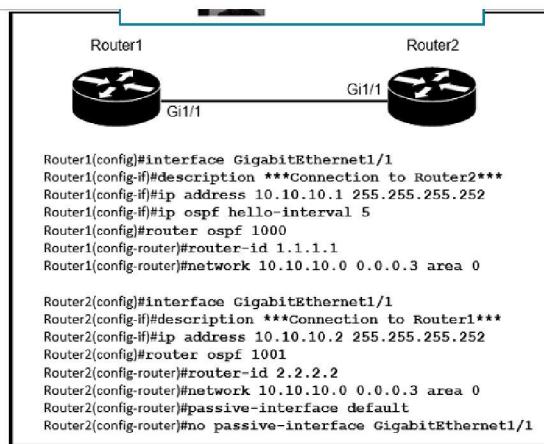




CCNA.rar



Refer to the exhibit. After the configuration is applied, the two routers fail to establish an OSPF neighbor relationship. What is the reason for the problem?

- The network statement on Router1 is misconfigured.
- The OSPF process IDs are mismatched.
- The OSPF router IDs are mismatched.
- Router2 is using the default hello timer.

Which JSON data type is an unordered set of attribute-value pairs?

- Boolean
- object
- string
- array

Which command prevents passwords from being stored in the configuration as plain text on a router or switch?

- enable password
- enable secret
- username cisco password encrypt
- service password-encryption

```
R1#show ip interface brief
Interface          IP-Address      OK? Method Status      Protocol
FastEthernet0/0    unassigned     YES NVRAM administratively down down
GigabitEthernet1/0 192.168.0.1   YES NVRAM up        up
GigabitEthernet2/0 10.10.1.10   YES manual up       up
GigabitEthernet3/0 10.10.10.20  YES manual up       up
GigabitEthernet4/0 unassigned     YES NVRAM administratively down down
Loopback0          172.16.15.10  YES manual
```

Refer to the exhibit. What does router R1 use as its OSPF router-ID?

- 10.10.1.10
- 10.10.10.20
- 172.16.15.10
- 192.168.0.1

```
R1# show ip route
...
D      172.16.32.0/27 [90/2888597172] via 20.1.1.1
O      172.16.32.0/19 [110/292094]   via 20.1.1.10
R      172.16.32.0/24 [120/2]        via 20.1.1.3
```

Refer to the exhibit. Router R1 is running three different routing protocols. Which route characteristic is used by the router to forward the packet that it receives for destination IP 172.16.32.1?

- metric
- cost
- longest prefix
- administrative distance

```
Router#show ip route
Codes: L - local, C - connected, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2
      i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
      ia - IS-IS inter area, * - candidate default, U - per-user static route
      Gateway of last resort is 209.165.202.131 to network 0.0.0.0

S*    0.0.0.0/0 [1/0] via 209.165.202.131
      209.165.200.0/27 is subnetted, 1 subnets
S      209.165.200.224 [254/0] via 209.165.202.129
      209.165.201.0/27 is subnetted, 1 subnets
S      209.165.201.0 [1/0] via 209.165.202.130
```

Refer to the exhibit. Which command configures a floating static route to provide a backup to the primary link?

- ip route 0.0.0.0 0.0.0.0 209.165.200.224
- ip route 0.0.0.0 0.0.0.0 209.165.202.131
- ip route 209.165.200.224 255.255.255.224 209.165.202.129 254
- ip route 209.165.201.0 255.255.255.224 209.165.202.130

Which technology prevents client devices from arbitrarily connecting to the network without state remediation?

- 802.11n
- IP Source Guard
- MAC Authentication Bypass
- 802.1x

Which role does a hypervisor provide for each virtual machine in server virtualization?

- infrastructure-as-a-service
- software-as-a-service
- control and distribution of physical resources
- services as a hardware controller

How does the dynamically-learned MAC address feature function?

- Switches dynamically learn MAC addresses of each connecting CAM table.
- It requires a minimum number of secure MAC addresses to be filled dynamically.
- The CAM table is empty until ingress traffic arrives at each port.
- The ports are restricted and learn up to a maximum of 10 dynamically-learned addresses

A wireless administrator has configured a WLAN; however, the clients need access to a less congested 5-GHz network for their voice quality. Which action must be taken to meet the requirement?

- enable AAA override
- enable DTIM
- enable RX-SOP
- enable Band Select

Which WPA3 enhancement protects against hackers viewing traffic on the Wi-Fi network?

- AES encryption
- SAE encryption
- TKIP encryption
- scrambled encryption key

What is a network appliance that checks the state of a packet to determine whether the packet is legitimate?

- firewall
- load balancer
- LAN controller
- Layer 2 switch

```

R1# show ip route | begin gateway
Gateway of last resort is 209.165.200.246 to network 0.0.0.0
S* 0.0.0.0/0 [1/0] via 209.165.200.246, Serial0/1/0
    is directly connected, Serial0/1/0
    172.16.0.0/16 is variably subnetted, 3 subnets, 3 masks
S   172.16.0.0/24 [1/0] via 207.165.200.250, Serial0/0/0
O   172.16.0.128/25 [110/38443] via 207.165.200.254, 00:00:23, Serial0/0/1
D   172.16.0.192/29 [90/3184439] via 207.165.200.254, 00:00:25, Serial0/0/1
    209.165.200.0/24 is variably subnetted, 4 subnets, 2 masks
C   209.165.200.248/30 is directly connected, Serial0/0/0
L   209.165.200.249/32 is directly connected, Serial0/0/0
C   209.165.200.252/30 is directly connected, Serial0/0/1
L   209.165.200.253/32 is directly connected, Serial0/0/1

```

Refer to the exhibit. With which metric was the route to host 172.16.0.202 learned?

- 0
- 110
- 38443
- 3184439

What is the difference between AAA authentication and authorization?

- Authentication controls the system processes a user accesses, and authorization logs the activities the user initiates.
- Authentication identifies and verifies a user who is attempting to access a system, and authorization controls the tasks the user performs.
- Authentication identifies a user who is attempting to access a system, and authorization validates the user's password.
- Authentication verifies a username and password, and authorization handles the communication between the authentication agent and the user database.

Which networking function occurs on the data plane?

- forwarding remote client/server traffic
- facilitates spanning-tree elections
- processing inbound SSH management traffic
- sending and receiving OSPF Hello packets

```

SW1#sh lacp neighbor
Flags: S - Device is requesting Slow LACPDU
      F - Device is requesting Fast LACPDU
      A - Device is in Active mode      P - Device is in Passive mode

```

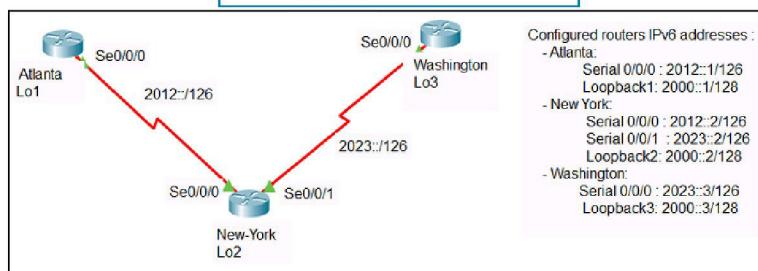
Channel group 35 neighbors

Partner's information:

Port	Flags	Priority	LACP port	Admin	Oper	Port	Port
			Dev ID	Age	key	Key	Number
Et1/0	SP	32768	aabb.cc80.7000	8s	0x0	0x23	0x101
Et1/1	SP	32768	aabb.cc80.7000	8s	0x0	0x23	0x102

Refer to the exhibit. Based on the LACP neighbor status, in which mode is the SW1 port channel configured?

