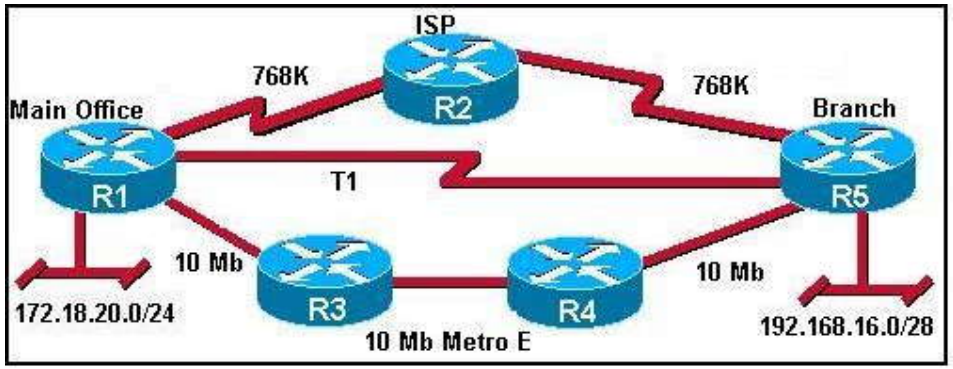
**1**




Refer to the exhibit. A pre-sales system engineer receives a diagram of the current network WAN connectivity from a customer. EIGRP is the routing protocol used on the WAN. Based on the default operation of EIGRP, which statement is true about the routing table on router R1?

- There is a single route to the 192.168.16.0/28 LAN via the use of the T1 connection.
- There is a single route to the 192.168.16.0/28 LAN via the use of the DSL connection.
- There is a single route to the 192.168.16.0/28 LAN via the use of the Metro Ethernet connection.
- EIGRP installs all three routes to the 192.168.16.0/28 LAN and load balances the traffic.

**2**

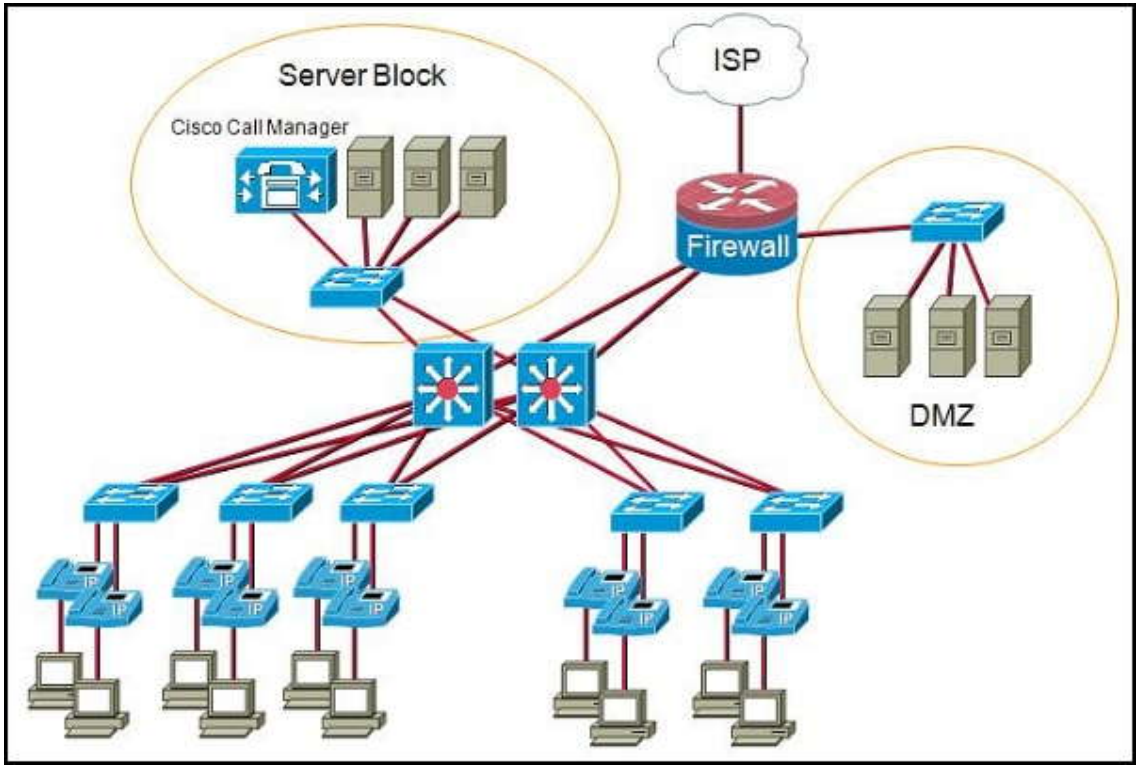
```
RA(config)#interface fastethernet 0/1
RA(config-if)#no shutdown
RA(config-if)#interface fastethernet 0/1.1
RA(config-subif)#encapsulation dot1q 1
RA(config-subif)#ip address 192.168.1.17 255.255.255.240
RA(config-if)#interface fastethernet 0/1.2
RA(config-subif)#encapsulation dot1q 2
RA(config-subif)#ip address 192.168.1.33 255.255.255.240
RA(config-if)#interface fastethernet 0/1.3
RA(config-subif)#encapsulation dot1q 3
RA(config-subif)#ip address 192.168.1.49 255.255.255.240
RA(config-subif)#end
```

A new host needs to be connected to VLAN 1. Router RA is attached to the VTP trunk and configured as shown in the output contained in the graphic. Which of the following IP addresses should be assigned to this new host?

- 192.168.1.1 /26
- 192.168.1.11 /28
- 192.168.1.22 /28
- 192.168.1.33 /28
- 192.168.1.44 /28
- 192.168.1.55 /28

---

**3**




Refer to the exhibit. A NetworkingCompany designer is reviewing a diagram of a customer network. What two risks or issues can be identified in the topology that is shown? (Choose two.)

