

# Exam Questions N10-008

CompTIA Network+Exam

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### NEW QUESTION 1

- (Topic 1)

Which of the following would need to be configured to ensure a device with a specific MAC address is always assigned the same IP address from DHCP?

- A. Scope options
- B. Reservation
- C. Dynamic assignment
- D. Exclusion
- E. Static assignment

**Answer:** B

#### Explanation:

A reservation should be configured to ensure a device with a specific MAC address is always assigned the same IP address from DHCP. A reservation is a feature of DHCP that allows an administrator to assign a fixed IP address to a device based on its MAC address. This way, the device will always receive the same IP address from the DHCP server, even if it is powered off or disconnected from the network for a long time. References: <https://docs.microsoft.com/en-us/windows-server/troubleshoot/configure-dhcp-reservations>

### NEW QUESTION 2

- (Topic 1)

Branch users are experiencing issues with videoconferencing. Which of the following will the company MOST likely configure to improve performance for these applications?

- A. Link Aggregation Control Protocol
- B. Dynamic routing
- C. Quality of service
- D. Network load balancer
- E. Static IP addresses

**Answer:** C

#### Explanation:

To improve performance for videoconferencing, the company should configure Quality of Service (QoS). This technology allows for the prioritization of network traffic, ensuring that videoconferencing traffic is given higher priority and therefore better performance. Link Aggregation Control Protocol (LACP), Dynamic routing, Network load balancer, and Static IP addresses are not directly related to improving performance for videoconferencing.

References:

? Network+ N10-007 Certification Exam Objectives, Objective 2.6: Given a scenario, implement and configure the appropriate wireless security and implement the appropriate QoS concepts.

### NEW QUESTION 3

- (Topic 1)

Which of the following service models would MOST likely be used to replace on-premises servers with a cloud solution?

- A. PaaS
- B. IaaS
- C. SaaS
- D. Disaster recovery as a Service (DRaaS)

**Answer:** B

#### Explanation:

IaaS stands for Infrastructure as a Service, which is a cloud service model that provides virtualized computing resources over the Internet, such as servers, storage, networking, and operating systems. IaaS allows customers to replace their on-premises servers with cloud servers that can be scaled up or down on demand and pay only for what they use. PaaS stands for Platform as a Service, which provides customers with a cloud-based platform for developing, testing, and deploying applications without managing the underlying infrastructure. SaaS stands for Software as a Service, which provides customers with access to cloud-based software applications over the Internet without installing or maintaining them on their devices. Disaster recovery as a Service (DRaaS) is a type of cloud service that provides customers with backup and recovery solutions for their data and applications in case of a disaster.

### NEW QUESTION 4

- (Topic 1)

A network administrator is installing a wireless network at a client's office. Which of the following IEEE 802.11 standards would be BEST to use for multiple simultaneous client access?

- A. CDMA
- B. CSMA/CD
- C. CSMA/CA
- D. GSM

**Answer:** C

#### Explanation:

CSMA/CA (Carrier Sense Multiple Access with Collision Avoidance) is an IEEE 802.11 standard that would be best to use for multiple simultaneous client access on a wireless network. CSMA/CA is a media access control method that allows multiple devices to share the same wireless channel without causing collisions or interference. It works by having each device sense the channel before transmitting data and waiting for an acknowledgment from the receiver after each transmission. If the channel is busy or no acknowledgment is received, the device will back off and retry later with a random delay. References: <https://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-lan-wlan/82068-csma-ca.html>

#### NEW QUESTION 5

- (Topic 1)

Which of the following BEST describes a network appliance that warns of unapproved devices that are accessing the network?

- A. Firewall
- B. AP
- C. Proxy server
- D. IDS

**Answer:** D

#### Explanation:

IDS stands for intrusion detection system, which is a network appliance that monitors network traffic and alerts administrators of any suspicious or malicious activity. An IDS can warn of unapproved devices that are accessing the network by detecting anomalies, signatures, or behaviors that indicate unauthorized access attempts or attacks. References: [https://partners.comptia.org/docs/default-source/resources/comptia-network-n10-008-exam-objectives-\(2-0\)](https://partners.comptia.org/docs/default-source/resources/comptia-network-n10-008-exam-objectives-(2-0)), <https://www.cisco.com/c/en/us/products/security/what-is-an-intrusion-detection-system-ids.html>

#### NEW QUESTION 6

- (Topic 1)

A technician is troubleshooting a network switch that seems to stop responding to requests intermittently whenever the logging level is set for debugging. Which of the following metrics should the technician check to begin troubleshooting the issue?

- A. Audit logs
- B. CPU utilization
- C. CRC errors
- D. Jitter

**Answer:** B

#### Explanation:

CPU utilization is a metric that measures the percentage of time a CPU spends executing instructions. When the logging level is set for debugging, the router may generate a large amount of logging data, which can increase CPU utilization and cause the router to stop responding to requests intermittently. References: ? Network+ N10-008 Objectives: 2.1 Given a scenario, troubleshoot common physical connectivity issues.

#### NEW QUESTION 7

- (Topic 1)

A company built a new building at its headquarters location. The new building is connected to the company's LAN via fiber-optic cable. Multiple users in the new building are unable to access the company's intranet site via their web browser, but they are able to access internet sites. Which of the following describes how the network administrator can resolve this issue?

- A. Correct the DNS server entries in the DHCP scope
- B. Correct the external firewall gateway address
- C. Correct the NTP server settings on the clients
- D. Correct a TFTP Issue on the company's server

**Answer:** A

#### Explanation:

If multiple users in a new building are unable to access the company's intranet site via their web browser but are able to access internet sites, the network administrator can resolve this issue by correcting the DNS server entries in the DHCP scope. The DHCP scope is responsible for assigning IP addresses and DNS server addresses to clients. If the DNS server entries are incorrect, clients will not be able to access intranet sites.

References:

? CompTIA Network+ Certification Study Guide, Exam N10-007, Fourth Edition, Chapter 4: Network Implementations, Objective 4.4: Explain the purpose and properties of DHCP.

#### NEW QUESTION 8

- (Topic 1)

A network engineer is investigating reports of poor network performance. Upon reviewing a device configuration, the engineer finds that duplex settings are mismatched on both ends. Which of the following would be the MOST likely result of this finding?

- A. Increased CRC errors
- B. Increased giants and runts
- C. Increased switching loops
- D. Increased device temperature

**Answer:** A

#### Explanation:

Mismatched duplex settings can cause an increase in CRC errors, which are errors in data transmission that can result in corrupted data. References: CompTIA Network+ Certification Study Guide, Chapter 4: Infrastructure.

#### NEW QUESTION 9

- (Topic 1)

A technician is deploying a new switch model and would like to add it to the existing network monitoring software. The technician wants to know what metrics can be gathered from a given switch. Which of the following should the technician utilize for the switch?

- A. MIB
- B. Trap
- C. Syslog

D. Audit log

**Answer:** A

**Explanation:**

To determine what metrics can be gathered from a given switch, a technician should utilize the Management Information Base (MIB). The MIB is a database of network management information that is used to manage and monitor network devices. It contains information about device configuration, status, and performance. References: Network+ Certification Study Guide, Chapter 5: Network Security

**NEW QUESTION 10**

- (Topic 1)

A technician is assisting a user who cannot connect to a network resource. The technician first checks for a link light. According to troubleshooting methodology, this is an example of:

- A. using a bottom-to-top approach.
- B. establishing a plan of action.
- C. documenting a finding.
- D. questioning the obvious.

**Answer:** A

**Explanation:**

Using a bottom-to-top approach means starting from the physical layer and moving up the OSI model to troubleshoot a network problem. Checking for a link light is a physical layer check that verifies the connectivity of the network cable and device. References: <https://www.professormesser.com/network-plus/n10-007/troubleshooting-methodologies-2/>

**NEW QUESTION 10**

- (Topic 1)

Which of the following is MOST likely to generate significant East-West traffic in a datacenter?

- A. A backup of a large video presentation to cloud storage for archival purposes
- B. A duplication of a hosted virtual server to another physical server for redundancy
- C. A download of navigation data to a portable device for offline access
- D. A query from an IoT device to a cloud-hosted server for a firmware update

**Answer:** B

**Explanation:**

East-West traffic refers to data flows between servers or devices within the same datacenter. When a hosted virtual server is duplicated to another physical server for redundancy, it generates significant East-West traffic as the data is replicated between the two servers. References: ? Network+ N10-008 Objectives: 3.3 Given a scenario, implement secure network architecture concepts.

**NEW QUESTION 11**

- (Topic 1)

A network administrator discovers that users in an adjacent building are connecting to the company's guest wireless network to download inappropriate material. Which of the following can the administrator do to MOST easily mitigate this issue?

- A. Reduce the wireless power levels
- B. Adjust the wireless channels
- C. Enable wireless client isolation
- D. Enable wireless port security

**Answer:** A

**Explanation:**

Reducing the wireless power levels can limit the range of the guest wireless network and prevent users in an adjacent building from connecting to it. Adjusting the wireless channels or enabling wireless client isolation will not affect the signal strength or coverage of the guest network. Enabling wireless port security will not work on a guest network that does not use authentication or MAC address filtering. References: CompTIA Network+ Certification Exam Objectives Version 2.0 (Exam Number: N10-006), Domain 2.0 Network Operations, Objective 2.5 Given a scenario, implement appropriate wireless configuration settings; Guest WiFi Security - Cisco Umbrella

**NEW QUESTION 13**

- (Topic 1)

A systems administrator needs to improve WiFi performance in a densely populated office tower and use the latest standard. There is a mix of devices that use 2.4 GHz and 5 GHz. Which of the following should the systems administrator select to meet this requirement?

- A. 802.11ac
- B. 802.11ax
- C. 802.11g
- D. 802.11n

**Answer:** B

**Explanation:**

802.11ax is the latest WiFi standard that improves WiFi performance in densely populated environments and supports both 2.4 GHz and 5 GHz bands. 802.11ac is the previous standard that only supports 5 GHz band. 802.11g and 802.11n are older standards that support 2.4 GHz band only or both bands respectively. References: [https://partners.comptia.org/docs/default-source/resources/comptia-network-n10-008-exam-objectives-\(2-0\)](https://partners.comptia.org/docs/default-source/resources/comptia-network-n10-008-exam-objectives-(2-0)), <https://www.techtarget.com/searchnetworking/tip/Whats-the-difference-between-80211ax-vs-80211ac>

#### NEW QUESTION 16

- (Topic 1)

An attacker is attempting to find the password to a network by inputting common words and phrases in plaintext to the password prompt. Which of the following attack types BEST describes this action?

- A. Pass-the-hash attack
- B. Rainbow table attack
- C. Brute-force attack
- D. Dictionary attack

**Answer:** D

#### Explanation:

The attacker attempting to find the password to a network by inputting common words and phrases in plaintext to the password prompt is using a dictionary attack. References: CompTIA Network+ Certification Study Guide, Chapter 6: Network Attacks and Mitigation.

#### NEW QUESTION 17

- (Topic 1)

A client recently added 100 users who are using VMs. All users have since reported slow or unresponsive desktops. Reports show minimal network congestion, zero packet loss, and acceptable packet delay. Which of the following metrics will MOST accurately show the underlying performance issues? (Choose two.)

- A. CPU usage
- B. Memory
- C. Temperature
- D. Bandwidth
- E. Latency
- F. Jitter

**Answer:** AB

#### NEW QUESTION 20

- (Topic 1)

Which of the following factors should be considered when evaluating a firewall to protect a datacenter's east-west traffic?

- A. Replication traffic between an on-premises server and a remote backup facility
- B. Traffic between VMs running on different hosts
- C. Concurrent connections generated by Internet DDoS attacks
- D. VPN traffic from remote offices to the datacenter's VMs

**Answer:** B

#### Explanation:

When evaluating a firewall to protect a datacenter's east-west traffic, it is important to consider traffic between VMs running on different hosts. This type of traffic is referred to as east-west traffic and is often protected by internal firewalls. By implementing firewalls, an organization can protect their internal network against threats such as lateral movement, which can be caused by attackers who have breached a perimeter firewall. References: Network+ Certification Study Guide, Chapter 5: Network Security

#### NEW QUESTION 23

- (Topic 1)

A network technician is reviewing the interface counters on a router interface. The technician is attempting to confirm a cable issue. Given the following information:

Metric	Value
Last cleared	7 minutes, 34 seconds
# of packets output	6915
# of packets input	270
CRCs	183
Giants	0
Runts	0
Multicasts	14

Which of the following metrics confirms there is a cabling issue?