- passive
- auto
- active
- mode on



Refer to the exhibit. An engineer configured the New York router with static routes that point to the Atlanta and Washington sites. Which command must be configured on the Atlanta and Washington routers so that both sites are able to reach the loopback2 interface on the New York router?

- `ipv6 route ::/0 Serial 0/0/0`
- `ip route 0.0.0.0 0.0.0.0 Serial 0/0/0`
- `ipv6 route ::/0 Serial 0/0/1`
- `ipv6 route ::/0 2000::2`
- `ipv6 route 0/0 Serial 0/0/0`

How does HSRP provide first hop redundancy?

- It uses a shared virtual MAC and a virtual IP address to a group of routers that serve as the default gateway for hosts on a LAN.
- It load-balances traffic by assigning the same metric value to more than one route to the same destination in the IP routing table.
- It load-balances Layer 2 traffic along the path by flooding traffic out all interfaces configured with the same VLAN.
- It forwards multiple packets to the same destination over different routed links in the data path.

An engineer needs to add an old switch back into a network. To prevent the switch from corrupting the VLAN database, which action must be taken?

- Add the switch in the VTP domain with a higher revision number.
- Add the switch in the VTP domain with a lower revision number.
- Add the switch with DTP set to dynamic desirable.
- Add the switch with DTP set to desirable.

```

SW1(config-line)#line vty 0 15
SW1(config-line)#no login local
SW1(config-line)#password cisco

SW2(config)#username admin1 password abcd1234
SW2(config)#username admin2 password abcd1234
SW2(config-line)#line vty 0 15
SW2(config-line)#login local

SW3(config)#username admin1 secret abcd1234
SW3(config)#username admin2 secret abcd1234
SW3(config-line)#line vty 0 15
SW3(config-line)#login local

SW4(config)#username admin1 secret abcd1234
SW4(config)#username admin2 secret abcd1234
SW4(config-line)#line console 0
SW4(config-line)#login local

```

Refer to the exhibit. An administrator configures four switches for local authentication using passwords that are stored as a cryptographic hash. The four switches must also support SSH access for administrators to manage the network infrastructure. Which switch is configured correctly to meet these requirements?

- SW1
- SW2
- SW3
- SW4

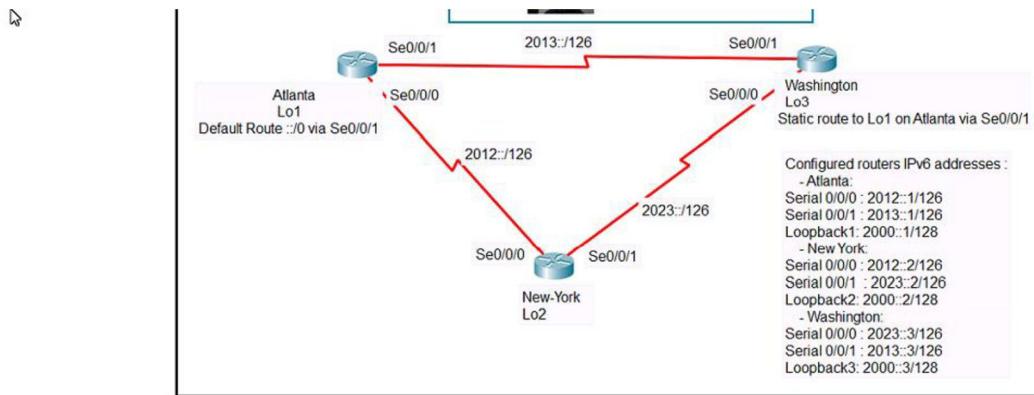
```

ip arp inspection vlan 5-10
interface fastethernet 0/1
switchport mode access
switchport access vlan 5

```

Refer to the exhibit. What is the effect of this configuration?

- Egress traffic is passed only if the destination is a DHCP server.
- All ARP packets are dropped by the switch.
- All ingress and egress traffic is dropped because the interface is untrusted.
- The switch discards all ingress ARP traffic with invalid MAC-to-IP address bindings.



Refer to the exhibit. An engineer is configuring the New York router to reach the Lo1 interface of the Atlanta router using interface Se0/0/0 as the primary path. Which two commands must be configured on the New York router so that it reaches the Lo1 interface of the Atlanta router via Washington when the link between New York and Atlanta goes down? (Choose two.)

- ipv6 route 2000::1/128 2012::1
- ipv6 route 2000::1/128 2012::1 5
- ipv6 route 2000::1/128 2012::2
- ipv6 route 2000::1/128 2023::2 5
- ipv6 route 2000::1/128 2023::3 5

What are two recommendations for protecting network ports from being exploited when located in an office space outside of an IT closet? (Choose two.)

- shut down unused ports
- enable the PortFast feature on ports
- implement port-based authentication
- configure static ARP entries
- configure ports to a fixed speed

What is a characteristic of spine-and-leaf architecture?

- It provides variable latency.
- Each link between leaf switches allows for higher bandwidth.
- It provides greater predictability on STP blocked ports.
- Each device is separated by the same number of hops.

Where does a switch maintain DHCP snooping information?

- in the frame forwarding database
- in the CAM table
- in the MAC address table
- in the binding database

An office has 8 floors with approximately 30-40 users per floor. One subnet must be used. Which command must be configured on the router Switched Virtual Interface to use address space efficiently?

- ip address 192.168.0.0 255.255.0.0
- ip address 192.168.0.0 255.255.254.0
- ip address 192.168.0.0 255.255.255.128
- ip address 192.168.0.0 255.255.255.224

```
Gateway of last resort is 10.12.0.1 to network 0.0.0.0
O+E2  0.0.0.0/0 [110/1] via 10.12.0.1, 00:00:01, GigabitEthernet0/0
      10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C     10.0.0.0/24 is directly connected, GigabitEthernet0/0
L     10.0.0.2/32 is directly connected, GigabitEthernet0/0
C     10.13.0.0/24 is directly connected, GigabitEthernet0/1
L     10.13.0.2/32 is directly connected, GigabitEthernet0/1
```

Refer to the exhibit. If configuring a static default route on the router with the `ip route 0.0.0.0 0.0.0.0 10.13.0.1 120` command, how does the router respond?

- It starts load-balancing traffic between the two default routes.
- It ignores the new static route until the existing OSPF default route is removed.
- It starts sending traffic without a specific matching entry in the routing table to GigabitEthernet0/1.
- It immediately replaces the existing OSPF route in the routing table with the newly configured static route.

```
SW1#show run int gig 0/1
interface GigabitEthernet0/1
  switchport access vlan 11
  switchport trunk allowed vlan 1-10
  switchport trunk encapsulation dot1q
  switchport trunk native vlan 5
  switchport mode trunk
  speed 1000
  duplex full
```

Refer to the exhibit. Which action is expected from SW1 when the untagged frame is received on the GigabitEthernet0/1 interface?