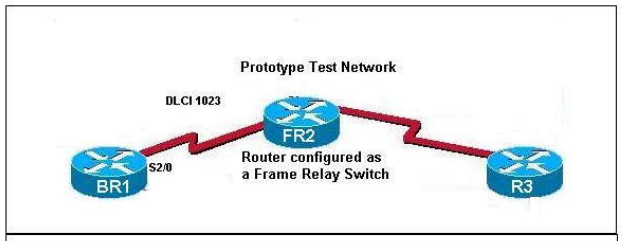
- [x] The firewall router and ISP connection represent a single point of failure.
- [x] A failure of the switch that connects the Cisco Call Manager to the network will cause the entire IP telephony system to fail.
- [ ] Using Layer 3 switches to interconnect the data center servers to the IP phones introduces too much delay.
- [ ] The IP phones need to be redundantly connected to the switches to prevent single points of failure at the access layer.
- [ ] If one of the Layer 3 switches fails, the Cisco Call Manager will be unreachable.

**4** An engineer who is part of a sales team has been asked to select technologies and equipment capabilities to meet the network requirements of the prospective client. The engineer is also responsible for diagramming the placement and interconnection of various network devices and services. Which role is this engineer performing?

- post-sales field engineer
- account manager
- pre-sales engineer
- network designer

---

**5**




```
BR1#show interfaces serial 2/0
Serial2/0 is down, line protocol is down (disabled)
  Hardware is HD64570
  Description: Main Office Connection
  Internet address is 192.168.10.2/30
  MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec, rely 255/255, load 1/255
  Encapsulation Frame Relay, loopback not set, keepalive set (10 sec)
  LMI eng sent  0, LMI stat recvd 0, LMI upd recvd 0, DTE LMI up
  LMI eng recvd 0, LMI stat sent  0, LMI upd sent  0
  LMI DLCI 1023  LMI type is CISCO  frame relay DTE
  Broadcast queue 0/64, broadcasts sent/dropped 0/0, interface broadcasts 0
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0 (size/max/drops); Total output drops: 0
  Queueing strategy: weighted fair
  Output queue: 0/1000/64/0 (size/max total/threshold/drops)
     Conversations  0/0/256 (active/max active/max total)
     Reserved Conversations 0/0 (allocated/max allocated)
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
     0 packets input, 0 bytes, 0 no buffer
     Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
     0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored, 0 abort

BR1#
```

Refer to the exhibit. Two network engineers are setting up a prototype network to test a new Frame Relay network design. One of the engineers connects the cables and powers up all of the devices per the test plan. The second engineer uses a console cable to connect to the BR1 router, configures the Frame Relay connection and issues a **show interfaces serial 2/0** command. What does the output of this command indicate to the engineers?

- A **no shutdown** command must be entered on the interface.
- The IP address has not yet been configured on the interface.
- The WAN encapsulation method is incorrect on the interface.
- The cable that connects BR1 to FR2 may not be correct or is not connected properly.

---

**6** After an administrator installs a WIC into a two-slot router and issues the **show version** command, the newly installed interfaces in the WIC cannot be seen in the router output. What is a possible reason why the newly installed interfaces are not displayed in the router output?

- The interface is not configured properly.
- The WIC was put into slot 0 instead of slot 1.
- The WIC was not physically installed in the slot properly.
- The **show version** command cannot be used to validate the presence of installed interfaces.

---

**7**

```
MDF_2811#show cdp neighbors detail
-------------------------
Device ID: C3750-24_IDF2
Entry address(es):
Platform: cisco WS-C3750-24P,  Capabilities: Switch IGMP
Interface: FastEthernet0/0,  Port ID (outgoing port): FastEthernet1/0/1
Holdtime : 142 sec

Version :
Cisco IOS Software, C3750 Software (C3750-IPBASE-M), Version
12.2(25)SEE2, RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2006 by Cisco Systems, Inc.
Compiled Fri 28-Jul-06 08:46 by yenanh

advertisement version: 2
Protocol Hello:  OUI=0x00000C, Protocol ID=0x0112; payload len=27,
value=00000000FFFFFFFF010221FF000000000000001AE2294300FF0000
VTP Management Domain: 'company'
Native VLAN: 999
Duplex: full
```

Refer to the exhibit. What can be concluded from the output that is shown?

- MDF_2811 has a MAC address of 2294:300F:0000.
- A Cisco 3750 switch is connected to the FastEthernet1/0/1 port on MDF_2811.
- MDF_2811 is installed in the main distribution facility on floor 28 of building 11.
- Device 3750-24_IDF2 is running Cisco IOS Software Release 12.2(25)SEE2.

```
Switch> enable
Switch# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)# hostname SW12East
SW12East(config)# interface Vlan1
SW12East(config-if)# ip address 10.255.254.1 255.255.255.0
SW12East(config-if)# no shutdown
SW12East(config-if)# exit
SW12East(config)# enable secret L0ckout
SW12East(config)# line vty 0 15
SW12East(config-line)# password k33p0ut
SW12East(config-line)# login
SW12East(config-line)# end
SW12East# copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
SW12East#
```

Refer to the exhibit. A network technician is performing an initial installation of a new switch in the east wing. The technician removes the switch from the box, connects the switch to a router that supports the 10.255.254.0/24 network, and adds the configuration that is shown. The tech nician notifies the network administrator that the switch has been installed. The network administrator then attempts to telnet to the switch from host 192.168.0.1 to complete the switch configuration. What are the results of this attempt to telnet?

- The switch refuses the connection.
- The connection to the switch times out.
- The network administrator is prompted to login.
- The connection is established at the user EXEC prompt.