- A. Last cleared
- B. Number of packets output
- C. CRCs
- D. Giants
- E. Multicasts

**Answer:** C

#### Explanation:

CRC stands for Cyclic Redundancy Check, and it is a type of error-detecting code used to detect accidental changes to raw data. If the CRC count is increasing on a particular interface, it indicates that there might be an issue with the cabling, which is causing data corruption. References:



? Network+ N10-008 Objectives: 2.1 Given a scenario, troubleshoot common physical connectivity issues.

#### NEW QUESTION 28

- (Topic 1)

Which of the following technologies provides a failover mechanism for the default gateway?

- A. FHRP
- B. LACP
- C. OSPF
- D. STP

**Answer:** A

#### Explanation:

First Hop Redundancy Protocol (FHRP) provides a failover mechanism for the default gateway, allowing a backup gateway to take over if the primary gateway fails. References: CompTIA Network+ Certification Study Guide, Chapter 4: Infrastructure.

#### NEW QUESTION 30

- (Topic 1)

A network administrator is designing a new datacenter in a different region that will need to communicate to the old datacenter with a secure connection. Which of the following access methods would provide the BEST security for this new datacenter?

- A. Virtual network computing
- B. Secure Socket Shell
- C. In-band connection
- D. Site-to-site VPN

**Answer:** D

#### Explanation:

Site-to-site VPN provides the best security for connecting a new datacenter to an old one because it creates a secure tunnel between the two locations, protecting data in transit. References: CompTIA Network+ Certification Study Guide, Chapter 5: Network Security.

#### NEW QUESTION 33

- (Topic 1)

A workstation is configured with the following network details:

IP address	Subnet mask	Default gateway
10.1.2.23	10.1.2.0/27	10.1.2.1

Software on the workstation needs to send a query to the local subnet broadcast address. To which of the following addresses should the software be configured to send the query?

- A. 10.1.2.0
- B. 10.1.2.1
- C. 10.1.2.23
- D. 10.1.2.255
- E. 10.1.2.31

**Answer:** D

#### Explanation:

The software on the workstation should be configured to send the query to 10.1.2.255, which is the local subnet broadcast address. A broadcast address is a special address that allows a device to send a message to all devices on the same subnet. It is usually derived by setting all the host bits to 1 in the network address. In this case, the network address is 10.1.2.0/27, which has 27 network bits and 5 host bits. By setting all the host bits to 1, we get 10.1.2.31 as the broadcast address in decimal notation, or 10.1.2.255 in dotted decimal notation. References: <https://www.cisco.com/c/en/us/support/docs/ip/routing-information-protocol-rip/13788-3.html>

#### NEW QUESTION 35

- (Topic 1)

A network administrator walks into a datacenter and notices an unknown person is following closely. The administrator stops and directs the person to the security desk. Which of the following attacks did the network administrator prevent?

- A. Evil twin
- B. Tailgating
- C. Piggybacking
- D. Shoulder surfing

**Answer:** B

#### Explanation:

Tailgating is a physical security attack where an unauthorized person follows an authorized person into a restricted area without proper identification or authorization. The network administrator prevented this attack by stopping and directing the person to the security desk. References: CompTIA Network+ Certification Exam Objectives Version 2.0 (Exam Number: N10-006), Domain 3.0 Network Security, Objective 3.1 Compare and contrast risk-related concepts.

#### NEW QUESTION 37

- (Topic 1)

Given the following information:

Protocol	Local address	Foreign address	State
TCP	127.0.0.1:57779	Desktop-Open:57780	Established
TCP	127.0.0.1:57780	Desktop-Open:57779	Established

Which of the following command-line tools would generate this output?

- A. netstat
- B. arp
- C. dig
- D. tracert

**Answer: D**

**Explanation:**

Tracert is a command-line tool that traces the route of a packet from a source to a destination and displays the number of hops and the round-trip time for each hop. The output shown in the question is an example of a tracert output, which shows five hops with their IP addresses and hostnames (if available) and three latency measurements for each hop in milliseconds. References: [https://partners.comptia.org/docs/default-source/resources/comptia-network-n10-008-exam-objectives-\(2-0\)](https://partners.comptia.org/docs/default-source/resources/comptia-network-n10-008-exam-objectives-(2-0)), <https://www.lumen.com/help/en-us/network/traceroute/understanding-the-traceroute-output.html>

**NEW QUESTION 41**

- (Topic 1)

Which of the following can be used to centrally manage credentials for various types of administrative privileges on configured network devices?

- A. SSO
- B. TACACS+
- C. Zero Trust
- D. Separation of duties
- E. Multifactor authentication

**Answer: B**

**Explanation:**

TACACS+ (Terminal Access Controller Access Control System Plus) can be used to centrally manage credentials for various types of administrative privileges on configured network devices. This protocol separates authentication, authorization, and accounting (AAA) functions, providing more granular control over access to network resources.

References:

? Network+ N10-007 Certification Exam Objectives, Objective 4.2: Given a scenario, implement secure network administration principles.

**NEW QUESTION 45**

- (Topic 1)

A network engineer performs the following tasks to increase server bandwidth: Connects two network cables from the server to a switch stack

Configure LACP on the switchports

Verifies the correct configurations on the switch interfaces Which of the following needs to be configured on the server?

- A. Load balancing
- B. Multipathing
- C. NIC teaming
- D. Clustering

**Answer: C**

**Explanation:**

NIC teaming is a technique that combines two or more network interface cards (NICs) on a server into a single logical interface that can increase bandwidth, provide redundancy, and balance traffic. NIC teaming can be configured with different modes and algorithms depending on the desired outcome. Link Aggregation Control Protocol (LACP) is a protocol that enables NIC teaming by dynamically bundling multiple links between two devices into one logical link. References: [https://partners.comptia.org/docs/default-source/resources/comptia-network-n10-008-exam-objectives-\(2-0\)](https://partners.comptia.org/docs/default-source/resources/comptia-network-n10-008-exam-objectives-(2-0)), <https://docs.microsoft.com/en-us/windows-server/networking/technologies/nic-teaming/nic-teaming>

**NEW QUESTION 46**

- (Topic 1)

At which of the following OSI model layers would a technician find an IP header?

- A. Layer 1
- B. Layer 2
- C. Layer 3
- D. Layer 4

**Answer: C**

**Explanation:**

An IP header can be found at the third layer of the OSI model, also known as the network layer. This layer is responsible for logical addressing, routing, and forwarding of data packets.

References:

? CompTIA Network+ Certification Study Guide, Exam N10-007, Fourth Edition, Chapter 2: Network Models, p. 82

**NEW QUESTION 51**

- (Topic 1)

A network technician is installing new software on a Windows-based server in a different geographical location. Which of the following would be BEST for the technician to use to perform this task?

- A. RDP
- B. SSH
- C. FTP
- D. DNS

**Answer:** A

**Explanation:**

RDP (Remote Desktop Protocol) is the best option for a network technician to use when installing new software on a Windows-based server in a different geographical location. This protocol allows the technician to connect to the server remotely and control it as if they were physically present.

References:

? Network+ N10-007 Certification Exam Objectives, Objective 2.2: Given a scenario, implement the appropriate network-based security and troubleshoot common connectivity issues.

**NEW QUESTION 56**

- (Topic 1)

A user tries to ping 192.168.1.100 from the command prompt on the 192.168.2.101 network but gets the following response: U.U.U.U. Which of the following needs to be configured for these networks to reach each other?

- A. Network address translation
- B. Default gateway
- C. Loopback
- D. Routing protocol

**Answer:** B

**Explanation:**

A default gateway is a device that routes traffic from one network to another network, such as the Internet. A default gateway is usually configured on each host device to specify the IP address of the router that connects the host's network to other networks. In this case, the user's device and the destination device are on different networks (192.168.1.0/24 and 192.168.2.0/24), so the user needs to configure a default gateway on their device to reach the destination device.

References: [https://partners.comptia.org/docs/default-source/resources/comptia-network-n10-008-exam-objectives-\(2-0\)](https://partners.comptia.org/docs/default-source/resources/comptia-network-n10-008-exam-objectives-(2-0)),

<https://www.techopedia.com/definition/25761/default-gateway>

**NEW QUESTION 61**

- (Topic 1)

A network is experiencing a number of CRC errors during normal network communication. At which of the following layers of the OSI model will the administrator MOST likely start to troubleshoot?

- A. Layer 1
- B. Layer 2
- C. Layer 3
- D. Layer 4
- E. Layer 5
- F. Layer 6
- G. Layer 7

**Answer:** A

**Explanation:**

CRC errors are cyclic redundancy check errors that occur when data is corrupted during transmission. CRC errors are usually caused by physical layer issues such as faulty cables, connectors, ports, or interference. The network administrator will most likely start to troubleshoot at layer 1 of the OSI model, which is the physical layer that deals with the transmission of bits over a medium. References: CompTIA Network+ Certification Exam Objectives Version 2.0 (Exam Number: N10-006), Domain 4.0 Network Troubleshooting and Tools, Objective 4.1 Given a scenario, implement network troubleshooting methodology.

**NEW QUESTION 64**

- (Topic 1)

A technician is troubleshooting a wireless connectivity issue in a small office located in a high-rise building. Several APs are mounted in this office. The users report that the network connections frequently disconnect and reconnect throughout the day. Which of the following is the MOST likely cause of this issue?

- A. The AP association time is set too low
- B. EIRP needs to be boosted
- C. Channel overlap is occurring
- D. The RSSI is misreported

**Answer:** C

**Explanation:**

Channel overlap is a common cause of wireless connectivity issues, especially in high-density environments where multiple APs are operating on the same or adjacent frequencies. Channel overlap can cause interference, signal degradation, and performance loss for wireless devices. The AP association time, EIRP, and RSSI are not likely to cause frequent disconnects and reconnects for wireless users.

**NEW QUESTION 65**

- (Topic 1)

Access to a datacenter should be individually recorded by a card reader even when multiple employees enter the facility at the same time. Which of the following allows the enforcement of this policy?



- A. Motion detection
- B. Access control vestibules
- C. Smart lockers
- D. Cameras

**Answer:** B

**Explanation:**

The most effective security mechanism against physical intrusions due to stolen credentials would likely be a combination of several of these options. However, of the options provided, the most effective security mechanism would probably be an access control vestibule. An access control vestibule is a secure area that is located between the outer perimeter of a facility and the inner secure area. It is designed to provide an additional layer of security by requiring that individuals pass through a series of security checks before being allowed access to the secure area. This could include biometric authentication, access card readers, and motion detection cameras.

Access control vestibules allow the enforcement of the policy that access to a datacenter should be individually recorded by a card reader even when multiple employees enter the facility at the same time. An access control vestibule is a physical security device that consists of two doors with an interlocking mechanism. Only one door can be opened at a time, and only one person can pass through each door. This prevents tailgating or piggybacking, where unauthorized persons follow authorized persons into a secure area. An access control vestibule can also be integrated with a card reader or other authentication system to record each individual's access. References: <https://www.boonedam.us/blog/what-are-access-control-vestibules>

**NEW QUESTION 66**

- (Topic 1)

A network administrator redesigned the positioning of the APs to create adjacent areas of wireless coverage. After project validation, some users still report poor connectivity when their devices maintain an association to a distanced AP. Which of the following should the network administrator check FIRST?

- A. Validate the roaming settings on the APs and WLAN clients
- B. Verify that the AP antenna type is correct for the new layout
- C. Check to see if MU-MIMO was properly activated on the APs
- D. Deactivate the 2.4GHz band on the APS

**Answer:** A

**Explanation:**

The network administrator should check the roaming settings on the APs and WLAN clients first. Roaming is the process of switching from one AP to another without losing connectivity. If the roaming settings are not configured properly, some users may experience poor connectivity when their devices stay connected to a distant AP instead of switching to a closer one. References: <https://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-lan-wlan/82068-roam-faq.html>

**NEW QUESTION 70**

- (Topic 1)

An IT director is setting up new disaster and HA policies for a company. Limited downtime is critical to operations. To meet corporate requirements, the director set up two different datacenters across the country that will stay current on data and applications. In the event of an outage, the company can immediately switch from one datacenter to another. Which of the following does this BEST describe?

- A. A warm site
- B. Data mirroring
- C. Multipathing
- D. Load balancing
- E. A hot site

**Answer:** E

**Explanation:**

A hot site is a fully redundant site that can take over operations immediately if the primary site goes down. In this scenario, the company has set up two different datacenters across the country that are current on data and applications, and they can immediately switch from one datacenter to another in case of an outage.

References:

? Network+ N10-008 Objectives: 1.5 Compare and contrast disaster recovery concepts and methodologies.

**NEW QUESTION 75**

- (Topic 1)

A fiber link connecting two campus networks is broken. Which of the following tools should an engineer use to detect the exact break point of the fiber link?

