



www.chinatag.com

CHINATAG

642-611(MPLS)

Implementing Cisco MPLS

Q&A

DEMO Version

Important Note Please Read Carefully

For demonstration purpose only, this free version Chinatag study guide contains **10** full length questions selected from our full version products which have more than **200** questions each.

This Study guide has been carefully written and compiled by Chinatag certification experts. It is designed to help you learn the concepts behind the questions rather than be a strict memorization tool. Repeated readings will increase your comprehension.

For promotion purposes, all PDF files are **not** encrypted. Feel free to distribute copies among your friends and let them know Chinatag website. Our IT certification products start at only **\$7.99**.

Study Tips

This product will provide you questions and answers along with detailed explanations carefully compiled and written by our experts. Try to understand the concepts behind the questions instead of cramming the questions. Go through the entire document at least twice so that you make sure that you are not missing anything.

Latest Version

We are constantly reviewing our products. New material is added and old material is revised. Free updates are available for 180 days after the purchase. You should check the products page on the <http://www.chinatag.com> website for an update 3-4 days before the scheduled exam date.

Please tell us what you think of our products. We appreciate both positive and critical comments as your feedback helps us improve future versions. Feedback on specific questions should be send to feedback@chinatag.com.

Thanks for purchasing our products and look forward to supplying you with all your Certification training needs.

Good studying!

Technical and Support Team
Chinatag LLC.

Note:

Section A contains 161 questions

Section B contains 189 questions.

The total number of questions is 350

Each section starts with QUESTION NO :1. There are no missing questions.

Section A

QUESTION NO: 1

What are three benefits of an MPLS VPN? (Choose three)

- A. It provides a network-based VPN service.
- B. It provides equivalent security to Frame Relay.
- C. It eliminates the need for multiple routing protocols.
- D. It offers a more scalable solution than other VPN technologies.

Answer: A,B,D

QUESTION NO: 2

When running basic MPLS in conjunction with VPNs, how many labels does each packet contain?

- A. Each packet contains one label that identifies the VPN.
- B. Each packet contains at least two labels. One label identifies the path to the egress router and one that identifies the VPN.
- C. Each packet contains at least three labels. One label identifies the ingress router, one identifies the egress router and one identifies the path that will be taken.
- D. Each packet contains at least three labels. One label identifies the ingress router, one label identifies the path to the egress router, and one identifies the VPN.

Answer: B

QUESTION NO: 3

When running MPLS in the frame mode over an Ethernet, how does the receiving device identify that the frame contains MPLS information?

- A. MPLS frames are sent over a reserved session.
- B. MPLS is identified in the protocol port of the Layer 3 header.
- C. MPLS frames are sent in a special frame with a multicast address similar to CDP.

D. The Ether Type of PID in the Layer 2 header identifies the frame as an MPLS frame.

Answer: D

Explanation:

1) According to the "Implementing Cisco MPLS" Student Guide (Text Part Number: 97-1153-01) Volume 1, version 1.0, page 2-31.

A label does not contain any information about the layer 3 protocol being carried in a packet.

A new protocol identifier is used for MPLS-enabled Layer 3 protocol.

The following list shows the ethertype values used to identify Layer 3 protocols with most Layer 2 encapsulations.:

- Unlabeled IP unicast: PID=0x0800 identifies that the frame payload is an IP packet

- Labeled IP unicast: PID=0x8847 identifies that the frame payload is a unicast IP packet with a least one label preceding the IP header. The Bottom-of-stack bit indicates when the IP header actually starts.

- Labeled IP multicast: PID=0x8848 identifies that the frame payload is a multiicast IP packet with at least one label preceding the IP header. The Bottom-of-stack bit indicates when the IP header actually starts.

Summary: Protocol identifier in a layer 2 header specifies that the payload starts with a label (labels) and is followed by an IP header.

2) According to the [RFC 3032 - MPLS lable stack encoding <http://www.rfc-editor.org/rfc/rfc3032.txt>](http://www.rfc-editor.org/rfc/rfc3032.txt)

Transporting Labeled Packets over LAN Media:

Exactly one labeled packet is carried in each frame.

The label stack entries immediately precede the network layer header, and follow any data link layer headers, including, e.g., any 802.1Q headers that may exist.