---

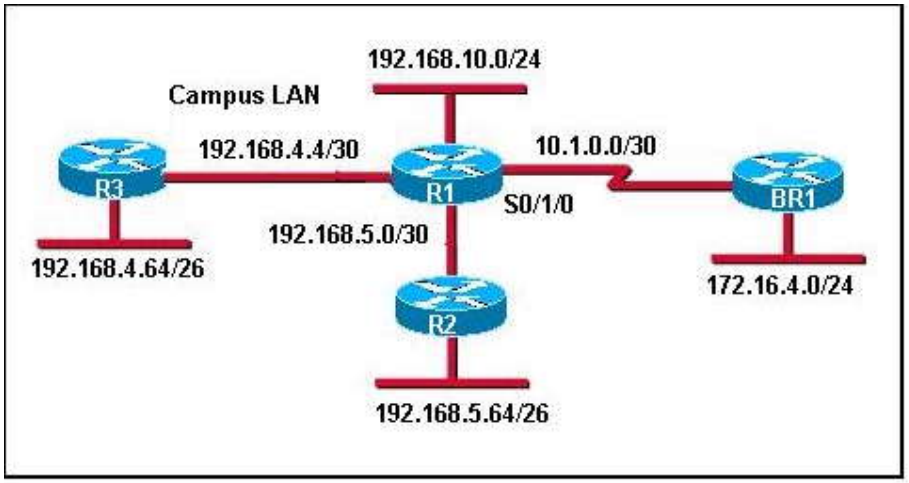
**9** A NetworkingCompany customer is interested in creating an e-commerce business, which includes a network upgrade and the addition of a new server farm. By offering their products on the web, the company expects to increase revenue and reduce wait times to process orders. The network designer proposes to implement the server farm in a new data center and to add a new T1 circuit to

handle the expected traffic. What are two business goals of the NetworkingCompany customer? (Choose two.)

- ☐ install a new T1 circuit
- ☑ increase revenue
- ☐ implement a new server farm
- ☑ reduce wait times to process orders
- ☐ install a new data center

---

**10**




Refer to the exhibit. To demonstrate the importance of using contiguous IP addressing in a hierarchical network design, a network designer configures a prototype network with the use of a network simulator. Which EIGRP configuration commands should the designer enter on router R1 to correctly advertise a single summary route to router BR1 for the campus LAN?

- ●

```
router eigrp 10
network 10.1.0.0 0.0.0.3
network 192.168.4.0
network 192.168.5.0
network 192.168.10.0
no auto summary

interface s0/1/0
ip address 10.1.0.1 255.255.255.252
ip summary-address eigrp 10 192.168.0.0 255.255.240.0
```

- 

```
router eigrp 10
network 192.168.4.0 0.0.3.255
network 192.168.8.0 0.0.3.255
network 10.1.0.0 0.0.0.3
no auto-summary

interface s0/1/0
ip address 10.1.0.1 255.255.255.252
```

- 

```
router eigrp 10
network 10.1.0.0
network 192.168.0.0

interface s0/1/0
ip address 10.1.0.1 255.255.255.252
```

- 

```
router eigrp 10
network 10.1.0.0 0.0.03
network 192.168.0.0 0.0.3.255
no auto-summary

interface s0/1/0
ip address 10.1.0.1 255.255.255.252
ip summary address eigrp 10 192.168.0.0 255.255.252.0
```

---

**11** What makes the Cisco EasyVPN application a useful tool for VPN implementation?

- It provides encryption algorithms unavailable in other systems.
- It ensures that remote workers actually use the VPN for connectivity.
- It simplifies the configuration tasks for the device that is used as the VPN server.
- It allows a greater variety of network devices to be used for VPN connections.

**12** A local car dealership recently purchased an automobile financing company. The owner of the dealership issues a contract to NetworkingCompany to integrate the finance company network into the car dealership network. A router in the existing finance company network requires a password for both Telnet and console access, but no one remembers the passwords. What can the NetworkingCompany network technician do to obtain or change the passwords and gain access to the router?

- Use a TFTP server to download a new configuration file to the router that contains the passwords used on the car dealership network and then reload the router.
- Connect a rollover cable to the serial0/0 port of the router in order to bypass the password security, and use the **show running-config** command to obtain the passwords.
- Connect a console cable to the router, power cycle the router, issue a Ctrl-Break to enter ROM monitor mode, and change the configuration register to bypass the startup configuration.
- Connect the router to another Cisco router at the car dealership, use the **show cdp neighbors** command to obtain an IP address of the router, and use SSH to gain secure access in order to

view the passwords.

**13** A network administrator is troubleshooting connectivity problems on a small IPv6 network that consists of two network segments that are connected by a single router. The administrator can ping the IP addresses of local hosts on each segment from the router. Hosts on one network segment cannot successfully ping the IP addresses of hosts on the other network segment. What is the most likely cause of the connectivity problem between the segments?

- incorrect VLAN assignments on each segment
- broadcast storm that is caused by a malfunctioning NIC on a host
- incorrect DNS mappings of host names to IPv6 addresses
- IPv6 traffic forwarding not configured on the router

**14** At the distribution layer of a hierarchical network, what are two advantages of using Layer 3 devices instead of Layer 2 switches? (Choose two.)

- [ ] enables the creation of large multisite VLANs
- [ ] creates fewer IP subnets to configure and manage
- [ ] reduces the number of redundant links required
- [x] reduces the complexity of STP configurations
- [x] enables traffic filtering based on subnet addresses

**15** A NetworkingCompany engineer is on a support call resolving technical problems for a client network. After the issue is resolved, the engineer also provides a training session for the client's network support staff. Which position on the networking company team is this engineer performing?

- post-sales field engineer
- pre-sales engineer
- network designer

- account manager

**16** What is the main purpose of the access layer in a hierarchically designed network?

- perform routing and packet manipulation
- supply redundancy and failover protection
- provide a high-speed, low-latency backbone
- serve as a network connection point for end-user devices

**17** A router has been removed from the network for maintenance. A new Cisco IOS software image has been successfully downloaded to a server and copied into the flash of the router. What should be done before placing the router back into service?

- Back up the new image.
- Copy the running configuration to NVRAM.
- Delete the previous version of the Cisco IOS software from flash.
- Restart the router and verify that the new image starts successfully.

**18** A NetworkingCompany customer requires VPN connectivity for workers who must travel frequently. To support the VPN server, the customer router must be upgraded to a new Cisco IOS software version with the Advanced IP Services feature set. What should the field engineer do before copying the new IOS to the router?

- Set the router to load the new IOS image file directly from the TFTP server on the next reboot.
- Delete the currently installed IOS by using the **erase flash:** command, and reload the router
- Issue the **show running-configuration** command to determine the features of the currently installed IOS image file.
- Issue the **show version** and the **show flash** commands to ensure that the router has enough memory and file space to support the new IOS image.