- A. OTDR
- B. Tone generator
- C. Fusion splicer
- D. Cable tester
- E. PoE injector

**Answer:** A

**Explanation:**

To detect the exact break point of a fiber link, an engineer should use an OTDR (Optical Time Domain Reflectometer). This device sends a series of pulses into the fiber, measuring the time it takes for the pulses to reflect back, and can pinpoint the exact location of the break.

References:

? Network+ N10-007 Certification Exam Objectives, Objective 2.5: Given a scenario, troubleshoot copper cable issues.

? FS: OTDR (Optical Time Domain Reflectometer) Testing Principle and Applications

**NEW QUESTION 77**

- (Topic 1)

A technician is installing multiple UPS units in a major retail store. The technician is required to keep track of all changes to new and old equipment. Which of the

following will allow the technician to record these changes?

- A. Asset tags
- B. A smart locker
- C. An access control vestibule
- D. A camera

**Answer:** A

**Explanation:**

Asset tags will allow the technician to record changes to new and old equipment when installing multiple UPS units in a major retail store. Asset tags are labels or stickers that are attached to physical assets such as computers, printers, servers, or UPS units. They usually contain information such as asset name, serial number, barcode, QR code, or RFID chip that can be scanned or read by an asset management system or software. Asset tags help track inventory, location, status, maintenance, and ownership of assets. References: <https://www.camcode.com/asset-tags/asset-tagging-guide/>

**NEW QUESTION 80**

- (Topic 1)

Which of the following connector types would have the MOST flexibility?

- A. SFP
- B. BNC
- C. LC
- D. RJ45

**Answer:** A

**Explanation:**

SFP (Small Form-factor Pluggable) is a connector type that has the most flexibility. It is a hot-swappable transceiver that can support different speeds, distances, and media types depending on the module inserted. It can be used for both copper and fiber connections and supports various protocols such as Ethernet, Fibre Channel, and SONET. References: <https://www.fs.com/what-is-sfp-transceiver-aid-11.html>

**NEW QUESTION 85**

- (Topic 2)

A technician is implementing a new wireless network to serve guests at a local office. The network needs to provide Internet access but disallow associated stations from communicating with each other. Which of the following would BEST accomplish this requirement?

- A. Wireless client isolation
- B. Port security
- C. Device geofencing
- D. DHCP snooping

**Answer:** A

**Explanation:**

Wireless client isolation is a feature on wireless routers that limits the connectivity between wireless devices connected to the same network. It prevents them from accessing resources on other wireless or wired devices, as a security measure to reduce attacks and threats. This feature can be useful for guest and BYOD SSIDs, but it can also be disabled on the router's settings. References: <https://www.howtogeek.com/179089/lock-down-your-wi-fi-network-with-your-routers-wireless-isolation-option/>

**NEW QUESTION 90**

- (Topic 2)

A network administrator is configuring a database server and would like to ensure the database engine is listening on a certain port. Which of the following commands should the administrator use to accomplish this goal?

- A. nslookup
- B. netstat -a
- C. ipconfig /a
- D. arp -a

**Answer:** B

**Explanation:**

netstat -a is a command that displays information about active TCP connections and listening ports on a system. A network administrator can use netstat -a to check if the database engine is listening on a certain port, as well as verify if there are any connections established to or from that port. References: <https://www.comptia.org/blog/what-is-netstat>

**NEW QUESTION 92**

- (Topic 2)

Which of the following services can provide data storage, hardware options, and scalability to a third-party company that cannot afford new devices?

- A. SaaS
- B. IaaS
- C. PaaS
- D. DaaS

**Answer:** B

**Explanation:**

IaaS stands for Infrastructure as a Service, which is a cloud computing model that provides virtualized computing resources such as servers, storage, and networking over the Internet. IaaS can provide data storage, hardware options, and scalability to a third-party company that cannot afford new devices by allowing them to rent or lease the infrastructure they need from a cloud provider. The company can pay only for what they use and scale up or down as needed.

References: <https://www.comptia.org/blog/what-is-iaas>

### NEW QUESTION 93

- (Topic 2)

A wireless network was installed in a warehouse for employees to scan crates with a wireless handheld scanner. The wireless network was placed in the corner of the building near the ceiling for maximum coverage. However, users in the offices adjacent to the warehouse have noticed a large amount of signal overlap from the new network. Additionally, warehouse employees report difficulty connecting to the wireless network from the other side of the building; however, they have no issues when they are near the antenna. Which of the following is MOST likely the cause?

- A. The wireless signal is being refracted by the warehouse's windows.
- B. The antenna's power level was set too high and is overlapping.
- C. An omnidirectional antenna was used instead of a unidirectional antenna.
- D. The wireless access points are using channels from the 5GHz spectrum.

**Answer:** C

#### Explanation:

An omnidirectional antenna was used instead of a unidirectional antenna, which is most likely the cause of the wireless network issues. An omnidirectional antenna provides wireless coverage in all directions from the antenna, which can cause signal overlap with adjacent offices and interference with other wireless networks. A unidirectional antenna, on the other hand, provides wireless coverage in a specific direction from the antenna, which can reduce signal overlap and interference and increase signal range and quality. A unidirectional antenna would be more suitable for a warehouse environment where users are located on one side of the building<sup>1</sup>. References: <https://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-lan-wlan/82068-omni-vs-direct.html> 1

### NEW QUESTION 98

- (Topic 2)

A firewall administrator is implementing a rule that directs HTTP traffic to an internal server listening on a non-standard socket. Which of the following types of rules is the administrator implementing?

- A. NAT
- B. PAT
- C. STP
- D. SNAT
- E. ARP

**Answer:** B

#### Explanation:

The firewall administrator is implementing a PAT (Port Address Translation) rule that directs HTTP traffic to an internal server listening on a non-standard socket. PAT is a type of NAT (Network Address Translation) that allows multiple devices to share a single public IP address by using different port numbers. PAT can also be used to redirect traffic from one port to another port on the same or different IP address. This can be useful for security or load balancing purposes. For example, a firewall administrator can configure a PAT rule that redirects HTTP traffic (port 80) from the public IP address of the firewall to an internal server that listens on a non-standard port (such as 8080) on its private IP address. References: <https://www.cisco.com/c/en/us/support/docs/ip/network-address-translation-nat/13772-12.html>

### NEW QUESTION 103

- (Topic 2)

A SaaS provider has decided to leave an unpatched VM available via a public DMZ port. With which of the following concepts is this technique MOST closely associated?

- A. Insider threat
- B. War driving
- C. Evil twin
- D. Honeypot

**Answer:** D

#### Explanation:

A honeypot is a decoy system that is intentionally left vulnerable or exposed to attract attackers and divert them from the real targets. A honeypot can also be used to collect information about the attackers' techniques and motives. In the scenario, the SaaS provider has left an unpatched VM available via a public DMZ port, which could be a honeypot technique to lure attackers and monitor their activities. References: <https://www.comptia.org/blog/what-is-a-honeypot>

### NEW QUESTION 106

- (Topic 2)

There are two managed legacy switches running that cannot be replaced or upgraded. These switches do not support cryptographic functions, but they are password protected. Which of the following should a network administrator configure to BEST prevent unauthorized access?

- A. Enable a management access list.
- B. Disable access to unnecessary services.
- C. Configure a stronger password for access.
- D. Disable access to remote management.
- E. Use an out-of-band access method.

**Answer:** E

#### Explanation:

Using an out-of-band access method is the best way to prevent unauthorized access to the legacy switches that do not support cryptographic functions. Out-of-

band access is a method of accessing a network device through a dedicated channel that is separate from the main network traffic. Out-of-band access can use physical connections such as serial console ports or dial-up modems, or logical connections such as VPNs or firewalls. Out-of-band access provides more security and reliability than in-band access, which uses the same network as the data traffic and may be vulnerable to attacks or failures. References: <https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/fundamentals/configuration/15mt/fundamentals-15-mt-book/cf-out-band-mgmt.html>

#### NEW QUESTION 107

- (Topic 2)

A city has hired a new employee who needs to be able to work when traveling at home and at the municipal sourcing of a neighboring city that snares services. The employee is issued a laptop, and a technician needs to train the employee on the appropriate solutions for secure access to the network from all the possible locations On which of the following solutions would the technician MOST likely train the employee?

- A. Site-to-site VPNs between the two city locations and client-to-site software on the employee's laptop for all other remote access
- B. Client-to-site VPNs between the travel locations and site-to-site software on the employee's laptop for all other remote access
- C. Client-to-site VPNs between the two city locations and site-to-site software on the employee's laptop for all other remote access
- D. Site-to-site VPNs between the home and city locations and site-to-site software on the employee's laptop for all other remote access

**Answer:** A

#### Explanation:

The technician would most likely train the employee on using site-to-site VPNs between the two city locations and client-to-site software on the employee's laptop for all other remote access. A VPN (Virtual Private Network) is a technology that creates a secure and encrypted tunnel over a public network such as the Internet. It allows remote users or sites to access a private network as if they were directly connected to it. A site-to-site VPN connects two or more networks, such as branch offices or data centers, using a VPN gateway device at each site. A client-to-site VPN connects individual users, such as mobile workers or telecommuters, using a VPN client software on their devices. In this scenario, the employee needs to access the network from different locations, such as home, travel, or another city. Therefore, the technician would train the employee on how to use site-to-site VPNs to connect to the network from another city location that shares services, and how to use client-to-site software to connect to the network from home or travel locations. References: <https://www.cisco.com/c/en/us/support/docs/security-vpn/ipsec-negotiation-ike-protocols/14106-how-vpn-works.html>

#### NEW QUESTION 112

- (Topic 2)

A network technician needs to correlate security events to analyze a suspected intrusion. Which of the following should the technician use?

- A. SNMP
- B. Log review
- C. Vulnerability scanning
- D. SIEM

**Answer:** D

#### Explanation:

SIEM stands for Security Information and Event Management, which is a tool that collects, analyzes, and correlates data from various network devices and sources to provide alerts and reports on security incidents and events. A network technician can use SIEM to correlate security events to analyze a suspected intrusion, as SIEM can help identify the source, target, method, and impact of an attack, as well as provide recommendations for remediation. References: <https://www.comptia.org/blog/what-is-siem>

#### NEW QUESTION 116

- (Topic 2)

A network engineer is designing a new secure wireless network. The engineer has been given the following requirements:

- \* 1 Must not use plaintext passwords
- \* 2 Must be certificate based
- \* 3. Must be vendor neutral

Which of the following methods should the engineer select?

- A. TWP-RC4
- B. CCMP-AES
- C. EAP-TLS
- D. WPA2

**Answer:** C

#### Explanation:

EAP-TLS is the method that should be selected to meet the requirements for designing a new secure wireless network. EAP-TLS (Extensible Authentication Protocol - Transport Layer Security) is an authentication protocol that uses X.509 digital certificates for both clients and servers. It provides strong security and mutual authentication by using TLS encryption and public key cryptography. It does not use plaintext passwords or shared secrets that can be compromised or guessed. It is also an open standard that is vendor neutral and supported by most wireless devices<sup>1</sup>. References: <https://www.securew2.com/blog/what-is-eap-tls>  
1

#### NEW QUESTION 121

- (Topic 2)

A user reports a weak signal when walking 20ft (61 m) away from the WAP in one direction, but a strong signal when walking 20ft in the opposite direction The technician has reviewed the configuration and confirmed the channel type is correct There is no jitter or latency on the connection Which of the following would be the MOST likely cause of the issue?

- A. Antenna type
- B. Power levels
- C. Frequency
- D. Encryption type

**Answer:** A



**Explanation:**

The antenna type affects the signal strength and coverage of a WAP. Different types of antennas have different radiation patterns and gain, which determine how far and wide the signal can reach. If the user experiences a weak signal in one direction but a strong signal in the opposite direction, it could mean that the antenna type is not suitable for the desired coverage area. The technician should consider changing the antenna type to one that has a more balanced or directional radiation pattern. References: <https://community.cisco.com/t5/wireless-small-business/wap200-poor-signal-strength/td-p/1565796>

**NEW QUESTION 125**

- (Topic 2)

An organization with one core and five distribution switches is transitioning from a star to a full-mesh topology. Which of the following is the number of additional network connections needed?

- A. 5
- B. 7
- C. 10
- D. 15

**Answer: C**

**Explanation:**

10 additional network connections are needed to transition from a star to a full-mesh topology. A star topology is a network topology where each device is connected to a central device, such as a switch or a hub. A full-mesh topology is a network topology where each device is directly connected to every other device. The number of connections needed for a full-mesh topology can be calculated by the formula  $n(n-1)/2$ , where  $n$  is the number of devices. In this case, there are six devices (one core and five distribution switches), so the number of connections needed for a full-mesh topology is  $6(6-1)/2 = 15$ . Since there are already five connections in the star topology (one from each distribution switch to the core switch), the number of additional connections needed is  $15 - 5 = 10$ . References: <https://www.cisco.com/c/en/us/support/docs/ip/routing-information-protocol-rip/13788-3.html>

**NEW QUESTION 129**

- (Topic 2)

A company wants to implement a large number of WAPs throughout its building and allow users to be able to move around the building without dropping their connections. Which of the following pieces of equipment would be able to handle this requirement?

