

# Implementing Cisco Service Provider Next-Generation Core Network Services

1. A network engineer wants to implement QoS in an environment in which GRE tunnels are used. The engineer creates a policy map to classify the traffic and applies the map to the physical interface. Despite a successful ping to the end of the tunnel, the counter of the class-map ICMP does not register a hit. How can the engineer fix this problem?

A. enable QoS preclassify in the physical interface

B. enable QoS preclassify in the tunnel interface

C. send the ping with source F0/0

D. send the ping with source tunnel 0

**Answer(s): B**

---

2. An engineer is having a problem getting an operational 10 Gigabit link on a Cisco ASR 9000 series router.

A. show optics

B. show ip interface

C. show controllers

D. show module optics

**Answer(s): C**

---

3. When implementing Cisco MPLS TE, the constrained-based path calculations will use which value as the TE cost of each link within the MPLS domain?

A. Each link must be assigned a TE cost using the metric command.

B. It will use the interface bandwidth as the TE cost.

C. It can only use the IGP metric as the TE cost.

D. By default, it will use the IGP metric, or each link can be assigned a specific value using the admin-weight command.

**Answer(s): D**

---

4. On the Cisco IOS XR, when using the match protocol command within a class-map to classify traffic, you noticed that the match protocol option on the Cisco IOS XR shows much fewer protocol options than on the Cisco IOS or IOS XE, like there is no option such as the match protocol yahoo-messenger command on the Cisco IOS XR. Why is this?

A. because NBAR is not supported on the Cisco IOS XR

B. because flexible packet matching has not been enabled on the Cisco IOS XR router

C. because when defining the class-map, the class-map type should be set to type inspect: class-map type inspect class-map-name command

D. because the Cisco IOS XR router does not have the correct software packages installed

**Answer(s): A**

---

5. A service provider runs MPLS in its core. What is the relationship between FIB, LIB, and LFIB in this environment?

A. The LIB and FIB are populated with labels and next-hop attributes in the control plane and are used to populate the LFIB

B. Data from the FIB and LIB tables is used to generate the LFIB

C. The LFIB is populated with information from the IP routing table and is shared with the FIB and LIB to assign labels to the path

D. The FIB, LIB, and LFIB are populated independently

**Answer(s): B**

---

6. Which four options describe the functions of the control world in an AToM environment?  
(Choose four.)

A. It preserves the sequence of the transported frames.

B. It enables proper load balancing without packet desequencing independent of L2VPN packet content.

C. It enables an optimal path for the L2VPN packet content to follow through the MPLS backbone.

D. It carries Layer 2 payload-specific information.

E. It prevents fragmentation and reassembly.

F. It is responsible for padding the small packets.

G. It carries generic and Layer 2 payload-specific information.

H. It is responsible for padding all packets.

**Answer(s): A,B,F,G**

---

7. LDP session protection uses which one to maintain the LDP session between LDP neighbors?

A. LDP NSR

B. backup-targeted LDP hellos

C. LDP-IGP synchronization

D. LDP NSF

E. BFD

**Answer(s): B**

---

8. Refer to the partial Cisco IOS XR configurations exhibit for Router 1 and Router 2.

A. missing interface under OSPF IGP configuration

B. password for LDP session mismatch on Router 1 and Router 2

C. hello timers mismatch on Router 1 and Router 2

D. MPLS LDP session protection is not configured

**Answer(s): A**

---

9. Which two factors must you consider when configuring MPLS EXP? (Choose two.)

A. MPLS EXP marking is supported in the egress direction

B. MPLS EXP classification for bridged MPLS packets on EVCs is supported

C. A packet that IP ToS classifies at ingress can be reclassified by MPLS EXP at egress

D. A packet that MPLS classifies at ingress can be reclassified by IP ToS at egress

E. MPLS EXP marking is supported in the ingress direction

**Answer(s):** D,E

---

**10.** Which three statements are correct regarding ping mpls command operations? (Choose three.)

A. MPLS OAM has to be enabled on the router using the mpls oam command.

B. They use a 127/8 address as the destination address in the MPLS echo request packet.

C. They use ICMP echo request and ICMP echo reply packets.

D. They are used to test for a broken LSP.

E. If there is a broken LSP, instead of using label switching, the packet can still be forwarded based on the destination IP address in the mpls ping echo request packet.

**Answer(s):** A,B,D

---

**11.** On Cisco routers, how is hierarchical QoS implemented?

A. Within the parent policy-map, reference another child policy-map using the service-policy command.

B. Within the child policy, reference another parent policy using the policy-map command.

C. Use the policy-map command within a service-policy to implement nested policy-maps.

D. Within the parent policy, reference another child policy using the policy-map command.

**Answer(s):** A

---

**12.** Which driver uses an IntServ QoS model in an MPLS TE enabled service provider network?

A. DSCP, which enables bandwidth guarantees across a provider network

B. DSCP, which requires signaling across the provider network

C. RSVP, which enables bandwidth guarantees across a provider network

D. RSVP, which enables per-hop behavior across a provider network

**Answer(s): C**

---

**13.** Which of the following three statements are correct regarding IPv6 QoS? (Choose three.)

A. The traffic class field in the IPv6 header can be used to set specific precedence or DSCP values.

B. A 20-bit flow label field enables per-flow processing.

C. DS-TE is not supported by IPv6.

D. Per-hop behavior in IPv6 networks is based on EXP bits.

E. IPv6 QoS features are configured using the modular QoS CLI on Cisco routers.

**Answer(s): A,B,E**

---

**14.** Which Cisco IOS XR command should be used in order to enable LDP on all interfaces for which the IGP protocol is enabled?

A. RP/0/0/CPU0:R1(config-ospf)#enable all

B. RP/0/0/CPU0:R1(config-ospf)#mpls ldp auto-config

C. RP/0/0/CPU0:R1(config-ospf)#mpls ldp interface all enable

D. RP/0/0/CPU0:R1(config-ldp)#enable all

**Answer(s): B**

---

15. What is the minimum number of labels in the label stack of an MPLS VPN customer traffic packet captured at a core P-router?

A. 1

B. 3

C. 2

D. 4

**Answer(s): C**

---

16. Which field in the IPv6 header prevents transit routers from examining the inner packet?

A. hop limit

B. traffic class

C. next header

D. flow label

**Answer(s): D**

---

17. You need to set to set up tail dropping on a QoS policy map on an IOS XP router.

A. queue-limit

B. bandwidth remaining percent

C. shape average

D. priority level

**Answer(s): A**

---

18. Which option describes what happens when a labelled packet with a TTL of 1 is received by an LSR?

A. The packet is forwarded on to the next router where its TTL expires and from where an ICMP "time exceeded" message is generated and label switched back to the source.

B. The packet is dropped and an ICMP "time exceeded" message is label-switched from the expiring router on the same label switched path toward the destination and then back to the originating source.

C. The packet is dropped and an ICMP "time exceeded" message is IP routed back to the sender.

D. The packet is forwarded on to the next router where its TTL expires and from where an ICMP "time exceeded" message is generated and routed back to the source.

E. The packet is dropped and an ICMP "time exceeded" message is label-switched from the expiring router back on a new path toward the source.

**Answer(s): B**

---

19. Implementing IPoDWDM interfaces on Cisco CRS routers eliminates the need for which network component?

A. ROADM

B. external transponders

C. electrical-optical-electrical converters

D. electrical cross-connect

**Answer(s): B**

---

20. Which address does LDP use to discover neighbors on a link?

A. 224.0.0.1

B. 224.0.0.2



C. 232.0.1.1

D. 232.0.0.2

**Answer(s): B**

---