**19** The main office of a NetworkingCompany customer currently connects to three branch offices via three separate point-to-point T1 circuits. The customer network uses RIPv2 as the routing protocol within both the LAN and the WAN. The account manager proposes a change to a Frame Relay network because the costs are lower. A single local loop connection can be installed at the main office with three separate PVCs to connect the branch offices. How can the main office edge router be configured to enable the customer to continue to use RIP as the WAN routing protocol?

- Enable Inverse ARP on the serial interface in order to learn the routes to the IP addresses of the remote routers.
- To prevent the Frame Relay network from causing a routing loop, disable split horizon on the serial interface.
- Create three separate point-to-point subinterfaces on the serial interface and assign a different subnet IP address to each one.
- Configure the serial interface with a single interface DLCI number and create frame-relay map statements for each remote site address.

---

**20** A high school uses a fractional T1 for Internet access. Wireless network access is provided in approximately 30 percent of the physical campus. Tests performed recently by the IT administrators indicate that the T1 circuit is operating at full capacity. The school district IT design team is asked to propose a network upgrade plan to address two business goals:

1. Provide wireless network connectivity for students in 90 percent of the physical campus.
2. Improve Internet access for all students and faculty.

The design team proposes to upgrade the memory of the core router that is connected to the ISP and to purchase additional wireless access points.

What can be concluded about the proposal that is presented by the design team?

- The proposal addresses only the goal to increase the wireless coverage.
- The proposal addresses only the goal to improve Internet access.
- The proposal addresses both business goals.

- The proposal addresses neither business goal.

**21**

```
SWC# show port-security interface fa0/2

Port Security                : Enabled
Port Status                  : Secure-up
Violation Mode               : Shutdown
Aging Time                   : 0 mins
Aging Type                   : Absolute
Secure Static Address Aging  : Disabled
Maximum MAC Addresses        : 3
Total MAC Addresses          : 1
Configured MAC Addresses     : 1
Sticky MAC Addresses         : 0
Last Source Address: LAN     : 00E0.F7B0.086E:99
Security Violation Count     : 0
```

Refer to the exhibit. The network administrator is configuring the port security feature on switch SWC. The administrator issued the command **show port-security interface fa 0/2** to verify the configuration. What can be concluded from the output that is shown? (Choose three.)

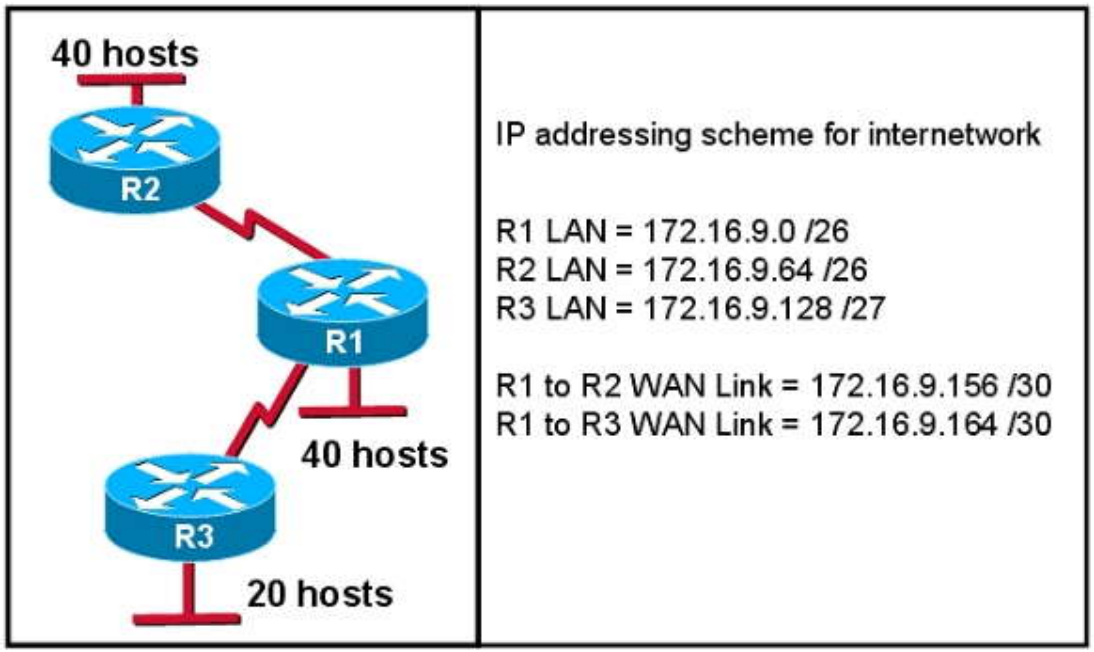
- ☐ This port is currently up.
- ☐ The port is configured as a trunk link.
- ☐ There is no device currently connected to this port.
- ☐ Three security violations have been detected on this interface.
- ☐ Switchport mode for this interface is **access-mode**.
- ☐ Security violations will cause this port to shut down immediately.

**22** What are two advantages of using a simulation tool to test an IP addressing scheme? (Choose two.)

- Address configuration errors can be addressed using out-of-band connections.
- Placement of subnets and route summarization can be verified.
- An engineer can test physical security without leaving the office or lab.
- The addressing scheme can be tested for scalability.
- The effects of combining new with existing infrastructure can be measured.
- It provides real-time monitoring of a production network.

---

**23**



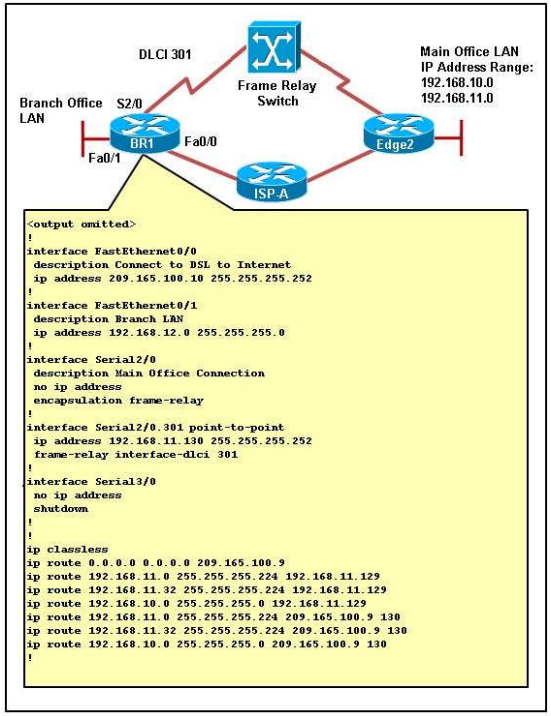

Refer to the exhibit. A field engineer is called into a customer's office to determine a problem with connectivity in the network. Based on the customer's IP addressing scheme, what is ca using the problem?