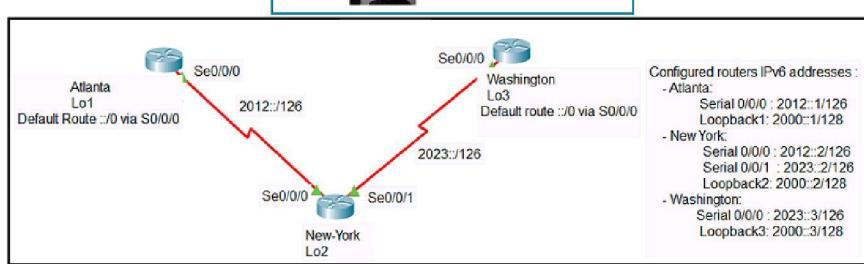
- The frame is processed in VLAN 1.
- The frame is processed in VLAN 5.
- The frame is dropped.
- The frame is processed in VLAN 11.

Which two conditions must be met before SSH operates normally on a Cisco IOS switch? (Choose two.)

- The **ip domain-name** command must be configured on the switch.
- IP routing must be enabled on the switch.
- A console password must be configured on the switch.
- The switch must be running a k9 (crypto) IOS image.
- Telnet must be disabled on the switch.

Which feature on the Cisco Wireless LAN Controller when enabled restricts management access from specific networks?

- TACACS
- CPU ACL
- Flex ACL
- RADIUS



Refer to the exhibit. The loopback1 interface of the Atlanta router must reach the loopback3 interface of the Washington router. Which two static host routes must be configured on the New York router? (Choose two.)

- ipv6 route 2000::3/128 2023::3**
- ipv6 route 2000::3/128 s0/0/0**
- ipv6 route 2000::1/128 2012::1**
- ipv6 route 2000::1/128 s0/0/1**
- ipv6 route 2000::1/128 2012::2**

When deploying syslog, which severity level logs informational messages?

- 0
- 2
- 4
- 6

Which two actions influence the EIGRP route selection process? (Choose two.)

- The router calculates the best backup path to the destination route and assigns it as the feasible successor.
- The router calculates the reported distance by multiplying the delay on the exiting interface by 256.
- The router calculates the feasible distance of all paths to the destination route.
- The advertised distance is calculated by a downstream neighbor to inform the local router of the bandwidth on the link.
- The router must use the advertised distance as the metric for any given route.

Which mode must be used to configure EtherChannel between two switches without using a negotiation protocol?

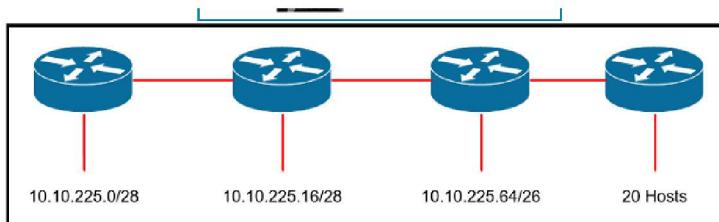
- auto
- on
- active
- desirable

When a WLAN with WPA2 PSK is configured in the Wireless LAN Controller GUI, which format is supported?

- base64
- ASCII
- decimal
- unicode

A router running EIGRP has learned the same route from two different paths. Which parameter does the router use to select the best path?

- as-path
- metric
- administrative distance
- cost



Refer to the exhibit. An engineer must add a subnet for a new office that will add 20 users to the network. Which IPv4 network and subnet mask combination does the engineer assign to minimize wasting addresses?

- 10.10.225.48 255.255.255.240
- 10.10.225.32 255.255.255.240
- 10.10.225.48 255.255.255.224
- 10.10.225.32 255.255.255.224

Which goal is achieved by the implementation of private IPv4 addressing on a network?

- provides a reduction in size of the forwarding table on network routers
- provides an added level of protection against Internet exposure
- allows communication across the Internet to other private networks
- allows servers and workstations to communicate across public network boundaries

```
SiteA#show interface TenGigabitEthernet0/1/0
TenGigabitEthernet0/1/0 is up, line protocol is up
  Hardware is BUILT-IN-EPA-8x10G, address is 780c.f02a.db91 (bia 780a.f02b.db91)
  Description: Connection to SiteB
  Internet address is 10.10.10.1/30
    MTU 8146 bytes, BW 10000000 Kbit/sec, DLY 10 usec,
      reliability 166/255, txload 1/255, rxload 1/255
    Full Duplex, 10000Mbps, link type is force-up, media type is SFP-LR
    5 minute input rate 264797000 bits/sec, 26672 packets/sec
    5 minute output rate 122464000 bits/sec, 15724 packets/sec

SiteB#show interface TenGigabitEthernet0/1/0
TenGigabitEthernet0/1/0 is up, line protocol is up
  Hardware is BUILT-IN-EPA-8x10G, address is 780c.f02c.db26 (bia 780c.f02c.db26)
  Description: Connection to SiteA
  Internet address is 10.10.10.2/30
    MTU 8146 bytes, BW 10000000 Kbit/sec, DLY 10 usec,
      reliability 255/255, txload 1/255, rxload 1/255
    Full Duplex, 10000Mbps, link type is force-up, media type is SFP-LR
    5 minute input rate 122464000 bits/sec, 15724 packets/sec
    5 minute output rate 264797000 bits/sec, 26672 packets/sec
```

Refer to the exhibit. Shortly after SiteA was connected to SiteB over a new single-mode fiber path, users at SiteA report intermittent connectivity issues with applications hosted at SiteB. What is the cause of the intermittent connectivity issue?

- An incorrect SFP media type was used at SiteA.
- High usage is causing high latency.
- The sites were connected with the wrong cable type.
- Interface errors are incrementing.

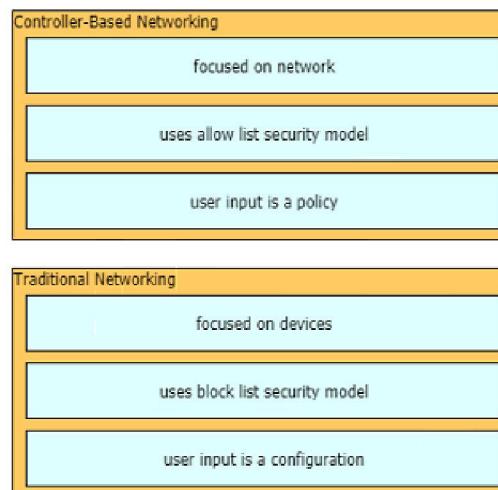
What is the effect when loopback interfaces and the configured router ID are absent during the OSPF Process configuration?

- The lowest IP address is incremented by 1 and selected as the router ID.
- No router ID is set, and the OSPF protocol does not run.
- The highest up/up physical interface IP address is selected as the router ID.
- The router ID 0.0.0.0 is selected and placed in the OSPF process.

Which statement compares traditional networks and controller-based networks?