- A. A VPN concentrator
- B. A load balancer
- C. A wireless controller
- D. A RADIUS server

**Answer: C**

**Explanation:**

A wireless controller would be able to handle the requirement of implementing a large number of WAPs throughout the building and allowing users to move around without dropping their connections. A wireless controller is a device that centrally manages and configures multiple wireless access points (WAPs) on a network. It can provide features such as load balancing, roaming, security, QoS, and monitoring for the wireless network. A wireless controller can also support wireless mesh networks, where some WAPs act as relays for other WAPs to extend the wireless coverage. References: <https://www.cisco.com/c/en/us/products/wireless/wireless-lan-controller/index.html>

**NEW QUESTION 130**

- (Topic 2)

A network requirement calls for segmenting departments into different networks. The campus network is set up with users of each department in multiple buildings. Which of the following should be configured to keep the design simple and efficient?

- A. MDIX
- B. Jumbo frames
- C. Port tagging
- D. Flow control

**Answer: C**

**Explanation:**

Port tagging is a technique that involves adding a tag or identifier to the frames or packets that belong to a certain VLAN. A VLAN is a logical segment of a network that isolates traffic between different groups of devices. Port tagging allows devices on different physical ports or switches to communicate with each other as if they were on the same port or switch. Port tagging can help keep the design simple and efficient by reducing the number of physical ports and switches needed to segment departments into different networks. References: <https://www.comptia.org/blog/what-is-port-tagging>

**NEW QUESTION 135**

- (Topic 2)

A client moving into a new office wants the IP network set up to accommodate 412 network-connected devices that are all on the same subnet. The subnet needs to be as small as possible. Which of the following subnet masks should be used to achieve the required result?

- A. 255.255.0.0
- B. 255.255.252.0
- C. 255.255.254.0
- D. 255.255.255.0

**Answer: B**

**Explanation:**

255.255.252.0 is a subnet mask that allows for 1022 network-connected devices on the same subnet, which is the smallest subnet that can accommodate 412 devices. The subnet mask determines how many bits are used for the network portion and how many bits are used for the host portion of an IP address. A smaller subnet mask means more bits are used for the network portion and less bits are used for the host portion, which reduces the number of available hosts on the



subnet. 255.255.0.0 allows for 65534 hosts on the same subnet, which is too large. 255.255.254.0 allows for 510 hosts on the same subnet, which is also too large. 255.255.255.0 allows for 254 hosts on the same subnet, which is too small.

#### NEW QUESTION 140

- (Topic 2)

A Chief Information Officer (CIO) wants to improve the availability of a company's SQL database. Which of the following technologies should be utilized to achieve maximum availability?

- A. Clustering
- B. Port aggregation
- C. NIC teaming
- D. Snapshots

**Answer:** A

#### Explanation:

Clustering is a technique that involves grouping multiple servers or instances together to provide high availability and fault tolerance for a database. Clustering can help improve the availability of a SQL database by allowing automatic failover and load balancing between the cluster nodes. If one node fails or becomes overloaded, another node can take over the database operations without disrupting the service. References: <https://www.educba.com/sql-cluster/>

#### NEW QUESTION 143

- (Topic 2)

A network administrator needs to implement an HDMI over IP solution. Which of the following will the network administrator MOST likely use to ensure smooth video delivery?

- A. Link aggregation control
- B. Port tagging
- C. Jumbo frames
- D. Media access control

**Answer:** C

#### Explanation:

Giants are packets that exceed the configured MTU (Maximum Transmission Unit) of a switchport or interface, which causes them to be dropped or fragmented by the switch or router. The MTU is the maximum size of a packet that can be transmitted without fragmentation on a given medium or protocol. Giants can indicate misconfiguration or mismatch of MTU values between devices or interfaces on a network, which can cause performance issues or errors. CRC errors are errors that occur when the cyclic redundancy check (CRC) value of a packet does not match the calculated CRC value at the destination, which indicates corruption or alteration of data during transmission due to noise, interference, faulty cabling, etc., but not necessarily exceeding MTU values. Runts are packets that are smaller than the minimum size allowed by the medium or protocol, which causes them to be dropped or ignored by the switch or router. Flooding is a technique where a switch sends packets to all ports except the source port when it does not have an entry for the destination MAC address in its MAC address table, which can cause congestion or broadcast storms on a network.

#### NEW QUESTION 146

- (Topic 2)

A network administrator decided to use SLAAC in an extensive IPv6 deployment to alleviate IP address management. The devices were properly connected into the LAN but autoconfiguration of the IP address did not occur as expected. Which of the following should the network administrator verify?

- A. The network gateway is configured to send router advertisements.
- B. A DHCP server is present on the same broadcast domain as the clients.
- C. The devices support dual stack on the network layer.
- D. The local gateway supports anycast routing.

**Answer:** A

#### Explanation:

SLAAC (Stateless Address Autoconfiguration) is a method for IPv6 devices to automatically configure their IP addresses based on the network prefix advertised by a router. The router sends periodic router advertisements (RAs) that contain the network prefix and other parameters for the devices to use. If the network gateway is not configured to send RAs, then SLAAC will not work. A DHCP server is not needed for SLAAC, as the devices generate their own addresses without relying on a server. Dual stack and anycast routing are not related to SLAAC.

#### NEW QUESTION 150

- (Topic 2)

A network field technician is installing and configuring a secure wireless network. The technician performs a site survey. Which of the following documents would MOST likely be created as a result of the site survey?

- A. Physical diagram
- B. Heat map
- C. Asset list
- D. Device map

**Answer:** B

#### Explanation:

A heat map would most likely be created as a result of the site survey. A heat map is a graphical representation of the wireless signal strength and coverage in a given area. It can show the location of APs, antennas, walls, obstacles, interference sources, and dead zones. It can help with planning, optimizing, and troubleshooting wireless networks. References: <https://www.netspotapp.com/what-is-a-wifi-heatmap.html>

#### NEW QUESTION 152

- (Topic 2)

A network technician is configuring a new firewall for a company with the necessary access requirements to be allowed through the firewall. Which of the following would normally be applied as the LAST rule in the firewall?

- A. Secure SNMP
- B. Port security
- C. Implicit deny
- D. DHCP snooping

**Answer: C**

**Explanation:**

Implicit deny is a firewall rule that blocks all traffic that is not explicitly allowed by other rules. Implicit deny is usually applied as the last rule in the firewall to ensure that only the necessary access requirements are allowed through the firewall and that any unwanted or malicious traffic is rejected. Implicit deny can also provide a default security policy and a baseline for auditing and logging purposes.

Secure SNMP is a protocol that allows network devices to send event messages to a centralized server or console for logging and analysis. Secure SNMP can be used to monitor and manage the status, performance, and configuration of network devices. Secure SNMP can also help to detect and respond to potential problems or faults on the network. However, secure SNMP is not a firewall rule; it is a network management protocol.

Port security is a feature that allows a switch to restrict the devices that can connect to a specific port based on their MAC addresses. Port security can help to prevent unauthorized access, spoofing, or MAC flooding attacks on the switch. However, port security is not a firewall rule; it is a switch feature.

DHCP snooping is a feature that allows a switch to filter DHCP messages and prevent rogue DHCP servers from assigning IP addresses to devices on the network. DHCP snooping can help to prevent IP address conflicts, spoofing, or denial-of-service attacks on the network. However, DHCP snooping is not a firewall rule; it is a switch feature.

**NEW QUESTION 153**

- (Topic 2)

A network technician is observing the behavior of an unmanaged switch when a new device is added to the network and transmits data. Which of the following BEST describes how the switch processes this information?

- A. The data is flooded out of every port
- B. including the one on which it came in.
- C. The data is flooded out of every port but only in the VLAN where it is located.
- D. The data is flooded out of every port, except the one on which it came in
- E. The data is flooded out of every port, excluding the VLAN where it is located

**Answer: C**

**Explanation:**

The switch processes the data by flooding it out of every port, except the one on which it came in. Flooding is a process where a switch sends a data frame to all ports except the source port when it does not have an entry for the destination MAC address in its MAC address table. Flooding allows the switch to learn the MAC addresses of the devices connected to its ports and update its MAC address table accordingly. Flooding also ensures that the data frame reaches its intended destination, even if the switch does not know its location. References: <https://www.cisco.com/c/en/us/support/docs/lan-switching/spanning-tree-protocol/10556-16.html>

**NEW QUESTION 154**

- (Topic 2)

An IDS was installed behind the edge firewall after a network was breached. The network was then breached again even though the IDS logged the attack. Which of the following should be used in place of these devices to prevent future attacks?

- A. A network tap
- B. A proxy server
- C. A UTM appliance
- D. A content filter

**Answer: C**

**Explanation:**

A UTM appliance stands for Unified Threat Management appliance, which is a device that combines multiple security functions into one solution. A UTM appliance can provide firewall, IDS/IPS, antivirus, VPN, web filtering, and other security features. A network technician can use a UTM appliance in place of an edge firewall and an IDS to prevent future attacks, as a UTM appliance can block malicious traffic and detect and respond to intrusions more effectively. References: <https://www.comptia.org/blog/what-is-utm>

**NEW QUESTION 156**

- (Topic 2)

Which of the following security devices would be BEST to use to provide mechanical access control to the MDF/IDF?

- A. A smart card
- B. A key fob
- C. An employee badge
- D. A door lock

**Answer: D**

**Explanation:**

A door lock would be the best security device to use to provide mechanical access control to the MDF/IDF. A door lock is a device that prevents unauthorized access to a physical area by requiring a key, a code, a card, a biometric scan, or a combination of these factors to open it. A door lock can provide mechanical access control to the MDF/IDF, which are rooms that house network equipment such as switches, routers, servers, or patch panels. A door lock can prevent unauthorized persons from tampering with or stealing the network equipment or data. References:

[https://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Data\\_Center/DC\\_Infra2\\_5/DCIn fra\\_6.html](https://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Data_Center/DC_Infra2_5/DCIn fra_6.html)

#### NEW QUESTION 160

- (Topic 2)

A small, family-run business uses a single SOHO router to provide Internet and WiFi to its

employees. At the start of a new week, employees come in and find their usual WiFi network is no longer available, and there is a new wireless network to which they cannot connect. Given that information, which of the following should have been done to avoid this situation?

- A. The device firmware should have been kept current.
- B. Unsecure protocols should have been disabled.
- C. Parental controls should have been enabled
- D. The default credentials should have been changed

**Answer: D**

#### Explanation:

The default credentials are the username and password that come with a device or service when it is first installed or configured. They are often easy to guess or find online, which makes them vulnerable to unauthorized access or attacks. The default credentials should be changed to something unique and strong as soon as possible to avoid this situation. If the default credentials were not changed, someone could have accessed the SOHO router and changed the WiFi settings without the employees' knowledge. References: <https://www.comptia.org/blog/network-security-basics-6-easy-ways-to-protect-your-network>

#### NEW QUESTION 162

- (Topic 2)

A user recently made changes to a PC that caused it to be unable to access websites by both FQDN and IP. Local resources, such as the file server, remain accessible. Which of the following settings did the user MOST likely misconfigure?

- A. Static IP
- B. Default gateway
- C. DNS entries
- D. Local host file

**Answer: B**

#### Explanation:

The default gateway is the setting that the user most likely misconfigured on the PC that caused it to be unable to access websites by both FQDN and IP. The default gateway is a device, usually a router or a firewall, that connects a local network to other networks such as the Internet. It acts as an intermediary between devices on different networks and forwards packets based on their destination IP addresses. If the default gateway is not configured correctly on a PC, it will not be able to communicate with devices outside its local network, such as web servers or DNS servers. References:

<https://www.cisco.com/c/en/us/support/docs/ip/routing-information-protocol-rip/16448-default-gateway.html>

#### NEW QUESTION 164

- (Topic 2)

A network administrator wants to analyze attacks directed toward the company's network. Which of the following must the network administrator implement to assist in this goal?

- A. A honeypot
- B. Network segmentation
- C. Antivirus
- D. A screened subnet

**Answer: A**

#### Explanation:

A honeypot is a decoy system that is intentionally left vulnerable or exposed to attract attackers and divert them from the real targets. A honeypot can also be used to collect information about the attackers' techniques and motives. A network administrator can implement a honeypot to analyze attacks directed toward the company's network, as a honeypot can help identify the source, target, method, and impact of an attack, as well as provide recommendations for remediation.