- The VLSM scheme is correct as shown.
- The WAN that connects R1 to R3 has an incorrect mask.
- The WAN that connects R1 to R2 overlaps with the R3 LAN.
- The R1 LAN is incorrect because subnet zero cannot be used with VLSM.

**24** A new WIC is installed in an available router slot. At what point during the router startup process does the router test the card for hardware problems?

- after the configuration from NVRAM is loaded into RAM
- when the bootstrap program is loaded into RAM
- after the configuration from NVRAM is loaded into ROM
- during the power-on self-test (POST)

**25**




Refer to the exhibit. A NetworkingCompany engineer is characterizing an existing network for a new customer. The engineer issues a **show run** command on the branch router to gather configuration information. What is the engineer able to determine as a result of viewing the output of this command?

- The branch office router has two routes to the main office LAN in the routing table.
- The default route for the branch office traffic is the router that is located at the mai n office.
- A connection through ISP-A will be used to reach the main office LAN if the Frame Relay network is unavailable.
- By using both the DSL and the Frame Relay connection, the branch office router will load balance traffic that is destined for the main office LAN.

**26** A configuration file needs to be loaded into the RAM of a router from a TFTP server. What should an administrator know before accomplishing this task?

- the router IP address and the operating system that is used by the TFTP server
- the TFTP server IP address and the name of the configuration file on the server
- the router IP address and the name of the router configuration file in NVRAM
- the TFTP server IP address and the router interface through which the file will be loaded

**27** A network designer must select a routing protocol for the network of a customer. The currently installed network contains both Cisco and non-Cisco routers, and there is no budget to replace them. The designer plans on implementing both VLSM and route summarization in the new network design. Which two protocols can provide the necessary functionality for this LAN? (Choose two.)

- RTP
- RSTP
- RIPv1
- RIPv2
- EIGRP
- OSPF

**28** Which two weaknesses in a proposed network design can be identified by setting up a prototype network and performing tests on it? (Choose two.)

- congestion and inadequate bandwidth in the provider Frame Relay network
- costs of the proposed equipment exceed the customer budget
- potential points of failure that are critical to the network
- limited scalability that can present problems if the network grows faster than anticipated
- poor documentation of existing network topology and design

**29** A user in a large office calls tech support to complain that the PC no longer connects to the Internet or to any network resources, but seems otherwise normal. The help desk technician asks the caller to talk to nearby users to see if other machines are affected. After a few minutes, the caller reports that several immediate neighbors have the same problem, but those seated further away do not. Assuming that the description is accurate, what should be checked next?

- power outlet to the PC that is used by the caller
- workgroup switch in the telecommunications room
- cable between any network outlet and the telecommunications room
- cable between the PC that is used by the caller and the network outlet it connects to
- cable between the PC that is used by a neighbor and the network outlet the neighbor PC it connects to

---

**30** Which of the following are characteristics of the core layer of the hierarchical network design model? (Choose three.)

- ☐ redundant paths
- ☐ high-level policy enforcement
- ☐ packet manipulation
- ☐ media transitions
- ☐ rapid forwarding of traffic
- ☐ no packet filtering

---

**31** A network designer needs to perform prototype testing on a multisite network design to verify that failure domains are not larger than specified in the proposal. What would be the most efficient way to conduct this test?

- Use simulation software to check the IP addressing scheme for errors.
- Power down lab equipment and ping from one host to all other hosts.
- Disconnect links between lab equipment and ping end-to-end across the network.

- Delete devices or links in simulation software and ping from each host to all other hosts.

**32** A customer has asked a network engineer to prototype the new IP addressing and summarization strategy for a large, multisite network implementation. Which tool is appropriate for testing the complete addressing scheme?

- Cisco SDM
- network simulation tool
- actual network equipment in a lab
- current network of the customer

**33** During a review of the proposed bill of materials, the NetworkingCompany account manager realizes that the systems engineer included a lower cost, less capable switch model for the access layer connectivity than was specified by the network designer. When questioned, the systems engineer responds that the switches recommended by the designer cannot be purchased within the budget limitations of the customer. Which action should the account manager take?

- Inform the customer that the project cannot be completed given the unreasonable budget constraints.
- Communicate any risks associated with the equipment substitution and obtain customer approval to proceed.
- Because the customer is probably aware that the budget limitations will require lower cost, less capable equipment, the account manager should do nothing.
- Because the customer is probably aware that the budget limitations will require lower cost, less capable equipment, the account manager should do nothing.

**34**

```
SW11# show spanning-tree vlan 100

VLAN0100
  Spanning tree enabled protocol ieee
  Root ID    Priority    32778
             Address     0011.5ccc.a9c0
             This bridge is the root
             Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32778  (priority 32768 sys-id-ext 10)
             Address     0011.5ccc.a9c0
             Hello Time   2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time 300

  <output omitted>
```

Refer to the exhibit. What is the spanning-tree role of all the enabled interfaces of SW11?

- alternate
- backup
- designated
- root

---

**35** After performing a password recovery operation on a router, the network field engineer copies the running configuration to the startup configuration and then reloads the router. The router boots successfully but immediately enters the setup mode. The engineer manually loads the startup configuration using the **copy start run** command and verifies that the configuration is correct and the passwords are reset. What can cause the router to enter setup mode rather than load the correct startup configuration file?

- The field engineer configured the incorrect passwords in the startup configuration file.
- The configuration register setting was not changed back to the correct value before the router was reloaded.
- The running configuration was not successfully saved to the startup configuration before the

router was reloaded.