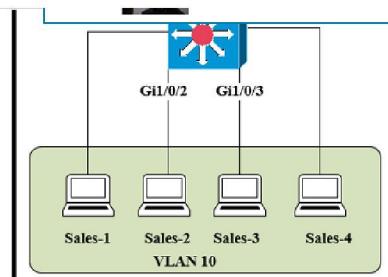
- Only traditional networks offer a centralized control plane.
- Traditional and controller-based networks abstract policies from device configurations.
- Only traditional networks natively support centralized management.
- Only controller-based networks decouple the control plane and the data plane.

Drag and drop the characteristics of networking from the left onto the networking types on the right.



What does an SDN controller use as a communication protocol to relay forwarding changes to a southbound API?

- REST
- XML
- OpenFlow
- Java



Refer to the exhibit. The entire contents of the MAC address table are shown. Sales-4 sends a data frame to Sales-1.

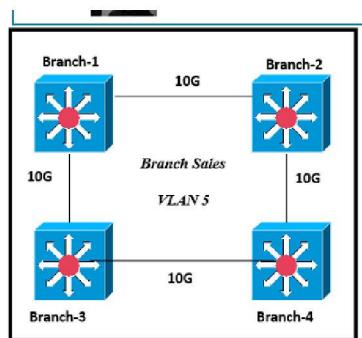
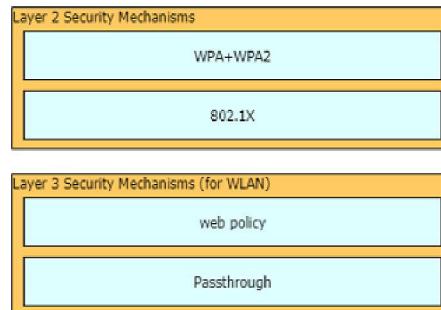
Sales-SW#show mac-address-table
Mac Address Table

VLAN	MAC Address	Type	Ports
10	000c.8590.bb7d	DYNAMIC	Gi1/0/1
10	3915.7438.3bb7	DYNAMIC	Gi1/0/2
10	00d0.d3b6.957c	DYNAMIC	Gi1/0/3

What does the switch do as it receives the frame from Sales-4?

- Map the Layer 2 MAC address to the Layer 3 IP address and forward the frame.
- Perform a lookup in the MAC address table and discard the frame due to a missing entry.
- Insert the source MAC address and port into the forwarding table and forward the frame to Sales-1.
- Flood the frame out of all ports except on the port where Sales-1 is connected.

Drag and drop the Cisco Wireless LAN Controller security settings from the left onto the correct security mechanism categories on the right.

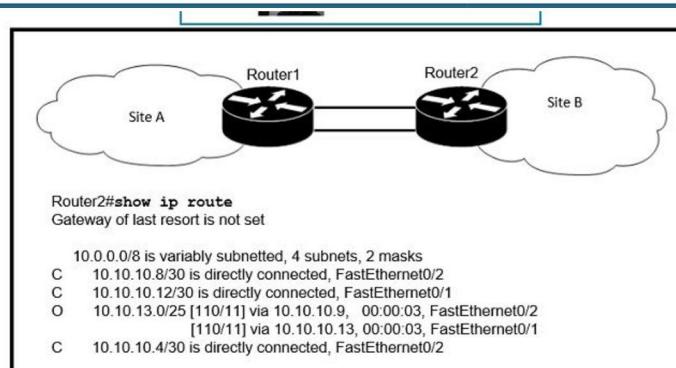


Refer to the exhibit. Only four switches are participating in the VLAN spanning-tree process.

Branch-1: priority 614440
Branch-2: priority 39157438
Branch-3: priority 0
Branch-4: root primary

Which switch becomes the permanent root bridge for VLAN 5?

- Branch-1
- Branch-2
- Branch-3
- Branch-4

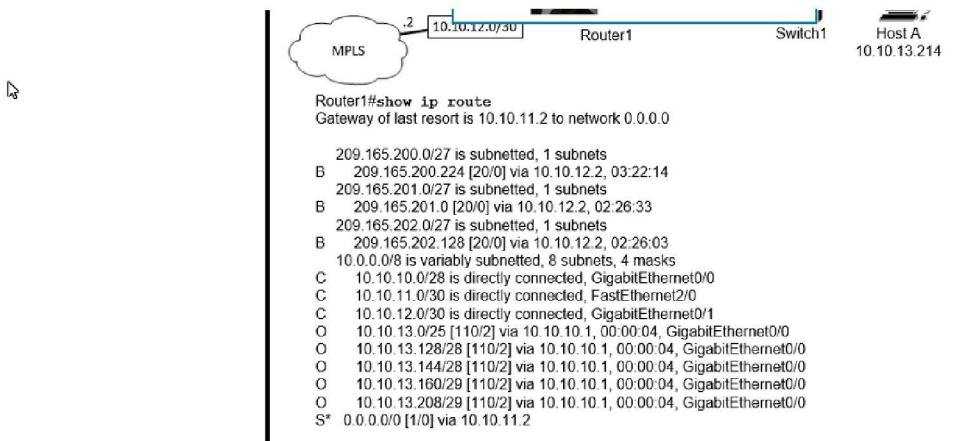


Refer to the exhibit. If OSPF is running on this network, how does Router2 handle traffic from Site B to 10.10.13.128/25 at Site A?

- It sends packets out of interface Fa0/1.
- It load-balances traffic out of Fa0/1 and Fa0/2.
- It sends packets out of interface Fa0/2.
- It is unreachable and discards the traffic.

What is a design element when deploying an 802.11b wireless infrastructure?

- disabling TPC so that access points negotiate signal levels with their attached wireless devices
- allocating nonoverlapping channels to access points that are in close physical proximity to one another
- setting the maximum data rate to 54 Mbps on the Cisco Wireless LAN Controller
- configuring access points to provide clients with a maximum of 5 Mbps



Refer to the exhibit. Which prefix does Router1 use for traffic to Host A?

- 10.10.10.0/28
- 10.10.13.0/25
- 10.10.13.144/28
- 10.10.13.208/29

```
[root@HostTest ~]# ip route
default via 192.168.1.193 dev eth1 proto static
192.168.1.0/26 dev eth1 proto kernel scope link src 192.168.1.200 metric 1

[root@HostTest ~]# ip addr show eth1
eth1: mtu 1500 qdisc pfifo_fast qlen 1000
    link/ether 00:0c:29:ff:fe:99 brd ff:ff:ff:ff:ff:ff
    inet 192.168.1.200/26 brd 192.168.1.255 scope global eth1
        inet6 fe80::20c:29ff:fe99:79b3/64 scope link
            valid_lft forever preferred_lft forever
```

Refer to the exhibit. Drag and drop the networking parameters from the left onto the correct values on the right.

NIC vendor OUI
NIC MAC address
default gateway
host IP address
subnet mask

A network engineer must create a diagram of a multivendor network. Which command must be configured on the Cisco devices so that the topology of the network is allowed to be mapped?

- Device(config)#lldp run
- Device(config)#cdp run
- Device(config-if)#cdp enable
- Device(config)#flow-sampler-map topology

Which mechanism carries multicast traffic between remote sites and supports encryption?

- GRE
- ISATAP
- GRE over IPsec
- IPsec over ISATAP

Refer to the exhibit. A network engineer must block access for all computers on VLAN 20 to the web server via HTTP. All other computers must be able to access the web server. Which configuration when applied to switch A accomplishes this task?