References: <https://www.comptia.org/blog/what-is-a-honeypot>

#### NEW QUESTION 165

- (Topic 2)

An ARP request is broadcasted and sends the following request. "Who is 192.168.1.200?"

Tell 192.168.1.55"

At which of the following layers of the OSI model does this request operate?

- A. Application
- B. Data link
- C. Transport
- D. Network
- E. Session

**Answer: B**

#### Explanation:

An ARP request operates at the data link layer of the OSI model. ARP (Address Resolution Protocol) is a protocol that maps IP addresses to MAC addresses on a local area network. It allows devices to communicate with each other without knowing their MAC addresses beforehand. ARP operates at the data link layer (layer 2) of the OSI model, which is responsible for framing and addressing data packets on a physical medium. References:

<https://www.cisco.com/c/en/us/support/docs/ip/routing-information-protocol-rip/13788-3.html>

#### NEW QUESTION 169

- (Topic 2)

A corporation has a critical system that would cause unrecoverable damage to the brand if it was taken offline. Which of the following disaster recovery solutions

should the corporation implement?

- A. Full backups
- B. Load balancing
- C. Hot site
- D. Snapshots

**Answer:** C

**Explanation:**

A hot site is the disaster recovery solution that the corporation should implement for its critical system that would cause unrecoverable damage to the brand if it was taken offline. A hot site is a fully operational backup site that can take over the primary site's functions in case of a disaster or disruption. A hot site has all the necessary hardware, software, data, network connections, and personnel to resume normal operations with minimal downtime. A hot site is suitable for systems that require high availability and cannot afford any data loss or interruption. References: <https://www.enterprisestorageforum.com/management/disaster-recovery-site/> 1

**NEW QUESTION 172**

- (Topic 2)

A network technician is installing an analog desk phone for a new receptionist. After running a new phone line, the technician now needs to crimp on a new connector. Which of the following connectors would MOST likely be used in this case?

- A. DB9
- B. RJ11
- C. RJ45
- D. DB25

**Answer:** B

**Explanation:**

RJ11 is a type of connector that is commonly used for analog phone lines. RJ11 has four wires and six positions, but only two or four of them are used. A technician can crimp an RJ11 connector to a new phone line to install an analog desk phone for a new receptionist. References: <https://www.comptia.org/blog/what-is-rj11>

**NEW QUESTION 177**

- (Topic 2)

Which of the following uses the destination IP address to forward packets?

- A. A bridge
- B. A Layer 2 switch
- C. A router
- D. A repeater

**Answer:** C

**Explanation:**

A router is a device that uses the destination IP address to forward packets between different networks. A bridge and a Layer 2 switch operate at the data link layer and use MAC addresses to forward frames within the same network. A repeater is a device that amplifies or regenerates signals at the physical layer.

**NEW QUESTION 180**

- (Topic 3)

A network administrator notices excessive wireless traffic occurring on an access point after normal business hours. The access point is located on an exterior wall. Which of the following should the administrator do to limit wireless access outside the building?

- A. Set up a private VLAN.
- B. Disable roaming on the WAP.
- C. Change to a directional antenna.
- D. Stop broadcasting of the SSID.

**Answer:** C

**Explanation:**

A directional antenna is a type of antenna that radiates or receives radio waves in a specific direction. This can help limit wireless access outside the building by focusing the signal towards the intended area and reducing the signal strength in other directions. A private VLAN is a feature that isolates network devices within a VLAN. Disabling roaming on the WAP prevents wireless clients from switching to another WAP when the signal is weak. Stopping broadcasting of the SSID hides the network name from wireless clients, but does not prevent them from connecting if they know the SSID. References: CompTIA Network+ Certification Exam Objectives Version 7.0 (N10-007), Objective 3.1: Given a scenario, install and configure wireless LAN infrastructure and implement the appropriate technologies in support of wireless capable devices.

**NEW QUESTION 183**

- (Topic 3)

A network technician is configuring a wireless access point and wants to only allow company-owned devices to associate with the network. The access point uses PSKs, and a network authentication system does not exist on the network. Which of the following should the technician implement?

- A. Captive portal
- B. Guest network isolation
- C. MAC filtering
- D. Geofencing



**Answer:** C

**Explanation:**

MAC filtering is a method of allowing only company-owned devices to associate with the network by using their MAC addresses as identifiers. A MAC address is a unique identifier assigned to each network interface card (NIC) by the manufacturer. MAC filtering can be configured on the wireless access point to allow or deny access based on the MAC address of the device. This way, only devices with known MAC addresses can connect to the network. References:  
<https://www.comptia.org/training/books/network-n10-008-study-guide> (page 323)

**NEW QUESTION 184**

- (Topic 3)

A WAN technician reviews activity and identifies newly installed hardware that is causing outages over an eight-hour period. Which of the following should be considered FIRST?

- A. Network performance baselines
- B. VLAN assignments
- C. Routing table
- D. Device configuration review

**Answer:** D

**Explanation:**

The most likely cause of outages due to newly installed hardware is a misconfiguration of the device settings. Therefore, the first step should be to review the device configuration and check for any errors or inconsistencies that might affect the WAN connectivity. References: Network+ Study Guide Objective 2.1: Explain the importance of network documentation.

**NEW QUESTION 185**

- (Topic 3)

A technician is working on a ticket for a user in the human resources department who received a new PC that does not connect to the internet. All users in human resources can access the internet. The technician can ping the PC from the human resources router but not from the IT network. Which of the following is the most likely cause of the issue?

- A. Duplicate IP address
- B. Misconfigured RIP
- C. Improper VLAN assignment
- D. Incorrect default gateway

**Answer:** D

**Explanation:**

An incorrect default gateway can cause a PC to not connect to the internet, because the default gateway is the device that routes traffic from the local network to other networks. If the PC has a wrong default gateway configured, it may not be able to reach the internet router or the IT network router. The technician can ping the PC from the human resources router because they are on the same local network, but not from the IT network router because they are on different networks. A duplicate IP address can cause a PC to not communicate with other devices on the same network, because the IP address is the unique identifier of a device on a network. If two devices have the same IP address, they may cause IP conflicts and packet loss. However, a duplicate IP address would not prevent the technician from pinging the PC from the human resources router, because they are on the same network.

A misconfigured RIP can cause a router to not learn or advertise routes to other networks, because RIP is a routing protocol that dynamically exchanges routing information between routers. If a router has a wrong RIP configuration, it may not be able to reach or share routes with other routers. However, a misconfigured RIP would not affect the PC's connectivity to the internet, because the PC does not use RIP.

An improper VLAN assignment can cause a PC to not communicate with other devices on the same or different networks, because a VLAN is a logical segmentation of a network that isolates traffic based on criteria such as function, security, or performance. If a PC is assigned to a wrong VLAN, it may not be able to access the resources or services that it needs. However, an improper VLAN assignment would not prevent the technician from pinging the PC from the human resources router, because they are on the same physical network.

References

What is a Default Gateway?

What's an IP Conflict and How Do You Resolve It? What is RIP (Routing Information Protocol)?

What is a VLAN? How to Set Up a VLAN Network

CompTIA Network+ Certification All-in-One Exam Guide, Eighth Edition (Exam N10-008)

**NEW QUESTION 187**

- (Topic 3)

Which of the following describes traffic going in and out of a data center from the internet?

- A. Demarcation point
- B. North-South
- C. Fibre Channel
- D. Spine and leaf

**Answer:** B

**NEW QUESTION 188**

- (Topic 3)

A malicious user is using special software to perform an on-path attack. Which of the following best practices should be configured to mitigate this threat?

- A. Dynamic ARP inspection
- B. Role-based access
- C. Control plane policing
- D. MAC filtering

**Answer:** A



#### NEW QUESTION 189

- (Topic 3)

A technician is investigating why a PC cannot reach a file server with the IP address 192.168.8.129. Given the following TCP/IP network configuration:

Link-local IPv6 address	fe80::28e4:a7cc:a55e:4bea
IPv4 address	192.168.8.105
Subnet mask	255.255.255.128
Default gateway	192.168.8.1

Which of the following configurations on the PC is incorrect?

- A. Subnet mask
- B. IPv4 address
- C. Default gateway
- D. IPv6 address

**Answer:** C

#### Explanation:

The default gateway is the IP address of the router that connects the PC to other networks. The default gateway should be on the same subnet as the PC's IPv4 address. However, in this case, the default gateway is 192.168.9.1, which is on a different subnet than the PC's IPv4 address of 192.168.8.15. Therefore, the default gateway configuration on the PC is incorrect and prevents the PC from reaching the file server on another subnet.

#### NEW QUESTION 193

- (Topic 3)

A wireless technician is working to upgrade the wireless infrastructure for a company. The company currently uses the 802.11g wireless standard on all access points. The company requires backward compatibility and is requesting the least expensive solution. Which of the following should the technician recommend to the company?

- A. 802.11a
- B. 802.11ac
- C. 802Hax
- D. 802.11n

**Answer:** D

#### Explanation:

\* 802.11n is a wireless standard that supports data rates up to 600 Mbps and operates in both 2.4 GHz and 5 GHz frequency bands. 802.11n is backward compatible with 802.11g, which operates only in 2.4 GHz band. 802.11n is the least expensive solution that can upgrade the wireless infrastructure for the company, as it does not require replacing all the access points or wireless devices

#### NEW QUESTION 197

- (Topic 3)

A network administrator needs to monitor traffic on a specific port on a switch. Which of the following should the administrator configure to accomplish the task?

- A. Port security
- B. Port tagging
- C. Port mirroring
- D. Media access control

**Answer:** C

#### Explanation:

Port mirroring is a technique that allows a network administrator to monitor the traffic on a specific port on a switch by sending a copy of the packets seen on that port to another port where a monitoring device is connected<sup>1</sup>. Port mirroring can be used to analyze and debug data, diagnose errors, or perform security audits on the network without affecting the normal operation of the switch

#### NEW QUESTION 202

- (Topic 3)

Which of the following is a security flaw in an application or network?

- A. A threat
- B. A vulnerability
- C. An exploit
- D. A risk

**Answer:** B

#### Explanation:

A vulnerability is a security flaw in an application or network that can be exploited by an attacker, allowing them to gain access to sensitive data or take control of the system. Vulnerabilities can range from weak authentication methods to unpatched software, allowing attackers to gain access to the system or data they would not otherwise be able to access. Exploits are programs or techniques used to take advantage of vulnerabilities, while threats are potential dangers, and risks are the likelihood of a threat becoming a reality.

#### NEW QUESTION 205

- (Topic 3)

A network administrator is preparing new switches that will be deployed to support a network extension project. The lead network engineer has already provided

documentation to ensure the switches are set up properly Which of the following did the engineer most likely provide?

- A. Physical network diagram
- B. Site survey reports
- C. Baseline configurations
- D. Logical network diagram

**Answer: C**

**Explanation:**

Baseline configurations are the standard settings and parameters that are applied to network devices, such as switches, routers, firewalls, etc., to ensure consistent performance, security, and functionality across the network. Baseline configurations can include aspects such as IP addresses, VLANs, passwords, protocols, access lists, firmware versions, etc. Baseline configurations are usually documented and updated regularly to reflect any changes or modifications made to the network devices.

The lead network engineer most likely provided baseline configurations to the network administrator to ensure that the new switches are set up properly and in accordance with the network design and policies. Baseline configurations can help to simplify the deployment process, reduce errors and inconsistencies, and facilitate troubleshooting and maintenance.

The other options are not correct because they are not the most likely documentation that the lead network engineer provided to the network administrator. They are:

? Physical network diagram. A physical network diagram is a graphical representation of the physical layout and connections of the network devices and components, such as cables, ports, switches, routers, servers, etc. A physical network diagram can help to visualize the network topology, identify the locations and distances of the devices, and plan for cabling and power requirements. However, a physical network diagram does not provide the specific settings and parameters that need to be configured on the network devices, such as the switches.

? Site survey reports. A site survey report is a document that summarizes the findings and recommendations of a site survey, which is a process of assessing the suitability and readiness of a location for installing and operating network devices and components. A site survey report can include aspects such as environmental conditions, power and cooling availability, security and safety measures, interference and noise sources, signal coverage and quality, etc. A site survey report can help to identify and resolve any potential issues or challenges that may affect the network performance and reliability. However, a site survey report does not provide the specific settings and parameters that need to be configured on the network devices, such as the switches.

