NEW QUESTION 8
In hierarchical VPLS implementations, which two access architectures can be used between the UPE and NPE? (Choose two.)
A. EoMPLS
B. MP-BGP
C. Frame Relay
D. 802.1ad

Answer: AD

Explanation:
H-VPLS uses spoke connections, usually between Layer 2 switches acting as the CE and PE devices at the service provider's point-of-presence (POP). The spoke connections can be either an IEEE 802.1Q tagged connection or an MPLS LSP.

NEW QUESTION 9
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 10
Refer the exhibit.
On PE7, which three statements are correct regarding the MPLS VPN configurations used to support the connectivity between the CE7 and CE8 sites? (Choose three.)

A. The RD is 1:1
B. The import and export RTs are 1:1
C. Interface Gi0/0/0/0 is associated to the "default" VRF
D. The network that connects PE7 to CE7 is redistributed into multiprotocol IBGP
E. The multiprotocol IBGP routes learned have a BGP origin code of "i"

Answer: BCE

Explanation:

NEW QUESTION 11
Refer the exhibit.

Enter the proper CLI commands and analyze the output 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.

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.
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 12

Refer the exhibit.

```
Instructions
Enter the proper CLI commands and analyze the output 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
Refering 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 ASR1901 router.
```
On PE7, what is the PWtype on the p2p ac-pw named “testpw”?

A. MPLS
B. L2TPv3
C. PPP
D. LDP
E. Ethernet

Answer: B

Explanation:
show mpls l2transport vc testpw detail

NEW QUESTION 13
Which two options are disadvantages of MPLS Layer 3 VPNs? (Choose two.)

A. IP-only support
B. lack of scalability
C. dependency on service provider Layer 3 model
D. complex PE-CE configuration
E. less efficient than hub-and-spoke model

Answer: AD

NEW QUESTION 14
Refer to the exhibit.
PE1 and PE2 are advertising the same subnet 10.10.10.0/24 to PE3. Which PE advertised subnet is installed at the PE3 XYZ BGP table?

A. PE2 subnet because it has the same RD value as PE3
B. PE2 subnet because it has the same export RT value as export RT on PE3
C. PE1 subnet because it has the same RD value as PE3
D. PE1 subnet because it has the same export RT value as import RT on PE3

Answer: D

NEW QUESTION 15
An engineer is configuring an EoMPLS circuit on a Cisco IOS XR router interface that removes a VLAN from the distribution layer. Which configuration accomplishes this configuration?

A. interface GigabitEthernet 0/10.10 l2transport encapsulation dot1q 1012vpn connect group 103588p2p 103588interface GigabitEthernet 2/10.10 neighbor ipv4 10.10.10.2 pw-id 103588
B. interface GigabitEthernet 0/10.10 encapsulation dot1q 1012vpn connect 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 1012vpn connect group 103588p2p 103588interface GigabitEthernet 0/10.10 neighbor ipv4 10.10.10.2 pw-id 103588
D. interface GigabitEthernet 0/10.10 l2transport encapsulation dot1q 1012vpn connect group 103588p2p 103588interface GigabitEthernet 0/10.10 neighbor ipv4 10.10.10.2 pw-id 103588

Answer: C

NEW QUESTION 16
An engineer is configuring VPLS BGP-based autodiscovery on a Cisco IOS XE PE router. Which two configurations must be included for proper implementation? (Choose two.)

A. router bgp 61000neighbor 172.16.10.2 remote-as 61000
B. router bgp 61000address-family l2vpn vpls send-community extended
C. router bgp 61000neighbor 172.16.10.2 remote-as 62000
D. router bgp 61000address-family l2vpn vpls send-community-eBGP
E. l2vpn vfi context vpls1 autodiscovery bgp signaling ldp router bgp 61000neighbor 172.16.10.2 remote-as 62000
F. l2vpn vfi context vpls1 autodiscovery bgp signaling ldp router bgp 61000neighbor 172.16.10.2 remote-as 61000

Answer: AB

NEW QUESTION 17
Which technology does an N-PE most likely use to pass traffic to the U-PE that is destined for the access switch?

A. pseudowire
B. MPLS TE
C. OSPF
D. IS-IS

Answer: A

NEW QUESTION 18
When using H-VPLS, the PE router may use an IRB interface. How many VLAN tags can be processed by an IRB?

A. 1
B. 2
C. 3

Answer: A

NEW QUESTION 19
An engineer is deploying L2VPN service between two different Layer 2 encapsulations. Which feature should be set up to accomplish this task?
A. interworking VLAN on both the provider edge routers
B. interworking Ethernet on both the provider edge routers with VLAN tagging
C. interworking IPv4 on both the customer edge routers
D. interworking IPv4 on both the provider edge routers

Answer: D

NEW QUESTION 20
A customer requests Internet through its MPLS provider. Which Internet design model guarantees maximum security and easier provisioning?

A. Internet access through global routing
B. Internet access through route leaking
C. Internet access through a separate VPN service
D. Internet access through multisite

Answer: C

NEW QUESTION 21
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