- config t
ip access-list extended wwwblock
deny tcp any host 10.30.0.100 eq 80
int vlan 10
ip access-group wwwblock in
- config t
ip access-list extended wwwblock
permit ip any any
deny tcp any host 10.30.0.100 eq 80
int vlan 20
ip access-group wwwblock in
- config t
ip access-list extended wwwblock
permit ip any any
deny tcp any host 10.30.0.100 eq 80
int vlan 30
ip access-group wwwblock in
- config t
ip access-list extended wwwblock
deny tcp any host 10.30.0.100 eq 80
permit ip any any
int vlan 20
ip access-group wwwblock in

An administrator must secure the WLC from receiving spoofed association requests. Which steps must be taken to configure the WLC to restrict the requests and force the user to wait 10 ms to retry an association request?

- Enable the Protected Management Frame service and set the Comeback timer to 10.
- Enable 802.1x Layer 2 security and set the Comeback timer to 10.
- Enable MAC filtering and set the SA Query timeout to 10.
- Enable Security Association Teardown Protection and set the SA Query timeout to 10.

```
R1# show ip route
D  192.168.16.0/26 [90/2679326] via 192.168.1.1
R  192.168.16.0/24 [120/3] via 192.168.1.2
O  192.168.16.0/21 [110/2] via 192.168.1.3
i L1 192.168.16.0/27 [115/30] via 192.168.1.4
```

Refer to the exhibit. Which route does R1 select for traffic that is destined to 192.168.16.2?

- 192.168.16.0/21
- 192.168.16.0/24
- 192.168.16.0/26
- 192.168.16.0/27

What are two benefits of network automation? (Choose two.)

- reduced operational costs
- faster changes with more reliable results
- increased network security
- reduced hardware footprint
- fewer network failures

An engineer must configure an OSPF neighbor relationship between router R1 and R3. The authentication configuration has been configured and the connecting interfaces are in the same 192.168.1.0/30 subnet. What are the next two steps to complete the configuration? (Choose two.)

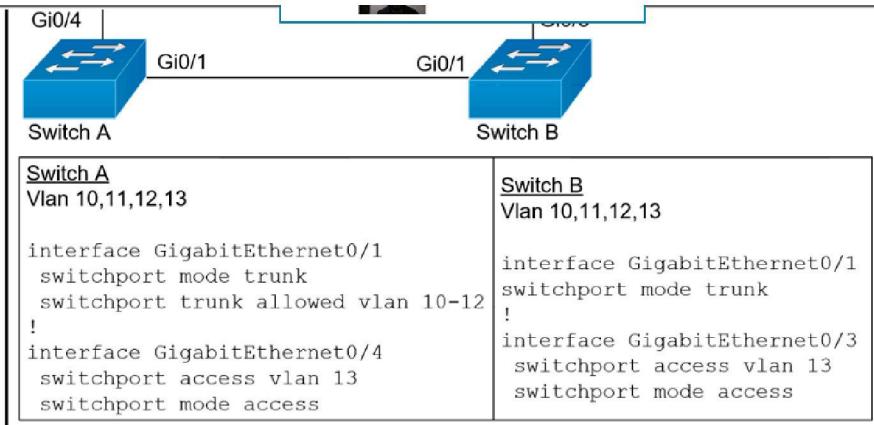
- configure the same process ID for the router OSPF process
- configure the interfaces as OSPF active on both sides
- configure the hello and dead timers to match on both sides
- configure both interfaces with the same area ID
- configure the same router ID on both routing processes

An organization secures its network with multi-factor authentication using an authenticator app on employee smartphones. How is the application secured in the case of a user's smartphone being lost or stolen?

- The application requires the user to enter a PIN before it provides the second factor.
- The application challenges a user by requiring an administrator password to reactivate when the smartphone is rebooted.
- The application verifies that the user is in a specific location before it provides the second factor.
- The application requires an administrator password to reactivate after a configured interval.

What is a function of TFTP in network operations?

- transfers IOS images from a server to a router for firmware upgrades
- transfers a backup configuration file from a server to a switch using a username and password
- transfers a configuration files from a server to a router on a congested link
- transfers files between file systems on a router



Refer to the exhibit. A network administrator assumes a task to complete the connectivity between PC A and the File Server. Switch A and Switch B have been partially configured with VLANs 10, 11, 12, and 13. What is the next step in the configuration?

- Add PC A to VLAN 10 and the File Server to VLAN 11 for VLAN segmentation.
- Add VLAN 13 to the trunk links on Switch A and Switch B for VLAN propagation.
- Add a router on a stick between Switch A and Switch B allowing for Inter-VLAN routing.
- Add PC A to the same subnet as the File Server allowing for intra-VLAN communication.

Which configuration management mechanism uses TCP port 22 by default when communicating with managed nodes?

- Python
- Chef
- Puppet
- Ansible

Which action must be taken to assign a global unicast IPv6 address on an interface that is derived from the MAC address of that interface?

- disable the EUI-64 bit process
- configure a stateful DHCPv6 server on the network
- enable SLAAC on an interface
- explicitly assign a link-local address

```
interface GigabitEthernet3/1/4
switchport voice vlan 50
!
```

Refer to the exhibit. An administrator is tasked with configuring a voice VLAN. What is the expected outcome when a Cisco phone is connected to the GigabitEthernet3/1/4 port on a switch?

- The phone and a workstation that is connected to the phone send and receive data in VLAN 50.
- The phone sends and receives data in VLAN 50, but a workstation connected to the phone has no VLAN connectivity.
- The phone and a workstation that is connected to the phone do not have VLAN connectivity.
- The phone sends and receives data in VLAN 50, but a workstation connected to the phone sends and receives data in VLAN 1.

Which two tasks must be performed to configure NTP to a trusted server in client mode on a single network device? (Choose two.)

- Set the NTP server private key.
- Enable NTP authentication.
- Specify the IP address of the NTP server.
- Disable NTP broadcasts.
- Verify the time zone.

A network administrator must to configure SSH for remote access to router R1. The requirement is to use a public and private key pair to encrypt management traffic to and from the connecting client. Which configuration, when applied, meets the requirements?

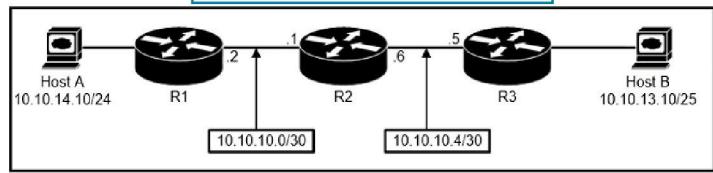
- R1#enable
R1(config)#ip domain-name cisco.com
R1(config)#crypto key generate rsa modulus 1024
- R1#enable
R1(config)#ip domain-name cisco.com
R1(config)#crypto key encrypt rsa name myKey
- R1#enable
R1(config)#ip domain-name cisco.com
R1(config)#crypto key generate ec keysiz 1024
- R1#enable
R1(config)#ip domain-name cisco.com
R1(config)#crypto key generate ec keysiz 2048

Which function does an SNMP agent perform?