? Logical network diagram. A logical network diagram is a graphical representation of the logical structure and functionality of the network devices and components, such as subnets, IP addresses, VLANs, protocols, routing, firewall rules, etc. A logical network diagram can help to understand the network design, architecture, and policies, as well as the data flow and communication paths between the devices. However, a logical network diagram does not provide the specific settings and parameters that need to be configured on the network devices, such as the switches.

References1: Network+ (Plus) Certification | CompTIA IT Certifications2: What is a Baseline Configuration? - Definition from Techopedia3: What is a Physical Network Diagram? - Definition from Techopedia4: What is a Site Survey? - Definition from Techopedia5: [What is a Logical Network Diagram? - Definition from Techopedia]

**NEW QUESTION 206**

- (Topic 3)

An IT intern moved the location of a WAP from one conference room to another. The WAP was unable to boot following the move. Which of the following should be used to fix the issue?

- A. Antenna
- B. WLAN controller
- C. Media converter
- D. PoE injector

**Answer: D**

**Explanation:**

A PoE injector is a device that provides power over Ethernet (PoE) to a WAP or other network device that does not have a built-in power supply. A PoE injector connects to a power outlet and an Ethernet cable, and sends both power and data to the WAP. If the WAP was moved to a location where there is no power outlet or PoE switch, it would need

a PoE injector to boot up. References:

? Part 3 of the current page talks about PoE and PoE injectors as a way to power WAPs.

? [This article] explains how PoE injectors work and how to use them.

**NEW QUESTION 210**

- (Topic 3)

A user calls the IT department to report being unable to log in after locking the computer The user resets the password, but later in the day the user is again unable to log in after locking the computer Which of the following attacks against the user IS MOST likely taking place?

- A. Brute-force
- B. On-path
- C. Deauthentication
- D. Phishing

**Answer: A**

**NEW QUESTION 213**

- (Topic 3)

In which of the following components do routing protocols belong in a software-defined network?

- A. Infrastructure layer
- B. Control layer
- C. Application layer
- D. Management plane

**Answer: B**

**Explanation:**

A software-defined network (SDN) is a network architecture that decouples the control plane from the data plane and centralizes the network intelligence in a software controller. The control plane is the part of the network that makes decisions about how to route traffic, while the data plane is the part of the network that forwards traffic based on the control plane's instructions. The control layer is the layer in an SDN that contains the controller and the routing protocols that communicate with the network devices. The control layer is responsible for managing and configuring the network devices and providing them with the necessary information to forward traffic. References: <https://www.comptia.org/training/books/network-n10-008-study-guide> (page 378)

#### NEW QUESTION 218

- (Topic 3)

Which of the following routing technologies is used to prevent network failure at the gateway by protecting data traffic from a failed router?

- A. BGP
- B. OSPF
- C. EIGRP
- D. FHRP

**Answer:** D

#### Explanation:

FHRP stands for First Hop Redundancy Protocol, and it is a group of protocols that allow routers to work together to provide backup or failover for the default gateway in a network. FHRP can prevent network failure at the gateway by protecting data traffic from a failed router and ensuring that there is always an active router to forward packets. Some examples of FHRP protocols are HSRP, VRRP, and GLBP12.

References: 1: CompTIA Network+ N10-008 Cert Guide - Chapter 13: Routing Protocols32: First Hop Redundancy Protocols (FHRP) Explained4

#### NEW QUESTION 222

- (Topic 3)

A company is opening a new building on the other side of its campus. The distance from the closest building to the new building is 1,804ft (550m). The company needs to connect the networking equipment in the new building to the Other buildings on the campus without using a repeater. Which Of the following transceivers should the company use?

- A. 10GBASE-SW
- B. 10GBASE-LR
- C. 10GBASE-LX4 over multimode fiber
- D. 10GBASE-SR

**Answer:** B

#### Explanation:

10GBASE-LR is a standard for 10 Gbps Ethernet over single-mode fiber optic cable. It can support a maximum distance of 6.2 miles (10 km), which is much longer than the distance between the buildings. 10GBASE-SW, 10GBASE-LX4, and 10GBASE-SR are all standards for 10 Gbps Ethernet over multimode fiber optic cable, which have shorter maximum distances ranging from 984ft (300m) to 1,312ft (400m).

References: CompTIA Network+ Certification Exam Objectives Version 7.0 (N10-007), Objective 1.5: Compare and contrast network cabling types, standards and speeds.

#### NEW QUESTION 223

- (Topic 3)

A company has multiple offices around the world. The computer rooms in some office locations are too warm Dedicated sensors are in each room, but the process of checking each sensor takes a long time. Which of the following options can the company put In place to automate temperature readings with internal resources?

- A. Implement NetFlow.
- B. Hire a programmer to write a script to perform the checks
- C. Utilize ping to measure the response.
- D. Use SNMP with an existing collector server

**Answer:** D

#### Explanation:

SNMP (Simple Network Management Protocol) is a protocol that allows network devices to communicate with a management server. By using SNMP, the company can set up an SNMP agent on each sensor, which will report its temperature readings to an existing collector server. This will enable the company to monitor the temperatures of all their sensors in real-time without the need for manual checks. Additionally, SNMP's scalability means that even if the company adds more rooms or sensors, the existing system can be easily expanded to accommodate them.

#### NEW QUESTION 227

- (Topic 3)

A customer is hosting an internal database server. None of the users are able to connect to the server, even though it appears to be working properly. Which of the following is the best way to verify traffic to and from the server?

- A. Protocol analyzer
- B. nmap
- C. ipconfig
- D. Speed test

**Answer:** A

#### Explanation:

A protocol analyzer is the best way to verify traffic to and from the server. A protocol analyzer, also known as a packet sniffer or network analyzer, is a tool that captures and analyzes the network packets that are sent and received by a device. A protocol analyzer can show the source and destination IP addresses, ports, protocols, and payload of each packet, as well as any errors or anomalies in the network communication. A protocol analyzer can help troubleshoot network connectivity issues by identifying the root cause of the problem, such as misconfigured firewall rules, incorrect routing, or faulty network devices12.

To use a protocol analyzer to verify traffic to and from the server, the customer can follow these steps:

? Install a protocol analyzer tool on a device that is connected to the same network as the server, such as Wireshark3 or Microsoft Network Monitor4.  
? Select the network interface that is used to communicate with the server, and start capturing the network traffic.  
? Filter the captured traffic by using the IP address or hostname of the server, or by using a specific port or protocol that is used by the database service.  
? Analyze the filtered traffic and look for any signs of successful or failed connection attempts, such as TCP SYN, ACK, or RST packets, or ICMP messages.  
? If there are no connection attempts to or from the server, then there may be a problem with the network configuration or device settings that prevent the traffic from reaching the server.  
? If there are connection attempts but they are rejected or dropped by the server, then there may be a problem with the server configuration or service settings that prevent the traffic from being accepted by the server.  
The other options are not the best ways to verify traffic to and from the server. nmap is a tool that can scan a network and discover hosts and services, but it cannot capture and analyze the network packets in detail. ipconfig is a command that can display and configure the IP settings of a device, but it cannot monitor or test the network communication with another device. Speed test is a tool that can measure the bandwidth and latency of a network connection, but it cannot diagnose or troubleshoot specific network problems.

#### NEW QUESTION 230

- (Topic 3)

A network administrator is adding a new switch to the network. Which of the following network hardening techniques would be BEST to use once the switch is in production?

- A. Disable unneeded ports
- B. Disable SSH service
- C. Disable MAC filtering
- D. Disable port security

**Answer:** A

#### NEW QUESTION 233

- (Topic 3)

Network traffic is being compromised by DNS poisoning every time a company's router is connected to the internet. The network team detects a non-authorized DNS server being assigned to the network clients and remediates the incident by setting a trusted DNS server, but the issue occurs again after internet exposure. Which of the following best practices should be implemented on the router?

- A. Change the device's default password.
- B. Disable router advertisement guard.
- C. Activate control plane policing.
- D. Disable unneeded network services.

**Answer:** A

#### NEW QUESTION 236

- (Topic 3)

Which of the following would be used to adjust resources dynamically for a virtual web server under variable loads?

- A. Elastic computing
- B. Scalable networking
- C. Hybrid deployment
- D. Multitenant hosting

**Answer:** B

#### Explanation:

A technique used to adjust resources dynamically for a virtual web server under variable loads is called auto-scaling. Auto-scaling automatically increases or decreases the number of instances of a virtual web server in response to changes in demand, ensuring that the right amount of resources are available to handle incoming traffic. This can help to improve the availability and performance of a web application, as well as reduce costs by avoiding the need to provision and maintain excess capacity.

#### NEW QUESTION 238

- (Topic 3)

Which of the following attacks utilizes a network packet that contains multiple network tags?

- A. MAC flooding
- B. VLAN hopping
- C. DNS spoofing
- D. ARP poisoning

**Answer:** B

#### NEW QUESTION 239

- (Topic 3)

A company is considering shifting its business to the cloud. The management team is concerned at the availability of the third-party cloud service. Which of the following should the management team consult to determine the promised availability of the cloud provider?

- A. Memorandum of understanding
- B. Business continuity plan
- C. Disaster recovery plan
- D. Service-level agreement

**Answer:** D



**Explanation:**

A Service-level agreement (SLA) is a document that outlines the responsibilities of a cloud service provider and the customer. It typically includes the agreed-upon availability of the cloud service provider, the expected uptime for the service, and the cost of any downtime or other service interruptions. Consulting the SLA is the best way for the management team to determine the promised availability of the cloud provider. Reference: CompTIA Cloud+ Study Guide, 6th Edition, page 28.

**NEW QUESTION 242**

- (Topic 3)

A customer connects a firewall to an ISP router that translates traffic destined for the internet. The customer can connect to the internet but not to the remote site. Which of the following will verify the status of NAT?

- A. tcpdump
- B. nmap
- C. ipconfig
- D. tracert

**Answer:** A

**Explanation:**

tcpdump is a command-line tool that can capture and analyze network traffic on a given interface. tcpdump can verify the status of NAT by showing the source and destination IP addresses of the packets before and after they pass through the ISP router that translates traffic destined for the internet. tcpdump can also show the NAT protocol and port numbers used by the router. nmap, ipconfig, and tracert are not suitable tools for verifying the status of NAT, as they do not show the IP address translation process.

References

- ? 1: Network Address Translation – N10-008 CompTIA Network+ : 1.4
- ? 2: CompTIA Network+ N10-008 Certification Study Guide, page 95-96
- ? 3: CompTIA Network+ N10-008 Exam Subnetting Quiz, question 16
- ? 4: CompTIA Network+ N10-008 Certification Practice Test, question 7

**NEW QUESTION 244**

- (Topic 3)

Which of the following protocols can be used to change device configurations via encrypted and authenticated sessions? (Select TWO).

- A. SNMPv3
- B. SSh
- C. Telnet
- D. IPSec
- E. ESP
- F. Syslog

**Answer:** BD

**NEW QUESTION 249**

- (Topic 3)

A network administrator is reviewing the network device logs on a syslog server. The messages are normal but the stamps on the messages are incorrect. Which of the following actions should the administrator take to ensure the log message time stamps are correct?

- A. Change the NTP settings on the network device
- B. Change the time on the syslog server
- C. Update the network device firmware
- D. Adjust the timeout settings on the syslog server
- E. Adjust the SSH settings on the network device.

**Answer:** A

**NEW QUESTION 251**

- (Topic 3)

A bank installed a new smart TV to stream online video services, but the smart TV was not able to connect to the branch Wi-Fi. The next day, a technician was able to connect the TV to the Wi-Fi, but a bank laptop lost network access at the same time. Which of the following is the MOST likely cause?

- A. DHCP scope exhaustion
- B. AP configuration reset
- C. Hidden SSID
- D. Channel overlap

**Answer:** A

**Explanation:**

DHCP scope exhaustion is the situation when a DHCP server runs out of available IP addresses to assign to clients. DHCP stands for Dynamic Host Configuration Protocol, which is a network protocol that automatically assigns IP addresses and other configuration parameters to clients on a network. A DHCP scope is a range of IP addresses that a DHCP server can distribute to clients. If the DHCP scope is exhausted, new clients will not be able to obtain an IP address and connect to the network. This can explain why the smart TV was not able to connect to the branch Wi-Fi on the first day, and why the bank laptop lost network access on the next day when the TV was connected. The technician should either increase the size of the DHCP scope or reduce the lease time of the IP addresses to avoid DHCP scope exhaustion. References: [CompTIA Network+ Certification Exam Objectives], DHCP Scope Exhaustion - What Is It? How Do You Fix It?

**NEW QUESTION 253**

- (Topic 3)

Which of the following is used to elect an STP root?