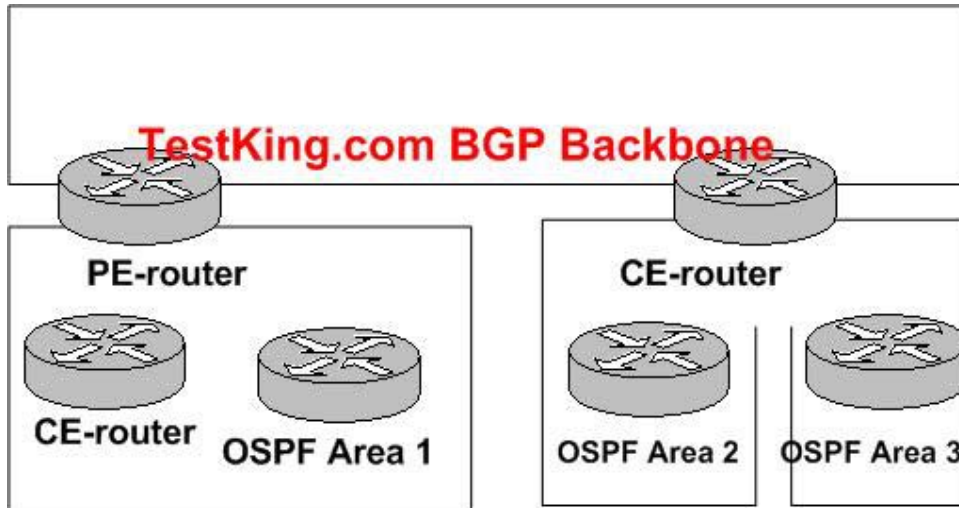
The ethertype value 8847 hex is used to indicate that a frame is carrying an MPLS unicast packet.

The ethertype value 8848 hex is used to indicate that a frame is carrying an MPLS multicast packet.

Not B: Option B cannot be correct as the question is asking frames on ethernet, this obviously means identification should be done at layer 2.

QUESTION NO: 3

Exhibit:



Given the information shown in the exhibit, which two statements are true? (Choose two)

- A. BGP is used to propagate routes between sites.
- B. OSPF is used to propagate routes between sites.
- C. Isolated copies of the customer's IGP run at every site.
- D. Redistribution between customer IGP and the backbone OSPF is performed at every PE-router.

Answer: A,D

QUESTION NO: 4

The VPN named *my_vpn* is operating on interface s0/0 of a PE-router. The CE-PE routing protocol is OSPF.

Why is the OSPF super-backbone needed in MPLS VPN environments?

- A. To ensure that the customer's OSPF traffic has priority over the backbone OSPF routing updates.
- B. To ensure that the backbone internal OSPF routes are not inserted as external OSPF routes into the customer's VPN.
- C. To ensure that the customer's internal OSPF routes on one site are not inserted as external OSPF routes into other sites on the same VPN.
- D. To ensure that the customer's internal OSPF routes are not inserted as external OSPF routes into the provider backbone as internal OSPF routes.

Answer:C

QUESTION NO: 5

Which IOS command displays the LC-ATM capabilities of an IOS device?

- A. show mpls atm capability
- B. show mpls atm-lc capability
- C. show tag-switching lc-atm capability
- D. show tag-switching atm-tdp capability

Answer: D

QUESTION NO: 6

Which two commands are needed to define an MPLS VPN routing context in RIP for VPN my_vpn? (Choose two.)

- A. router (config) # router rip
- B. router (config-router) # Network 10.0.0.0
- C. router (config-router) # address-family ipv4
- D. router (config-router) # address-family ipv4 vrf my_vpn
- E. router (config-router) # redistribute bgp 65001 metric transparent

Answer: A,D

QUESTION NO: 7

In Cisco IOS release 12.1, how many VPN OSPF process can run simultaneously in an MPLS VPN PE-router?

- A. 1.
- B. 28
- C. 255
- D. The number of active processes is controlled by the memory available.

Answer: B

QUESTION NO: 8

Which command enables extended community propagation for VPNv4 MP-BGP sessions?

- A. router (config-router) # ip vpnv4 send-community both
- B. router (config-router-af) # ip vpnv4 send-community both

- C. router (config-router-af) # neighbor 172.16.1.2 send-community both
- D. router (config-router) # vpnv4 neighbor 172.16.1.2 send-community both

Answer: C

QUESTION NO: 9

In reference to MPLS VPNs, what is a routing protocol context?