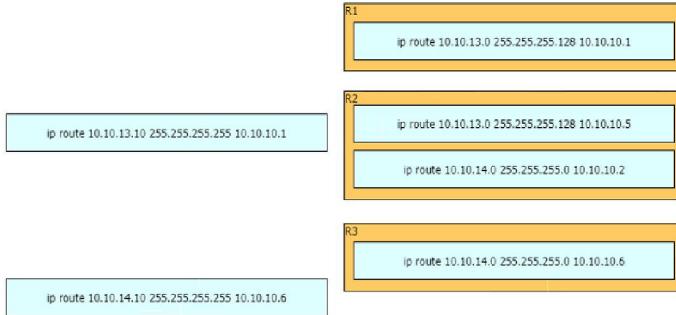
- It coordinates user authentication between a network device and a TACACS+ or RADIUS server.
- It manages routing between Layer 3 devices in a network.
- It requests information from remote network nodes about catastrophic system events.
- It sends information about MIB variables in response to requests from the NMS.

Which unified access point mode continues to serve wireless clients after losing connectivity to the Cisco Wireless LAN Controller?

- local
- flexconnect
- sniffer
- mesh



Refer to the exhibit. An engineer must configure a static network route between two networks so that host A communicates with host B. Drag and drop the commands from the left onto the routers where they must be configured on the right. Not all commands are used.



A user configured OSPF in a single area between two routers. A serial interface connecting R1 and R2 is running encapsulation PPP. By default, which OSPF network type is seen on this interface when the user types `show ip ospf interface` on R1 or R2?

- nonbroadcast
- point-to-multipoint
- point-to-point
- broadcast

What occurs when PortFast is enabled on an interface that is connected to another switch?

- Spanning-tree fails to detect a switching loop increasing the likelihood of broadcast storms.
- Root port choice and spanning-tree recalculation are accelerated when a switch link goes down.
- After spanning-tree converges, PortFast shuts down any port that receives BPDUs.
- VTP is allowed to propagate VLAN configuration information from switch to switch automatically.

```

SW1#show spanning-tree vlan 30

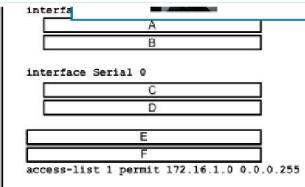
VLAN0030
Spanning tree enabled protocol rstp
Root ID    Priority          32798
            Address           0025.63e9.c800
            Cost              19
            Port               1 (FastEthernet 2/1)
Hello Time        2 sec
Max Age          30 sec
Forward Delay     20 sec

[Output suppressed]

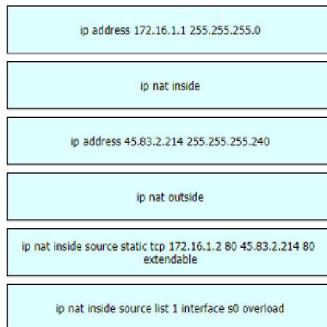
```

Refer to the exhibit. What are two conclusions about this configuration? (Choose two.)

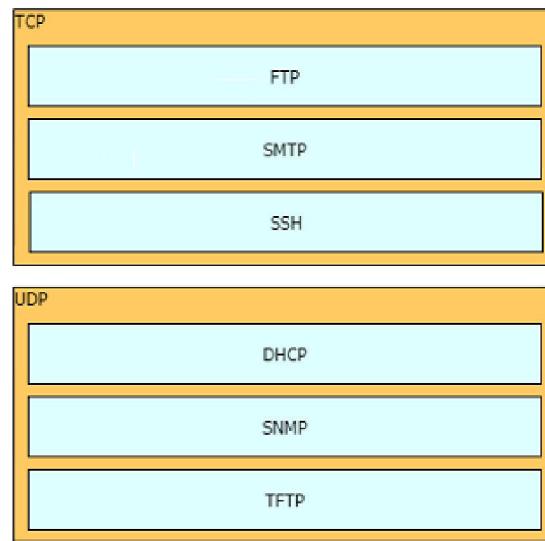
- This is a root bridge.
- The spanning-tree mode is PVST+.
- The root port is FastEthernet 2/1.
- The designated port is FastEthernet 2/1.
- The spanning-tree mode is Rapid PVST+.



Refer to the exhibit. An engineer is configuring the router to provide static NAT for the webserver. Drag the configuration commands from the left onto the letters that correspond to its position in the configuration on the right.



Drag and drop the application protocols from the left onto the transport protocols that it uses on the right.



A network engineer must configure the router R1 GigabitEthernet1/1 interface to connect to the router R2 GigabitEthernet1/1 interface. For the configuration to be applied, the engineer must compress the address 2001:0db8:0000:0500:000a:400F:583B. Which command must be issued on the interface?

- ipv6 address 2001::db8:0000:500:a:400F:583B
- ipv6 address 2001:db8::500:a:400F:583B
- ipv6 address 2001:0db8::5:a:4F:583B
- ipv6 address 2001:db8:0::500:a:4F:583B

What is a role of access points in an enterprise network?

- support secure user logins to devices on the network
- connect wireless devices to a wired network
- integrate with SNMP in preventing DDoS attacks
- serve as a first line of defense in an enterprise network

What is the same for both copper and fiber interfaces when using SFP modules?

- They offer reliable bandwidth up to 100 Mbps in half duplex mode.
- They accommodate single-mode and multi-mode in a single module.
- They provide minimal interruption to services by being hot-swappable.
- They support an inline optical attenuator to enhance signal strength.

oob-resync timed [REDACTED]
Hello due in 00:00:08
Supports Link-local Signaling (LLS)
Cisco NSF helper support enabled
IETF NSF helper support enabled
Index 1/1/1, flood queue length 0
Next 0x0(0)/0x0(0)/0x0(0)
Last flood scan length is 1, maximum is 6
Last flood scan time is 0 msec, maximum is 1 msec
Neighbor Count is 3, Adjacent neighbor count is 3
Adjacent with neighbor 10.1.1.4
Adjacent with neighbor 10.2.2.2
Adjacent with neighbor 10.3.3.3 (Backup Designated Router)
Suppress hello for 0 neighbor(s)

Refer to the exhibit. The **show ip ospf interface** command has been executed on R1. How is OSPF configured?

- A point-to-point network type is configured.
- The interface is not participating in OSPF.
- There are six OSPF neighbors on this interface.
- The default Hello and Dead timers are in use.

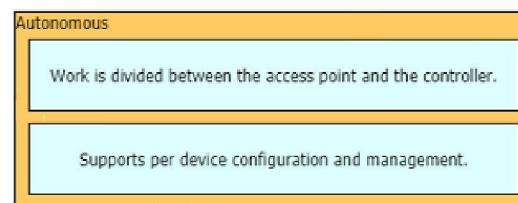
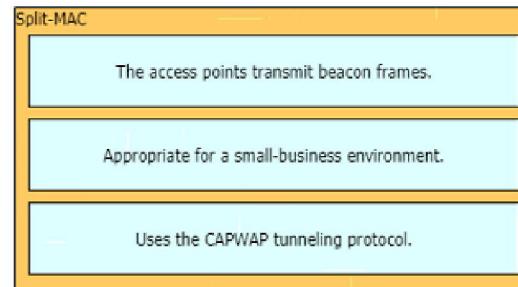
An engineer observes high usage on the 2.4GHz channels and lower usage on the 5GHz channels. What must be configured to allow clients to preferentially use 5GHz access points?