- A. A bridge ID
- B. A bridge protocol data unit
- C. Interface port priority
- D. A switch's root port

**Answer:** B

**Explanation:**

"Using special STP frames known as bridge protocol data units (BPDUs), switches communicate with other switches to prevent loops from happening in the first place. Configuration BPDUs establish the topology, where one switch is elected root bridge and acts as the center of the STP universe. Each switch then uses the root bridge as a reference point to maintain a loop-free topology."

**NEW QUESTION 255**

- (Topic 3)

While troubleshooting a network, a VoIP systems engineer discovers a significant inconsistency in the amount of time required for data to reach its destination and return. Which of the following terms best describes this issue?

- A. Bandwidth
- B. Latency
- C. Jitter
- D. Throughput

**Answer:** C

**Explanation:**

Jitter is the variation in the delay of data packets over a network. It is caused by factors such as network congestion, routing changes, packet loss, or improper queuing. Jitter affects the quality of VoIP calls because it can cause gaps, distortion, or out-of-order delivery of voice data. Jitter can be measured by the difference between the expected and actual arrival times of packets<sup>2</sup>. To reduce jitter, VoIP systems use buffers to store and reorder packets before playing them back. However, too much buffering can also increase latency, which is the total time it takes for data to travel from one point to another<sup>3</sup>.

References<sup>2</sup> - VoIP Troubleshooting: 5 Fixes for Common Connection Issues - Nextiva<sup>3</sup> - Troubleshooting VoIP — Is it You or the Network? - PingPlotter

**NEW QUESTION 257**

- (Topic 3)

A technician monitors a switch interface and notices it is not forwarding frames on a trunked port. However, the cable and interfaces are in working order. Which of the following is MOST likely the cause of the issue?

- A. STP policy
- B. Flow control
- C. 802.1Q configuration
- D. Frame size

**Answer:** C

**Explanation:**

802.1Q configuration is the most likely cause of the issue where a switch interface is not forwarding frames on a trunked port. 802.1Q is a standard that defines how to create and manage virtual LANs (VLANs) on a switched network. VLANs are logical segments of a network that group devices based on criteria such as function, department, or security level. VLANs can improve network performance, security, and manageability by reducing broadcast domains, isolating traffic, and enforcing policies. A trunked port is a switch port that can carry traffic from multiple VLANs over a single physical link by adding a VLAN tag to each frame. A VLAN tag is a 4-byte header that identifies the VLAN ID and priority of each frame. A trunked port requires 802.1Q configuration to specify which VLANs are allowed or disallowed on the port, and which VLAN is the native or untagged VLAN. If the 802.1Q configuration is incorrect or mismatched between switches, frames may be dropped or misrouted on the trunked port. References: [CompTIA Network+ Certification Exam Objectives], VLAN Trunking Protocol (VTP) Explained | NetworkLessons.com

**NEW QUESTION 262**

- (Topic 3)

A large number of PCs are obtaining an APIPA IP address, and a number of new computers were added to the network. Which of the following is MOST likely causing the PCs to obtain an APIPA address?

- A. Rogue DHCP server
- B. Network collision
- C. Incorrect DNS settings
- D. DHCP scope exhaustion

**Answer:** D

**Explanation:**

DHCP scope exhaustion means that there are no more available IP addresses in the DHCP server's pool of addresses to assign to new devices on the network. When this happens, the devices will use APIPA (Automatic Private IP Addressing) to self-configure an IP address in the range of 169.254.0.1 to 169.254.255.254<sup>1</sup>. These addresses are not routable and can only communicate with other devices on the same local network.

A rogue DHCP server (A) is an unauthorized DHCP server that can cause IP address conflicts or security issues by assigning IP addresses to devices on the network. A network collision (B) is a situation where two or more devices try to send data on the same network segment at the same time, causing interference and data loss. Incorrect DNS settings © can prevent devices from resolving domain names to IP addresses, but they do not affect the DHCP process.

**NEW QUESTION 263**

- (Topic 3)

Which of the following is the best action to take before sending a network router to be recycled as electronic waste?

- A. Turn on port security.
- B. Shred the switch hard drive.

- C. Back up and erase the configuration.
- D. Remove the company asset ID tag.

**Answer:** C

**Explanation:**

Before disposing of a network router, it is important to back up and erase the configuration to prevent unauthorized access to sensitive data and network settings. A network router may contain information such as passwords, IP addresses, firewall rules, VPN settings, and other network parameters that could be exploited by hackers or malicious users. By backing up the configuration, you can preserve the network settings for future reference or reuse. By erasing the configuration, you can wipe out the data and restore the router to its factory default state.

**NEW QUESTION 268**

- (Topic 3)

A network technician is troubleshooting a specific port on a switch. Which of the following commands should the technician use to see the port configuration?

- A. show route
- B. show Interface
- C. show arp
- D. show port

**Answer:** B

**Explanation:**

To see the configuration of a specific port on a switch, the network technician should use the "show interface" command. This command provides detailed information about the interface, including the current configuration, status, and statistics for the interface.

**NEW QUESTION 273**

- (Topic 3)

A technician discovered that some information on the local database server was changed during a file transfer to a remote server. Which of the following should concern the technician the MOST?

- A. Confidentiality
- B. Integrity
- C. DDoS
- D. On-path attack

**Answer:** B

**Explanation:**

The technician should be most concerned about data integrity and security. If information on the local database server was changed during a file transfer to a remote server, it could indicate that unauthorized access or modifications were made to the data. It could also indicate a failure in the file transfer process, which could result in data loss or corruption. The technician should investigate the cause of the changes and take steps to prevent it from happening again in the future. Additionally, they should verify the integrity of the data and restore it from a backup if necessary to ensure that the correct and complete data is available. The technician should also take appropriate actions such as notifying the system administrator and management of the incident, and following the incident management process to minimize the damage caused by the incident.

**NEW QUESTION 275**

- (Topic 3)

A user calls the help desk to report being unable to reach a file server. The technician logs in to the user's computer and verifies that pings fail to respond back when trying to reach the file server. Which of the following would BEST help the technician verify whether the file server is reachable?

- A. netstat
- B. ipconfig
- C. nslookup
- D. traceroute

**Answer:** D

**Explanation:**

Traceroute is a network diagnostic tool that allows you to trace the path that network packets take from one device to another. By running traceroute to the file server, the technician can see the sequence of devices and networks that the packets pass through on their way to the file server. This can help the technician to determine if there is a problem with the network connection between the user's computer and the file server, or if the issue is with the file server itself.

**NEW QUESTION 276**

- (Topic 3)

During the troubleshooting of an E1 line, the point-to-point link on the core router was accidentally unplugged and left unconnected for several hours. However, the network management team was not notified. Which of the following could have been configured to allow early detection and possible resolution of the issue?

- A. Traps
- B. MIB
- C. OID
- D. Baselines

**Answer:** A

**Explanation:**

Traps are unsolicited messages sent by network devices to a network management system (NMS) when an event or a change in status occurs. Traps can help notify the network management team of any issues or problems on the network, such as a link failure or a device reboot. Traps can also trigger actions or alerts on

the NMS, such as sending an email or logging the event. MIB stands for Management Information Base and is a database of information that can be accessed and managed by an NMS using SNMP (Simple Network Management Protocol). OID stands for Object Identifier and is a unique name that identifies a specific variable in the MIB. Baselines are measurements of normal network performance and behavior that can be used for comparison and analysis. References: CompTIA Network+ Certification Exam Objectives Version 7.0 (N10-007), Objective 2.5: Given a scenario, use remote access methods.

#### NEW QUESTION 277

- (Topic 3)

A user notifies a network administrator about losing access to a remote file server. The network administrator is able to ping the server and verifies the current firewall rules do not block access to the network fileshare. Which of the following tools would help identify which ports are open on the remote file server?

- A. dig
- B. nmap
- C. tracer
- D. nslookup

**Answer: B**

#### Explanation:

nmap is the tool that would help identify which ports are open on the remote file server. nmap stands for Network Mapper, which is a free and open-source tool that can perform various network scanning and discovery tasks. nmap can help identify which ports are open on a remote device by sending probes or packets to different ports and analyzing the responses. nmap can also provide information about the operating system, services, versions, firewalls, or vulnerabilities of the remote device. nmap can be useful for network administrators, security professionals, or hackers to monitor, audit, or attack network devices. References: [CompTIA Network+ Certification Exam Objectives], Nmap - Free Security Scanner For Network Exploration & Security Audits

#### NEW QUESTION 280

- (Topic 3)

A customer needs six usable IP addresses. Which of the following best meets this requirement?

- A. 255.255.255.128
- B. 255.255.255.192
- C. 255.255.255.224
- D. 255.255.255.240

**Answer: C**

#### NEW QUESTION 282

- (Topic 3)

A technician is trying to install a VoIP phone, but the phone is not turning on. The technician checks the cable going from the phone to the switch, and the cable is good. Which of the following actions IS needed for this phone to work?

- A. Add a POE injector
- B. Enable MDIX.
- C. Use a crossover cable.
- D. Reconfigure the port.

**Answer: A**

#### NEW QUESTION 283

- (Topic 3)

A user in a branch office reports that access to all files has been lost after receiving a new PC. All other users in the branch can access fileshares. The IT engineer who is troubleshooting this incident is able to ping the workstation from the branch router, but the machine cannot ping the router. Which of the following is MOST likely the cause of the incident?

- A. Incorrect subnet mask
- B. Incorrect DNS server
- C. Incorrect IP class
- D. Incorrect TCP port

**Answer: A**

#### NEW QUESTION 284

- (Topic 3)

A network is experiencing extreme latency when accessing a particular website. Which of the following commands will BEST help identify the issue?

- A. ipconfig
- B. netstat
- C. tracer
- D. ping

**Answer: C**

#### NEW QUESTION 288

- (Topic 3)

A company's publicly accessible servers are connected to a switch between the company's ISP-connected router and the firewall in front of the company network. The firewall is stateful, and the router is running an ACL. Which of the following best describes the area between the router and the firewall?

- A. Untrusted zone

- B. Screened subnet
- C. Trusted zone
- D. Private VLAN

**Answer:** B

**Explanation:**

A screened subnet is a network segment that is isolated from both the internal and external networks by firewalls or routers. It is used to host publicly accessible servers that need some protection from external attacks, but also need to be separated from the internal network for security reasons.

References

- ? 1: Seven-Second Subnetting – N10-008 CompTIA Network+ : 1.4
- ? 2: CompTIA Network+ Study Guide: Exam N10-008, 5th Edition, page 56
- ? 3: CompTIA Network+ N10-008 Exam Subnetting Quiz, question 22

**NEW QUESTION 289**

- (Topic 3)

A PC and a network server have no network connectivity, and a help desk technician is attempting to resolve the issue. The technician plans to run a constant ping command from a Windows workstation while testing various possible reasons for the connectivity issue. Which of the following should the technician use?

- A. ping —w
- B. ping -i
- C. ping —s
- D. ping —t

**Answer:** D

**Explanation:**

ping -t is an option for the ping command in Windows that allows the user to send continuous ping requests to a target until stopped by pressing Ctrl-C. This can help the technician run a constant ping command while testing various possible reasons for the connectivity issue. ping -w is an option for the ping command in Windows that allows the user to specify a timeout value in milliseconds for each ping request. ping -i is an option for the ping command in Linux that allows the user to specify the time interval in seconds between each ping request. ping -s is an option for the ping command in Linux that allows the user to specify the size of the data payload in bytes for each ping request.

References: How to Use the Ping Command in Windows - Lifewire (<https://www.lifewire.com/ping-command-2618099>)

**NEW QUESTION 293**

- (Topic 3)

Which of the following compromises internet-connected devices and makes them vulnerable to becoming part of a botnet? (Select TWO).

- A. Deauthentication attack
- B. Malware infection
- C. IP spoofing
- D. Firmware corruption
- E. Use of default credentials
- F. Dictionary attack

**Answer:** BE

**NEW QUESTION 294**

- (Topic 3)

Which of the following would most likely affect design considerations when building out an IDF?

- A. The source panel amperage
- B. The fire suppression system
- C. The humidity levels
- D. The cable transmission speeds

**Answer:** B

**Explanation:**

The fire suppression system is a design consideration when building out an IDF because it can affect the safety and reliability of the network equipment and cabling. A fire suppression system is a system that detects and extinguishes fires in a building, using water, gas, or chemicals. Depending on the type of fire suppression system, it can have different impacts on the IDF design, such as:

? Water-based systems, such as sprinklers, can damage the network equipment and cabling if they are activated by a fire or a false alarm. Therefore, the IDF should be designed to protect the equipment and cabling from water exposure, such as using waterproof cabinets, drip pans, and conduits.

? Gas-based systems, such as clean agent systems, can displace the oxygen in the IDF and cause suffocation for anyone inside. Therefore, the IDF should be designed to allow for ventilation and air circulation, as well as warning signs and alarms to alert anyone in the IDF before the gas is released.