- During the password recovery process, the engineer should have copied the startup configuration to the running configuration before reloading the router.

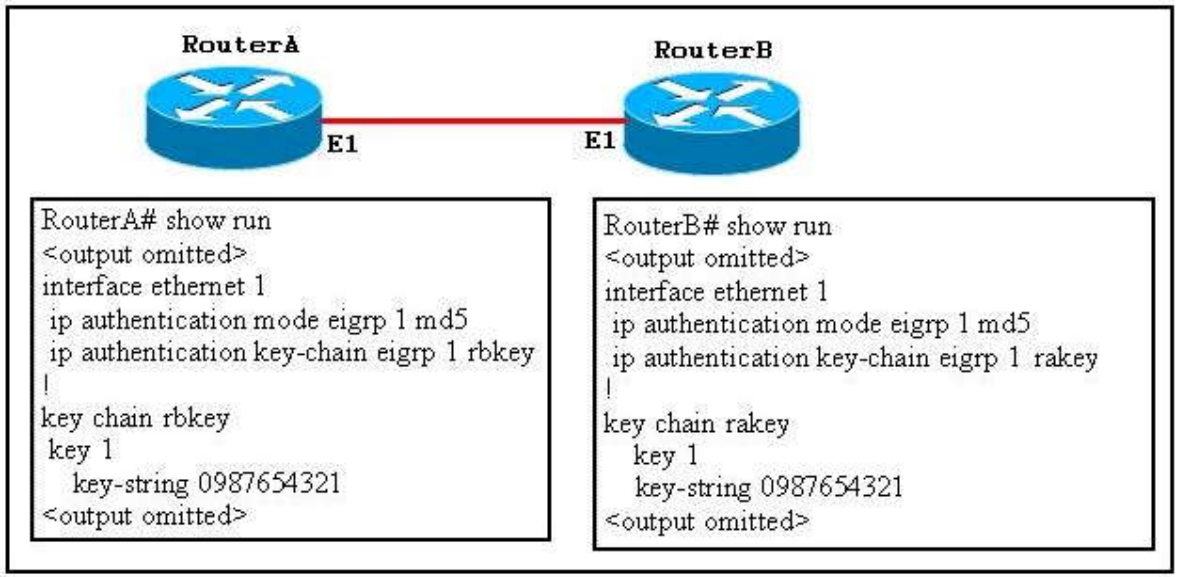
---

**36** An HWIC-4ESW, four-port switch module needs to be installed in a Cisco 1841 router that currently has a WIC-2T module in slot 0. What should the network technician do first?

- Turn off power to the router before installing the new module.
- Remove the WIC-2T module so that the new module can be installed in slot 0.
- Shut down all Fast Ethernet ports on the router until the switch module installation is complete.
- Configure the router Cisco IOS software to support an internal trunk link between the switch and router module.

---

**37**




Refer to the exhibit. Based on the EIGRP configuration that is shown, what can the field engineer conclude about the EIGRP authentication between RouterA and RouterB?

- Authentication will fail because only one key is configured.
- Authentication will fail because the key chain names do not match.
- Authentication will succeed and EIGRP updates can be exchanged.
- Authentication will fail because the key chain names must match the router names.

**38**

IP Address Plan

| Device Name | Switch Port Connection | IP Address | Subnet Mask |
|---|---|---|---|
| Host 1 | Fa 0/4 | 192.168.1.22/28 | 255.255.255.240 |
| Host 2 | Fa 0/5 | 192.168.1.33/28 | 255.255.255.240 |
| Host 3 | Fa 0/6 | 192.168.1.30/28 | 255.255.255.240 |

Test 1: Procedures

1. Configure VLAN assignments.

```
Switch_A#configure terminal
Switch_A(config)#interface fastethernet 0/4
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 10
Switch_A(config-if)#interface fastethernet 0/5
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 20
Switch_A(config-if)#interface fastethernet 0/6
Switch_A(config-if)#switchport mode access
Switch_A(config-if)#switchport access vlan 10
```

2. Ping from each host to every other host to verify connectivity. Cut and paste the results to a document using a text editor. Save the results in the Appendix.

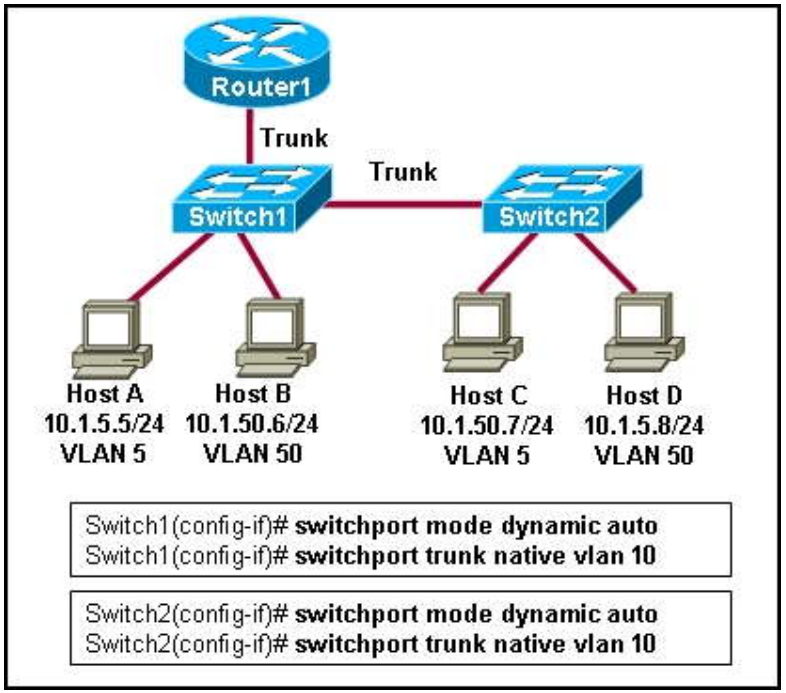
Refer to the exhibit. Following a test plan, the network systems engineer completes the configuration of an access layer switch and connects three PCs to test the configuration. The engineer attempts to ping from each PC to the other connected PCs. Which three statements describe the expected results of pinging from one host to another? (Choose three.)