- OEAP Split Tunnel
- Re-Anchor Roamed Clients
- Client Band Select
- 11ac MU-MIMO

How does CAPWAP communicate between an access point in local mode and a WLC?

- The access point must directly connect to the WLC using a copper cable.
- The access point has the ability to link to any switch in the network, assuming connectivity to the WLC.
- The access point must not be connected to the wired network, as it would create a loop.
- The access point must be connected to the same switch as the WLC.

Drag and drop the wireless architecture benefits from the left onto the architecture types on the right.



Which protocol does an access point use to draw power from a connected switch?

- Internet Group Management Protocol
- Adaptive Wireless Path Protocol
- Neighbor Discovery Protocol
- Cisco Discovery Protocol

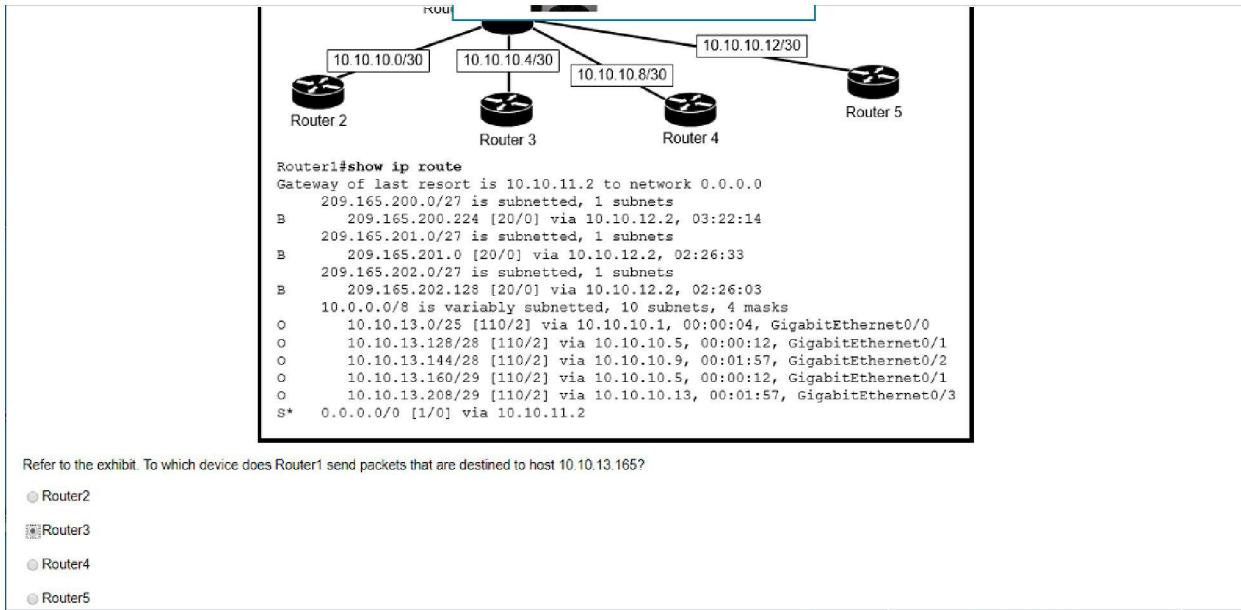
```
R1# show ip route
D      192.168.10.0/24 [90/2679326]  via 192.168.1.1
R      192.168.10.0/27 [120/3]    via 192.168.1.2
O      192.168.10.0/23 [110/2]    via 192.168.1.3
i L1    192.168.10.0/13 [115/30]   via 192.168.1.4
```

Refer to the exhibit. How does router R1 handle traffic to 192.168.10.16?

- It selects the OSPF route because it has the lowest cost.
- It selects the EIGRP route because it has the lowest administrative distance.
- It selects the RIP route because it has the longest prefix inclusive of the destination address.
- It selects the IS-IS route because it has the shortest prefix inclusive of the destination address.

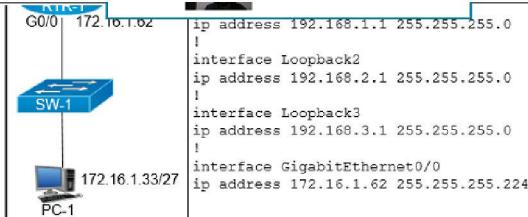
What is a DHCP client?

- a host that is configured to request an IP address automatically
- a workstation that requests a domain name associated with its IP address
- a router that statically assigns IP addresses to hosts
- a server that dynamically assigns IP addresses to hosts



Which two QoS tools provide congestion management? (Choose two.)

- CAR
- PBR
- CBWFQ
- FRTS
- PQ

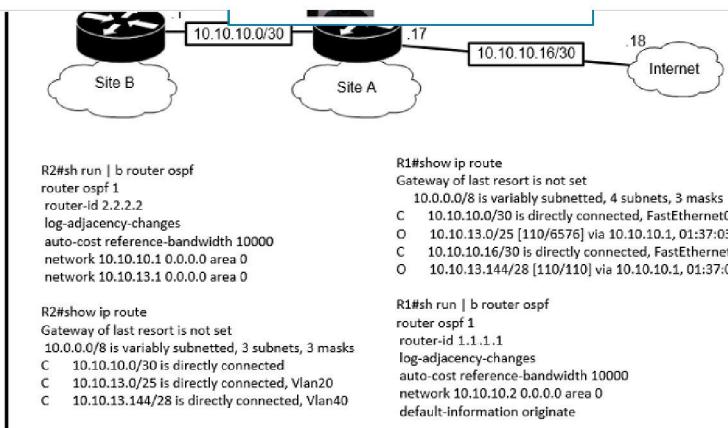


Refer to the exhibit. Which configuration for RTR-1 denies SSH access from PC-1 to any RTR-1 interface and allows all other traffic?

- access-list 100 deny tcp host 172.16.1.33 any eq 22
access-list 100 permit ip any any
- interface GigabitEthernet0/0
ip access-group 100 in
- access-list 100 deny tcp host 172.16.1.33 any eq 22
access-list 100 permit ip any any
- line vty 0 15
access-class 100 in
- access-list 100 deny tcp host 172.16.1.33 any eq 23
access-list 100 permit ip any any
- interface GigabitEthernet0/0
ip access-group 100 in
- access-list 100 deny tcp host 172.16.1.33 any eq 23
access-list 100 permit ip any any
- line vty 0 15
access-class 100 in

What are two descriptions of three-tier network topologies? (Choose two.)

- The distribution layer runs Layer 2 and Layer 3 technologies.
- The network core is designed to maintain continuous connectivity when devices fail.
- The core and distribution layers perform the same functions.
- The access layer manages routing between devices in different domains.
- The core layer maintains wired connections for each host.



Refer to the exhibit. The **default-information originate** command is configured under the R1 OSPF configuration. After testing, workstations on VLAN 20 at Site B are unable to reach a DNS server on the Internet. Which action corrects the configuration issue?

- Configure the **ip route 0.0.0.0 0.0.0.0 10.10.10.18** command on R1.
- Configure the **ip route 0.0.0.0 0.0.0.0 10.10.10.2** command on R2.
- Add the **default-information originate** command on R2.
- Add the **always** keyword to the **default-information originate** command on R1.

