

# Alcatel-Lucent Multi Protocol Label Switching

1. You wish to advertise LDP labels for all local networks; which is the most effective policy statement to use?

A. from prefix-list direct

B. match local

C. from protocol direct

D. match protocol direct

E. from protocol local

**Answer(s): C**

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2. Which of the following indicates the path over which an LSP's tail end router will return an RSVP RESV message?

A. The IGP FIB.

B. The Reservation State Block (RSB)

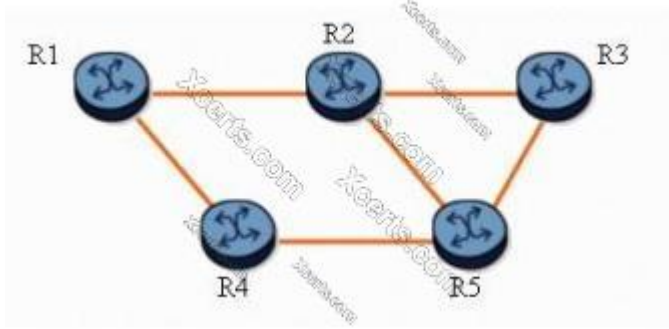
C. The Path State Block (PSB)

D. The opaque database.

**Answer(s): C**

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3. Click on the exhibit button below.



With fast reroute enabled, and given the following:

- Two protected LSPs with the path R1-R2-R3
- Both LSPs enable facility bypass and link protection.

When router R1 is the PLR, which router becomes the MP?

A. Router R1

B. Router R2

C. Router R3

D. Router R4

E. Router R5

**Answer(s): B**

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4. Click on the exhibit button below.

```

Exhibit

A:Pl># show router ldp bindings active

=====
Legend: (S) - Static
=====
LDP Prefix Bindings (Active)
=====
Prefix                Op    IngLbl    EgrLbl    EgrIntf    EgrNextHop
-----
10.10.10.221/32       Pop   131071    --         --          --
10.10.10.222/32       Push  --        131071    1/1/2      10.1.2.2
10.10.10.222/32       Swap 131070    131071    1/1/2      10.1.2.2
10.10.10.223/32       Push  --        131071    1/1/4      10.1.3.3
10.10.10.223/32       Swap 131067    131071    1/1/4      10.1.3.3
10.10.10.224/32       Push  --        131065    1/1/2      10.1.2.2
10.10.10.224/32       Swap 131065    131065    1/1/2      10.1.2.2
10.10.10.224/32       Push  --        131065    1/1/4      10.1.3.3
10.10.10.224/32       Swap 131065    131065    1/1/4      10.1.3.3
10.10.10.241/32       Push  --        131071    1/1/1      10.16.1.2
10.10.10.241/32       Swap 131063    131071    1/1/1      10.16.1.2
10.10.10.242/32       Push  --        131069    1/1/2      10.1.2.2
10.10.10.242/32       Swap 131068    131069    1/1/2      10.1.2.2
10.10.10.243/32       Push  --        131070    1/1/4      10.1.3.3
10.10.10.243/32       Swap 131066    131070    1/1/4      10.1.3.3
10.10.10.244/32       Push  --        131064    1/1/2      10.1.2.2
10.10.10.244/32       Swap 131064    131064    1/1/2      10.1.2.2
10.10.10.244/32       Push  --        131064    1/1/4      10.1.3.3
10.10.10.244/32       Swap 131064    131064    1/1/4      10.1.3.3
=====
No. of Prefix Bindings: 19
=====

```

Given the output below, which of the following statements are true? (Choose three)

- A. A packet arriving with label 131066 and destined for prefix 10.10.10.243/32 will be forwarded out interface 1/1/4, with label 131070.
- B. LDP ECMP is enabled.
- C. The router's system address is 10.10.10.242/32.
- D. There are multiple LSPs to reach FEC 10.10.10.244/32.
- E. The router cannot receive any unlabeled packets destined for prefix 10.10.10.223/32.

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

5. Which of the following statements best describe MPLS fast reroute characteristics? (Choose two)

A. Fast reroute requires you to manually define detour paths.

B. Fast reroute provides path protection close to the failure point

C. Fast reroute performs automatic path calculation and signaling.

D. Fast reroute protects both primary and secondary paths.

**Answer(s): B C**

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6. During node protection signaling, the PLR knows the address of the MP from which of the following methods?

A. The PLR issues a RSVP path message to the destination router to request the address of the MP.

B. The PLR learns the address of the MP from the ERO.

C. The PLR learns the address of the MP from the RRO

D. The PLR learns the address of the MP from the targeted RSVP hello message.

E. The PLR does not need to know the address of the MP.

**Answer(s): C**

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7. What is the significance of receiving a packet with the bottom MPLS label S bit set to 1?

A. It results in forwarding based on the next packet header.

B. It indicates that the label is the bottom of the MPLS label stack.

C. It indicates that the label is the top of the MPLS label stack.

D. Any LSR that receives an S bit set to 1 must discard the packet.

**Answer(s): B**

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8. Which command can be used to verify the LDP settings for label distribution and retention?