- ☐ Host1 can ping Host2.
- ☐ Host1 cannot ping Host2.

- Host1 can ping Host3.
- Host1 cannot ping Host3.
- Host2 can ping Host3.
- Host2 cannot ping Host3.

---

**39**




Refer to the exhibit. The two switches that are shown will not form a trunk. What is the most likely cause of this problem?

- The native VLANs are improperly configured.

- All the hosts are on the same VLAN and a trunk is not needed.
- Both ports are set to dynamic auto.
- The trunk should be configured using the **switchport mode access** command.

**40** During prototype testing, the network designer performs a test to determine the ability of the network to recover from a link or device failure. Which design goal is validated if the test is a success?

- scalability
- manageability
- availability
- security

**41** What are two suggested best practices to implement when securing network devices? (Choose two.)

- ☐ Configure VLAN 1 as the native VLAN.
- ☐ Disable unused ports on switches.
- ☐ Enable SSH and disable Telnet.
- ☐ Consolidate guest traffic and internal employee traffic.
- ☐ Ensure that logs are stored locally on routers.

**42**

```
JAX# show ip route
<output omitted>
Gateway of last resort is not set
    10.0.0.0/32 is subnetted, 1 subnets
C       10.0.0.1 is directly connected, Loopback0
S    128.107.0.0/16 [1/0] via 192.168.2.2
C    192.168.1.0/24 is directly connected, FastEthernet0/0
C    192.168.2.0/24 is directly connected, Serial0/0/0
R    192.168.3.0/24 [120/1] via 192.168.2.2, 00:00:17, Serial0/0/0
JAX#
```

Refer to the exhibit. What does the JAX router do with traffic that is destined for a web server with an IP address of 128.107.10.24?

- The traffic is sent out Serial 0/0/0.
- The router sends the traffic out all interfaces other than the one it came in on.
- A request is sent to neighboring routers for paths to the 128.107.0.0 network.
- The packets are placed into a queue until a better route is discovered via RIP.

---

**43** When should a network designer specify that a dedicated firewall appliance be used at the perimeter of the network rather than a router with a Cisco IOS software-based firewall feature set?

- There are multiple servers in the DMZ.
- The network is large in size and network traffic can overload the device.
- Traffic filtering is needed on the internal network.
- Multiple levels of access to the network are needed.

---

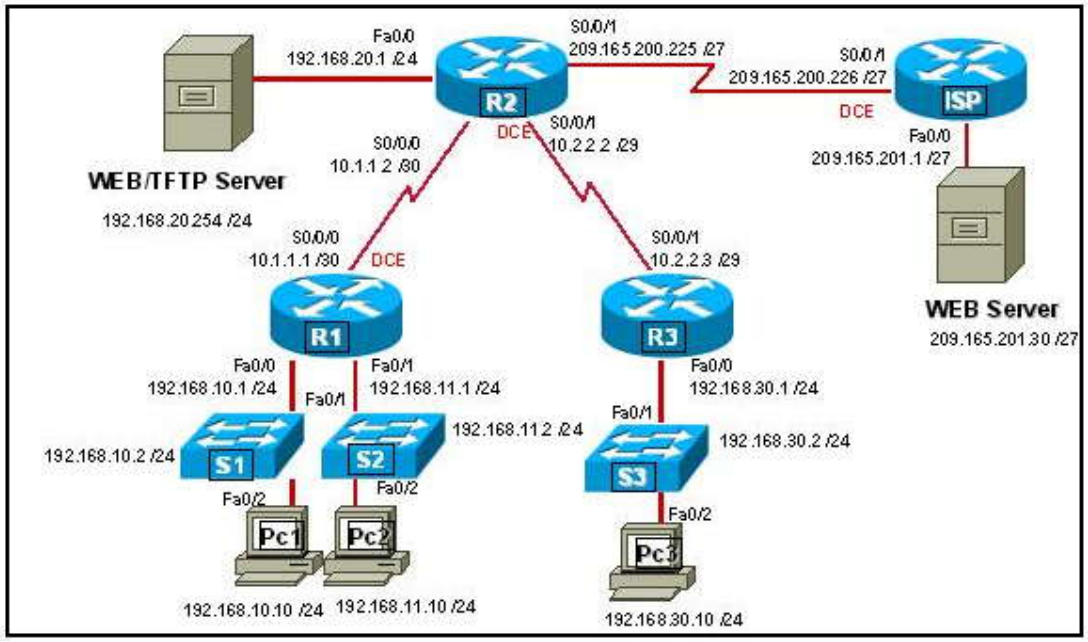
**44** Which two events occur when the command RTA(config)# **frame-relay map ip 10.1.1.1 22** is issued on a router? (Choose two.)

- ☐ DLCI 22 replaces the MAC address in the ARP table for entry 10.1.1.1.

- The remote router that is connected to network 10.1.1.0 enters 22 the DLCI for host 10.1.1.1.
- Inverse-ARP is used to add an entry for 10.1.1.1 into the Frame Relay map table using DLCI 22.
- A Layer 2 address is statically mapped to a Layer 3 address.
- RTA uses DLCI 22 to forward data to 10.1.1.1.

---

**45**




Refer to the exhibit. When creating an extended ACL to deny traffic from the 192.168.30.0 network destined for the Web server 209.165.201.30, where is the best location for applying the ACL?

- R3 Fa0/0 inbound
- R3 S0/0/1 outbound

- R2 S0/0/1 inbound
- ISP Fa0/0 outbound

---

**46** Why would a designer choose a flat network over a hierarchical network design?

- to make it easier to filter unwanted traffic
- to be able to implement QoS
- to keep costs low in small networks
- to reduce the size of failure domains

---

**47**

```
SEhub# show frame-relay pvc

PVC Statistics for interface Serial0 (Frame Relay DTE)

                Active  Inactive  Deleted  Static
  Local            0         1        0       0
  Switched         0         0        0       0
  Unused           0         0        0       0

DLCI = 311, DLCI USAGE = LOCAL, PVC STATUS = INACTIVE, INTERFACE = Serial0

  input pkts 4             output pkts 3            in bytes 1300
  out bytes 996            dropped pkts 0           in FECN pkts 0
  in BECN pkts 0           out FECN pkts 0          out BECN pkts 0
  in DE pkts 0             out DE pkts 0
  out bcast pkts 3         out bcast bytes 996
  pvc create time 00:10:38, last time pvc status changed 00:02:13
```

Refer to the exhibit. What does the status in the output indicate about the DLCI?