Which IPv6 address type provides communication between subnets and is unable to route on the Internet?

- multicast
- global unicast
- unique local
- link-local

What is a difference between RADIUS and TACACS+?

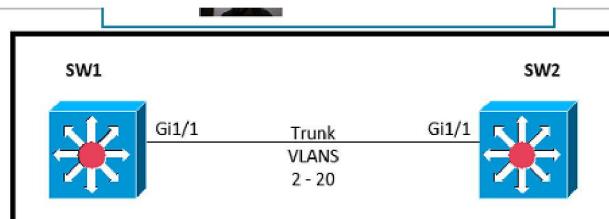
- RADIUS logs all commands that are entered by the administrator, but TACACS+ logs only start, stop, and interim commands.
- TACACS+ encrypts only password information, and RADIUS encrypts the entire payload.
- TACACS+ separates authentication and authorization, and RADIUS merges them.
- RADIUS is most appropriate for dial authentication, but TACACS+ is also used for multiple types of authentication.

How do traditional campus device management and Cisco DNA Center device management differ in regards to deployment?

- Traditional campus device management schemes typically deploy patches and updates quicker than Cisco DNA Center device management.
- Cisco DNA Center device management is implemented at a lower cost than most traditional campus device management options.
- Traditional campus device management allows a network to scale quicker than using Cisco DNA Center device management.
- Cisco DNA Center device management deploys a network faster than traditional campus device management.

Which type of IPv6 address is publicly routable in the same way as IPv4 public addresses?

- global unicast
- multicast
- unique local
- link-local



Refer to the exhibit. Which command must be executed for Gi1/1 on SW1 to become a trunk port if Gi1/1 on SW2 is configured in desirable or trunk mode?

- switchport mode dynamic desirable**
- switchport mode dynamic auto**
- switchport mode trunk**
- switchport mode dot1-tunnel**

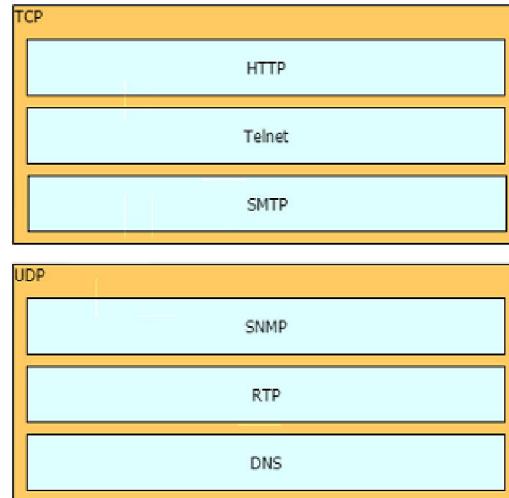
An engineer needs to configure LLDP to send the port description time length value (TLV). Which command sequence must be implemented?

- switch(config-line)#lldp port-description
- switch#lldp port-description
- switch(config)#lldp port-description
- switch(config-if)#lldp port-description

What is the primary purpose of a First Hop Redundancy Protocol?

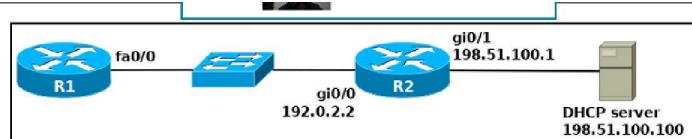
- It reduces routing failures by allowing more than one router to represent itself as the default gateway of a network.
- It allows a router to use bridge priorities to create multiple loop-free paths to a single destination.
- It reduces routing failures by allowing Layer 3 load balancing between OSPF neighbors that have the same link metric.
- It allows directly connected neighbors to share configuration information.

Drag and drop the TCP/IP protocols from the left onto the transmission protocols on the right.



The SW1 interface g0/1 is in the down/down state. What are two reasons for the interface condition? (Choose two.)

- The interface is shut down.
- There is a protocol mismatch.
- There is a duplex mismatch.
- There is a speed mismatch.
- The interface is error-disabled.



Refer to the exhibit. An engineer deploys a topology in which R1 obtains its IP configuration from DHCP. If the switch and DHCP server configurations are complete and correct, which two sets of commands must be configured on R1 and R2 to complete the task? (Choose two.)

- R1(config)# interface fa0/0
R1(config-if)# ip helper-address 198.51.100.100
- R2(config)# interface gi0/0
R2(config-if)# ip address dhcp
- R1(config)# interface fa0/0
R1(config-if)# ip address dhcp
R1(config-if)# no shutdown
- R1(config)# interface fa0/0
R1(config-if)# ip helper-address 192.0.2.2
- R2(config)# interface gi0/0
R2(config-if)# ip helper-address 198.51.100.100

What uses HTTP messages to transfer data to applications residing on different hosts?

- OpenFlow
- OpFlex
- OpenStack
- REST

What makes Cisco DNA Center different from traditional network management applications and their management of networks?

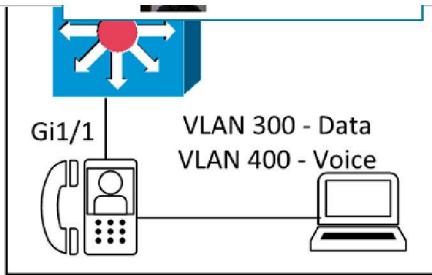
- It abstracts policy from the actual device configuration.
- It omits support for high availability of management functions when operating in cluster mode.
- It only supports auto-discovery of network elements in a greenfield deployment.
- Its modular design allows the implementation of different versions to meet the specific needs of an organization.

Which protocol prompts the Wireless LAN Controller to generate its own local web administration SSL certificate for GUI access?

- TACACS+
- HTTPS
- HTTP
- RADIUS

Router A learns the same route from two different neighbors; one of the neighbor routers is an OSPF neighbor, and the other is an EIGRP neighbor. What is the administrative distance of the route that will be installed in the routing table?

- 20
- 90
- 110
- 115



Refer to the exhibit. An engineer must configure GigabitEthernet1/1 to accommodate voice and data traffic. Which configuration accomplishes this task?

- interface gigabitethernet1/1
switchport mode trunk
switchport trunk vlan 300
switchport voice vlan 400
- interface gigabitethernet1/1
switchport mode trunk
switchport trunk vlan 300
switchport trunk vlan 400
- interface gigabitethernet1/1
switchport mode access
switchport voice vlan 300
switchport access vlan 400
- interface gigabitethernet1/1
switchport mode access
switchport access vlan 300
switchport voice vlan 400

Refer to the exhibit. An engineer is bringing up a new circuit to the MPLS provider on the Gi0/1 interface of Router1. The new circuit uses eBGP and learns the route to VLAN25 from the BGP path. What is the expected behavior for the traffic flow for route 10.10.13.0/25?

- Traffic to 10.10.13.0/25 is asymmetrical.
- Traffic to 10.10.13.0/25 is load balanced out of multiple interfaces.
- Route 10.10.13.0/25 is updated in the routing table as being learned from interface Gi0/1.
- Route 10.10.13.0/25 learned via the Gi0/0 interface remains in the routing table.