A. show router ldp default

B. show router ldp parameters

C. show router ldp settings

D. show router mpls settings

E. show router mpls label-options

**Answer(s): B**

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9. Router R3 signals an LSP, reserving 1Gbps bandwidth on a 10Gbps link. RSVP configuration limits reservable bandwidth to 20 percent on the egress interface. Which of the following statements is true?

A. The egress RSVP interface has 80 percent bandwidth unreserved.

B. LSPs can reserve an additional 9.9 Gbps bandwidth on this RSVP interface.

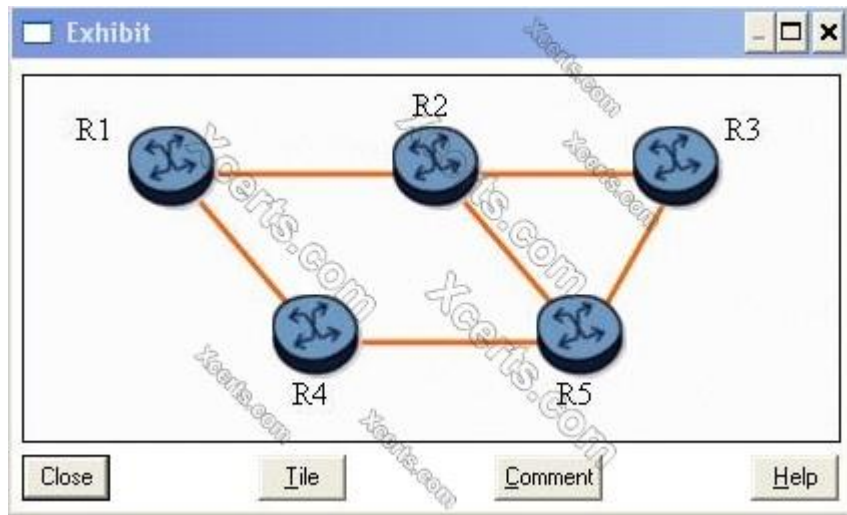
C. The head end reserves 100Mbps for the LSP

D. The egress RSVP interface has 1 Gbps bandwidth unreserved.

**Answer(s): D**

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10. Click on the exhibit button below.



Assuming that LSP R1-R2-R3 requests the default fast reroute configuration, which router becomes a DMP for the detour tunnels?

A. Router R1

B. Router R2

C. Router R3

D. Router R4

E. Router R5

**Answer(s): E**

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11. Which of the following message types does RSVP use to set up an LSP? (Choose two)

A. Path message

B. iLER message

C. Resv message

D. LSP setup call request

E. eLER message

**Answer(s):** A C

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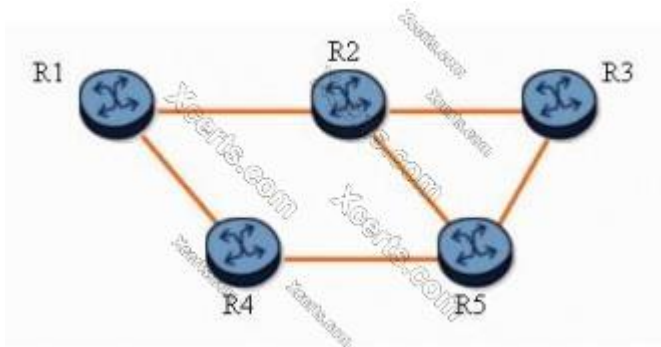
**12.** Assume that, on the Alcatel-Lucent 7750 SR, an LSP is configured with one-to-one FRR and node protection. Which of the following statements are FALSE? (Choose two)

- A. Each PLR signals a detour LSP that avoids the downstream node. If the downstream node cannot be avoided, a detour LSP that avoids the downstream link is signaled.
- B. The detour LSP can take one or more hops before merging back on the protected LSP.
- C. The merge point of the protected LSP must be the next-next-hop node
- D. The ingress router will set the local protection desired flag in the session attribute object of the path message to inform all routers along the protected LSP path to establish detour LSPs.
- E. The label recording desired flag must be set in the session attribute object in order for the PLR to know what label to swap when using the detour LSP.

**Answer(s):** C E

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**13.** Click on the exhibit button below.



With fast reroute enabled, and given the following:

- The protected LSP path is R1-R2-R3.
- All links are of equal cost.

Which of the following statements is true? (Choose two)

- A. Router R1 is the LSP originator and is also a PLR.
- B. With one-to-one link or node protection, the detour LSP path is R1-R4-R5-R2-R3.
- C. With one-to-one link or node protection, the detour LSP path is R1-R4-R5-R3.
- D. If the R2-R3 link fails, router R3 becomes a PLR
- E. None of the nodes can be protected with FRR.