- The switch has the DLCI configured but it is not usable by this router.
- The DLCI was previously configured in the switch but is no longer there.
- It is usable but has little activity.
- The DLCI has been renamed for that PVC.

**48** The network designer recommends using RSTP in the design of a new data center. There are multiple redundant Layer 2 switches and links contained in the new design. What is the benefit of using RSTP in this situation over standard STP?

- Redundant links are not blocked.
- Routing tables converge more quickly.
- Spanning Tree convergence times are reduced.
- Fewer redundant links are required to maintain connectivity.

**49** A network administrator wants to load a configuration file from a TFTP server into NVRAM on a router. How should the administrator create a startup-config file in NVRAM that matches the contents of the configuration file on the TFTP server?

- Copy the configuration file from a TFTP server by using the command **copy tftp startup-config**.
- Copy the configuration file from a TFTP server by using the command **copy***filename* **startup-config**.
- Copy the file to RAM from a console connection by using the **copy tftp running-config** command. Then reload the router to use the new configuration.
- Paste the configuration file to the command line of the router while in global configuration mode. Then issue the **copy startup-config running-config** command.

**50** What can be broadcast over the wireless network to help a guest user conveniently log in to the network and use wireless services?

- SSID
- VPN authentication
- WPA encryption
- VLAN parameters

- WEP keys

**51** Which two options are true about discontiguous networks? (Choose two.)

- ☐ The routing problems of discontiguous subnetworks can be resolved easily by using the RIPv2 default configuration.
- ☐ The default configuration of all classless routing protocols can prevent problems that are caused by discontiguous networks.
- ☐ Automatic route summarization can cause problems in a network with discontiguous subnets.
- ☐ A network that runs a classful routing protocol will have problems if discontiguous subnets exist in the network.
- ☐ Automatic route summarization helps resolve problems with a network with discontiguous subnetworks.

**52**

```
Router> enable
Router# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)# hostname NWRnStick
NWRnStick(config)# interface Fa0/0
NWRnStick(config-if)# no ip address
NWRnStick(config-if)# no shutdown
NWRnStick(config-if)# exit
NWRnStick(config)# interface Fa0/0.1
NWRnStick(config-subif)# encapsulation dot1q 1 native
NWRnStick(config-subif)# exit
NWRnStick(config)# interface Fa0/0.111
NWRnStick(config-subif)# encapsulation dot1q 111
NWRnStick(config-subif)# exit
NWRnStick(config)# interface Fa0/0.222
NWRnStick(config-subif)# encapsulation dot1q 222
NWRnStick(config-subif)# exit
NWRnStick(config)# interface Fa0/0.123
NWRnStick(config-subif)# encapsulation dot1q 123
NWRnStick(config-subif)# end
NWRnStick#
```

Refer to the exhibit. A network associate is configuring a new router to provide routing between VLANs. The associate removes the router from the box and connects the Fa0/0 interface to a trunking port on the switch. After the configuration is applied to the rou ter, the traffic between VLANs still fails. What is causing this to occur?

- The NWRnStick router needs a routing protocol configured.
- The NWRnStick router needs additional Fast Ethernet interfaces installed.
- The subinterfaces of the NWRnStick router should have IP addresses applied.
- All the subinterfaces of the NWRnStick router should be configured in the same VLAN.

**53**A company has an IT staff that is not highly trained. What two features or technologies must the

network designer identify as training needs in order for the staff to understand the basic operation of VPNs? (Choose two.)

- ☐ access control lists
- ☐ encryption algorithms
- ☐ Frame Relay configuration
- ☐ QoS operation
- ☐ tunneling protocols
- ☐ VLAN configuration

---

**54** Which statement is true about implementing QoS in a network?

- ● Voice traffic automatically receives the highest priority.
- ● QoS guarantees enough bandwidth to every application.
- ● QoS increases actual bandwidth on a link to ensure voice quality.
- ● Voice traffic requires priority over other data traffic because it is sensitive to delays.

---

**55** Which three enhancements does IPv6 offer over IPv4? (Choose three.)

- ☐ easier implementation and configuration
- ☐ more effective IP security
- ☐ integrated IP mobility support
- ☐ simplified header information
- ☐ fewer reserved IP addresses
- ☐ eliminates the need to implement DHCP

---

**56**

```
Router(config)# ip access-list extended Managers
Router(config-ext-nacl)# deny tcp 192.168.1.0 0.0.0.255 any eq telnet
Router(config-ext-nacl)# deny tcp 192.168.1.0 0.0.0.255 any eq www
Router(config-ext-nacl)# deny tcp 192.168.1.0 0.0.0.255 any eq ftp
```

Refer to the exhibit. What happens if the network administrator issues the commands shown when an ACL called Managers already exists on the router?

- The commands overwrite the Managers ACL that is already on the router.
- The commands are added at the end of the Managers ACL that is already on the router.
- The commands are added at the beginning of the Managers ACL that is already on the router.
- The network administrator receives an error stating that the ACL already exists.

---

**57** A technician is configuring a router for routing using EIGRP. The technician enters the EIGRP router configuration mode command:

Router(config-router)# **variance 3**

What is the effect of entering this command?

- It enables unequal cost load balancing.
- It adjusts the cost of all EIGRP routes to 3.
- It restricts the number of EIGRP feasible successor routes to 3.
- It enables EIGRP equal cost load balancing over a maximum of 3 routes.

---

**58** A small bookstore would like to offer wireless connectivity for customers with laptops. Which wireless components or devices will provide connectivity to the customers with the least possible cost to the bookstore?

- standalone access points
- wireless LAN controllers

- standalone lightweight access points
- lightweight access point and wireless LAN controller