- A. Routing protocol contexts are specified in the MPLS RFC as OSPF, BGP, and ISIS.
- B. It is how separate isolated copies of VPN routing instances are created by the IOS.
- C. It is the interface parameters and timers values used to determine which routes are exported.
- D. It is the display keyword used with the **show ip route vpv4** command to display the routing protocol parameters for a particular VRF

Answer: B

Explanations

1) **According to the "Implementing Cisco MPLS" Student Guide (Text Part Number: 97-1154-01) Volume 2, version 1.0, page 8-6.**

-Routing context=routing protocol run in one vrf

-Routing contexts were introduced in Cisco IOS software to support the need for separate isolated copies of VPN routing protocols. They can be implemented as separate routing processes (OSPF), similar to traditional Cisco IOS software implementation, or as separate isolated instances of the same routing protocol (EBGP, RIPv2).

2) **According to the book "MPLS and VPN Architectures, CCIP Edition " by Jim Guichard , Ivan Pepelnjak.**

In chapter 5: To support overlapping VPNs, the routing protocol must be limited to a single VPN routing and forwarding (VRF) table. Each PE router must be configured so that any routing information learned from an interface can be associated with a particular VRF. This is done through the standard routing protocol process and is known as the *routing context*. A separate routing context is used per VRF.

Some routing protocols (for example, RIP) support several instances (or routing contexts) of the same protocol, with each instance running in a different VRF. Other protocols (for example, OSPF) require a separate copy of the routing protocol process for each VRF.

QUESTION NO: 10

The VPN named *my_vpn* is operating on interface s0/0 a PE-router. The CE-PE routing protocol is RIP. The MPLS backbone IGP is OSPF. However, when you review the configuration for the PE-router, you find that BGP has been configured.

What explains this configuration?

- A. VPN routes are always imported and exported using MP-BGP.

- B. This router is configured improperly. BGP is not needed in this configuration.
- C. This router is configured improperly E-BGP is the required routing protocol between PE and CE-routers.
- D. BGP should be configured on all routers supporting MPLS to ensure backward-compatibility reasons for earlier versions of IOS.

Answer: A

QUESTION NO: 11

Which statement about Cisco Express Forwarding's (CEF's) default operations is true?

- A. CEF is enabled by default on all Cisco routers.
- B. CEF's default operation are router dependent.
- C. CEF is disabled by default on all Cisco routers.
- D. CEF is enabled at a global level, but is disabled at an interface level.

Answer: D

QUESTION NO: 12

Given the following MPLS configuration to enable frame-mode MPLS over ATM:

```
interface atm 0/0.2 point-to-point
pvc auto
ip unnumbered loopback 0
tag-switching ip
```

Which command is using incorrect syntax?

- A. pvc auto
- B. tag-switching ip
- C. ip unnumbered loopback 0
- D. interface atm 0/0.2 point-to-point

Answer: A

QUESTION NO: 13

Which two are the proper syntax for enabling MPLS on an interface? (Choose two)

- A. router(config-if)# mpls ip
- B. router(config-if)# mpls enable
- C. router(config-if)# tag-switching

- D. router(config-if)# tag-switching ip
- E. router(config)# tag-switching int s0/0

Answer: A,D

QUESTION NO: 14

Which statement about MPLS VPN implementations and traditional peer-to-peer VPN implementations is true?

- A. MPLS and traditional peer-to-peer VPNs require the service provider to participate in the customer routing.
- B. MPLS and traditional peer-to-peer VPNs require that the customer routing is transparent to the service provider.
- C. MPLS VPNs require the use of link-state routing protocols, traditional peer-to-peer VPN implementations require distance vector protocols.
- D. MPLS VPNs are constructed using dynamic routing protocols; traditional peer-to-peer VPN implementations are constructed using static routes.

Answer: B

QUESTION NO: 15

How many routing table PE have

- A. A PE has one routing table for each VRF
- B. A PE has one global routing table for all VRFs
- C. A PE has a global routing table and additional routing table for each VRF
- D. A PE has a CEF global routing table and additional routing table for each VRF

Answer: C

QUESTION NO: 16

In frame-mode MPLS, which statement is true?

- A. MPLS inserts a 32-bit label after the Layer 3 header.
- B. MPLS replaces the Layer 2 header with a 32-bit label.
- C. MPLS replaces the Layer3 header with a 32-bit label.
- D. MPLS inserts 32-bit label between the Layer 2 and Layer 3 headers.

Answer: D