**Answer(s):** A C

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**14.** Which of the following statements regarding LSP path configuration are true? (Choose three)

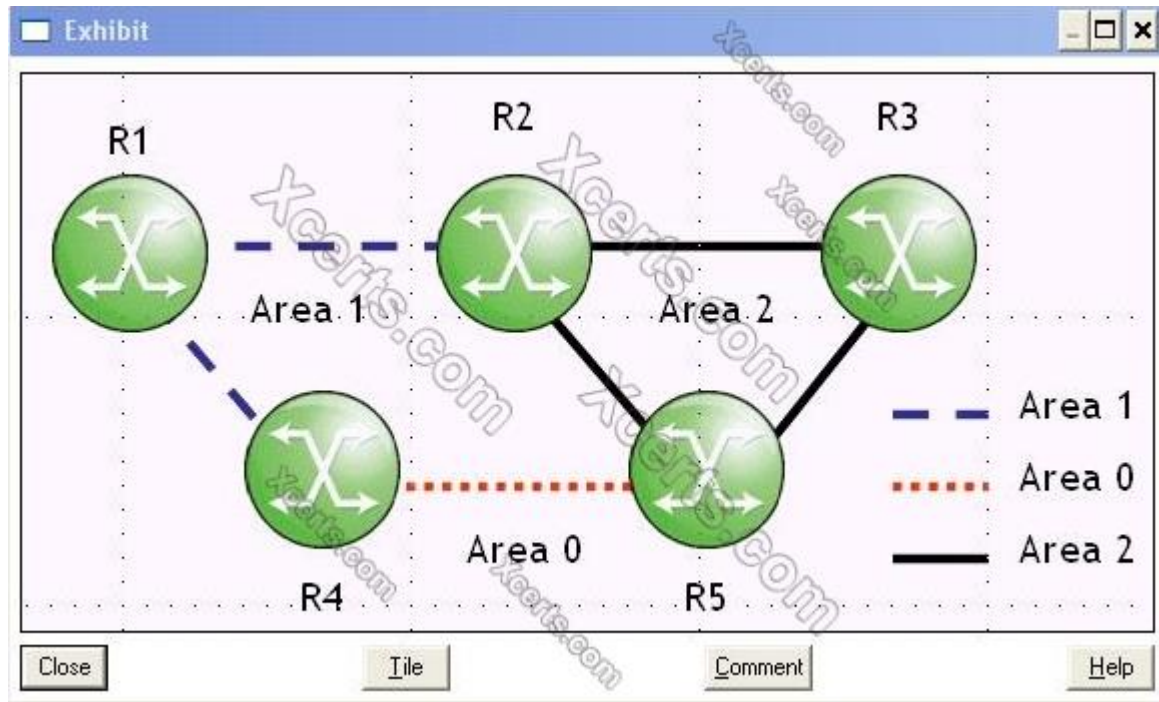
- A. The path must include at least one hop.
- B. The path may be used multiple times in a single LSP.
- C. The path may comprise loose hop entries only.
- D. The path must define the LSP's tail end.
- E. The path may be used for multiple LSPs.

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

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15. Click on the exhibit button below.



Consider the following:

-Routers R1 and R4 are in Area 1.

-Routers R4 and R5 in Area 0.

-Routers R5 and R3 are in Area 2.

To support LDP-over-RSVP tunnels between routers R1 and R3 over path R1-R4-R5-R3, with which routers will router R5 require targeted sessions? (Choose two)

A. Router R1

B. Router R4

C. Router R2

D. Router R3

**Answer(s): B D**

16. Which of the following statements best describes downstream unsolicited label distribution?

A. An LER may answer requests for label mappings immediately, without waiting for a label mapping from the next-hop.

B. An LER may advertise label mappings to all peers for which it might be a next-hop for a given FEC.

C. An LER propagates a label mapping downstream for a FEC only if it has a label mapping for the FEC next- hop.

D. An LER will only distribute a label for a FEC when it has been requested to do so.

**Answer(s): B**

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17. In MPLS, labels are distributed in the opposite direction of the data flow.

A. TRUE

B. FALSE

**Answer(s): A**

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18. Click on the exhibit button below.

```
configure router mpls
  path "to-PE2"
    hop 1 10.48.1.1 strict
    hop 2 10.1.3.1 strict
    hop 3 10.1.2.2 strict
    hop 4 10.32.1.2 strict
  no shutdown
exit
lsp "LSP-to-PE2"
  to 10.1.4.78
  cspf
exit
primary "to-PE2"
exit
no shutdown
exit
no shutdown
```

Given the configuration below, what is the system ID of the destination node?

A. 10.32.1.2

B. 10.1.478

C. 10.48.1.1

D. Cannot tell from this configuration

E. 10.1.2.2

**Answer(s): B**

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**19.** Which of the following is defined by the following statement? All label mappings received from all peer LSRs are saved.

A. Conservative label retention

B. Liberal label retention.

C. Downstream on demand.

D. Downstream unsolicited.

**Answer(s): B**

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**20.** What is the common usage of the MPLS EXP bits?

A. Each implementation can use them as they see fit.

B. They are used to carry the Ethertype value.

C. They are used to carry the TTL value.

D. They are used to carry QoS classification.

E. They are used to carry fragmentation flag information

**Answer(s): D**

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