? Chemical-based systems, such as dry chemical systems, can leave a residue on the network equipment and cabling that can affect their performance and lifespan. Therefore, the IDF should be designed to minimize the contact between the chemical and the equipment and cabling, as well as provide a means for cleaning and restoring them after a fire.

The other options are not correct because:

? The source panel amperage is not a design consideration when building out an IDF, as it is determined by the electrical circuit and the power needs of the network equipment and cabling. The source panel amperage does not affect the layout, location, or protection of the IDF.

? The humidity levels are not a design consideration when building out an IDF, as they are controlled by the HVAC system and the ventilation of the IDF. The humidity levels do not affect the layout, location, or protection of the IDF.

? The cable transmission speeds are not a design consideration when building out an IDF, as they are determined by the type and quality of the network cabling and the network equipment. The cable transmission speeds do not affect the layout, location, or protection of the IDF.

**NEW QUESTION 297**

- (Topic 3)



A network technician is attempting to harden a commercial switch that was recently purchased. Which of the following hardening techniques best mitigates the use of publicly available information?

- A. Changing the default password
- B. Blocking inbound SSH connections
- C. Removing the gateway from the network configuration
- D. Restricting physical access to the switch

**Answer:** A

**Explanation:**

Changing the default password is a hardening technique that best mitigates the use of publicly available information, such as vendor documentation, online forums, or hacking tools, that may reveal the default credentials of a commercial switch. By changing the default password to a strong and unique one, the network technician can prevent unauthorized access to the switch configuration and management. References:

? Network Hardening - N10-008 CompTIA Network+ : 4.3 - YouTube<sup>1</sup>

? CompTIA Network+ Certification Exam Objectives, page 151

**NEW QUESTION 301**

- (Topic 3)

A technician is contracted to install a redundant cluster of devices from the ISP. In case of a hardware failure within the network. Which of the following would provide the BEST redundant solution in Layer 2 devices?

- A. Multiple routers
- B. Multiple switches
- C. Multiple firewalls
- D. Multiple budgets

**Answer:** B

**NEW QUESTION 303**

- (Topic 3)

When accessing corporate network resources, users are required to authenticate to each application they try to access. Which of the following concepts does this BEST represent?

- A. SSO
- B. Zero Trust
- C. VPN
- D. Role-based access control

**Answer:** B

**NEW QUESTION 304**

- (Topic 3)

A network administrator is looking for a solution to extend Layer 2 capabilities and replicate backups between sites. Which of the following is the best solution?

- A. Security Service Edge
- B. Data center interconnect
- C. Infrastructure as code
- D. Zero trust architecture

**Answer:** B

**Explanation:**

Data center interconnect (DCI) is a solution that allows Layer 2 connectivity and data replication between geographically dispersed data centers. DCI can be implemented using various technologies, such as optical networks, MPLS, VPNs, or Ethernet. DCI can provide benefits such as improved disaster recovery, load balancing, resource pooling, and cloud services.

References:

? Data Center Interconnect - CompTIA Network+ N10-008 Domain 1.4 - YouTube<sup>1</sup>

? CompTIA Network+ Certification Exam Objectives, page 92

**NEW QUESTION 308**

- (Topic 3)

A network administrator is troubleshooting a connection to a remote site. The administrator runs a command and sees the following output:

```
Tracing route to 10.10.0.22 over a maximum of 30 hops:
 0  14ms  20ms  15ms  192.168.1.253
 1  10ms  15ms  12ms  172.16.0.21
 2   5ms   10ms  10ms  10.10.5.3
 3  10ms  15ms  12ms  10.12.2.1
 4   5ms   10ms  10ms  10.10.5.3
 5  10ms  15ms  12ms  10.12.2.1
 6   5ms   10ms  10ms  10.10.5.3
 7  10ms  15ms  12ms  10.12.2.1
```

Which of the following is the cause of the connection issue?

- A. Routing loop
- B. Asymmetrical routing



- C. Broadcast storm
- D. Switching loop

**Answer:** A

**Explanation:**

The cause of the connection issue is a routing loop. A routing loop is a situation where a packet is forwarded in circles between routers, never reaching its destination. A routing loop can be caused by misconfigured or inconsistent routing tables, or by routing protocols that do not update their information properly. A routing loop can be detected by using the traceroute command, which shows the path taken by a packet from the source to the destination. The traceroute output in the image shows that the packet is bouncing back and forth between two routers, 10.12.2.1 and 10.12.2.2, indicating a routing loop. References: CompTIA Network+ N10-008 Certification Study Guide, page 181; The Official CompTIA Network+ Student Guide (Exam N10-008), page 7-9.

**NEW QUESTION 313**

- (Topic 3)

A business purchased redundant internet connectivity from two separate ISPs. Which of the following is the business MOST likely implementing?

- A. NIC teaming
- B. Hot site
- C. Multipathing
- D. Load balancing

**Answer:** C

**Explanation:**

Multipathing is a technique that allows a device to use more than one path to communicate with another device. This provides redundancy, load balancing, and fault tolerance for network connections. A business that purchased redundant internet connectivity from two separate ISPs is most likely implementing multipathing to ensure continuous access to the internet in case one ISP fails or becomes congested. References: CompTIA Network+ N10-008 Certification Study Guide, page 437; The Official CompTIA Network+ Student Guide (Exam N10-008), page 16-8.

**NEW QUESTION 315**

- (Topic 3)

Which of the following most likely occurs when an attacker is between the target and a legitimate server?

- A. IP spoofing
- B. VLAN hopping
- C. Rogue DHCP
- D. On-path attack

**Answer:** D

**Explanation:**

An on-path attack (also known as a man-in-the-middle attack) is a type of security attack where the attacker places themselves between two devices (often a web browser and a web server) and intercepts or modifies communications between the two<sup>1</sup>. The attacker can then collect information as well as impersonate either of the two agents. For example, an on-path attacker could capture login credentials, redirect traffic to malicious sites, or inject malware into legitimate web pages. The other options are not correct because they describe different types of attacks:

- IP spoofing is the practice of forging the source IP address of a packet to make it appear as if it came from a trusted or authorized source<sup>2</sup>.
- VLAN hopping is a technique that allows an attacker to access a VLAN that they are not authorized to access by sending packets with a modified VLAN tag<sup>3</sup>.
- Rogue DHCP is a scenario where an unauthorized DHCP server offers IP configuration parameters to clients on a network, potentially causing network disruption or redirection to malicious sites<sup>4</sup>.

References

2: Understanding Targeted Attacks: What is a Targeted Attack? 3: Types of attacks - Security on the web | MDN

1: What is an on-path attacker? | Cloudflare

4: [What is a Rogue DHCP Server? - Definition from Techopedia]

**NEW QUESTION 317**

- (Topic 3)

Which of the following types of connections would need to be set up to provide access from the internal network to an external network so multiple satellite offices can communicate securely using various ports and protocols?

- A. Client-to-site VPN
- B. Clientless VPN
- C. RDP
- D. Site-to-site VPN
- E. SSH

**Answer:** D

**NEW QUESTION 321**

- (Topic 3)

An IT technician needs to increase bandwidth to a server. The server has multiple gigabit ports. Which of the following can be used to accomplish this without replacing hardware?

- A. STP
- B. 802.1Q
- C. Duplex
- D. LACP

**Answer:** D

**Explanation:**

LACP stands for Link Aggregation Control Protocol and is a protocol that allows multiple physical ports to be combined into a single logical port. This can increase bandwidth, redundancy, and load balancing for a server. LACP is part of the IEEE 802.3ad standard for link aggregation. STP stands for Spanning Tree Protocol and is a protocol that prevents loops in a network by blocking redundant links. 802.1Q is a standard for VLAN (Virtual Local Area Network) tagging, which allows multiple logical networks to share the same physical infrastructure. Duplex is a mode of communication that determines how data is transmitted and received on a link. Full duplex allows simultaneous transmission and reception, while half duplex allows only one direction at a time.

References: CompTIA Network+ Certification Exam Objectives Version 7.0 (N10-007), Objective 1.5: Compare and contrast network cabling types, standards and speeds.

**NEW QUESTION 323**

- (Topic 3)

A network technician is troubleshooting a network issue for employees who have reported issues with speed when accessing a server in another subnet. The server is in another building that is 410ft (125m) away from the employees' building. The 10GBASE-T connection between the two buildings uses Cat 5e. Which of the following BEST explains the speed issue?

- A. The connection type is not rated for that distance
- B. A broadcast storm is occurring on the subnet.
- C. The cable run has interference on it
- D. The connection should be made using a Cat 6 cable

**Answer: D**

**Explanation:**

The 10GBASE-T connection between the two buildings uses Cat 5e, which is not rated for a distance of 410ft (125m). According to the CompTIA Network+ Study Manual, for 10GBASE-T connections, "Cat 5e is rated for up to 55m, Cat 6a is rated for 100m, and Cat 7 is rated for 150m." Therefore, the speed issue is likely due to the fact that the connection type is not rated for the distance between the two buildings. To resolve the issue, the technician should consider using a Cat 6a or Cat 7 cable to increase the distance the connection is rated for.

**NEW QUESTION 324**

- (Topic 3)

Which of the following describes a network in which users and devices need to mutually authenticate before any network resource can be accessed?

- A. Least privilege
- B. Local authentication
- C. Zero trust
- D. Need to know

**Answer: C**

**Explanation:**

A zero trust network is a network in which users and devices need to mutually authenticate before any network resource can be accessed. A zero trust network assumes that no one and nothing can be trusted by default, even if they were previously verified or are within the network perimeter. A zero trust network uses various technologies and practices, such as data and log aggregation, cybersecurity analytics, continuous diagnostics and mitigation, user behavior analytics, microsegmentation, and identity and access management, to enforce granular and dynamic policies based on the context and behavior of the users and devices.

References:

? What is Zero Trust? | Internet of Things | CompTIA3

? The Death of the Perimeter: Zero Trust is (Almost) Here to Stay | Cybersecurity | CompTIA2

? CompTIA Network+ Certification Exam N10-008 Practice Test 17 - ExamCompass1

**NEW QUESTION 327**

- (Topic 3)

An on-call network technician receives an automated email alert stating that a power supply on a firewall has just powered down. Which of the following protocols would best allow for this level of detailed device monitoring?

- A. TFTP
- B. TLS
- C. SSL
- D. SNMP

**Answer: D**

**Explanation:**

SNMP stands for Simple Network Management Protocol, and it is a protocol that allows network devices to communicate their status, performance, and configuration information to a central management system. SNMP can be used to monitor and manage various aspects of network devices, such as CPU usage, memory utilization, interface statistics, temperature, voltage, power supply, etc. SNMP can also generate alerts or notifications when certain events or thresholds are reached, such as a power supply failure, a link down, or a high traffic volume. SNMP is widely used for network monitoring and troubleshooting purposes, as it provides a comprehensive and detailed view of the network health and performance.

The other options are not correct because they are not protocols that allow for detailed device monitoring. They are:

? TFTP. TFTP stands for Trivial File Transfer Protocol, and it is a protocol that allows for simple and fast file transfer between network devices. TFTP is often used to transfer configuration files, firmware updates, or boot images to network devices, such as routers, switches, or firewalls. TFTP does not provide any monitoring or management capabilities for network devices, nor does it generate any alerts or notifications.

? TLS. TLS stands for Transport Layer Security, and it is a protocol that provides encryption and authentication for data transmission over a network. TLS is often used to secure web traffic, email, or other applications that use TCP as the transport protocol. TLS does not provide any monitoring or management capabilities for network devices, nor does it generate any alerts or notifications.

? SSL. SSL stands for Secure Sockets Layer, and it is a protocol that provides encryption and authentication for data transmission over a network. SSL is the predecessor of TLS, and it is still used to secure some web traffic, email, or other applications that use TCP as the transport protocol. SSL does not provide any monitoring or management capabilities for network devices, nor does it generate any alerts or notifications.

References1: What is SNMP? - Definition from WhatIs.com2: Network+ (Plus) Certification

| CompTIA IT Certifications3: What is TFTP? - Definition from WhatIs.com4: What is TLS? - Definition from WhatIs.com5: What is SSL? - Definition from WhatIs.com

#### NEW QUESTION 332

- (Topic 3)

Which of the following situations would require an engineer to configure subinterfaces?

- A. In a router-on-a-stick deployment with multiple VLANs
- B. In order to enable inter-VLAN routing on a multilayer switch
- C. When configuring VLAN trunk links between switches
- D. After connecting a router that does not support 802.1Q VLAN tags

**Answer:** A

#### Explanation:

A router-on-a-stick is a configuration that allows a single router interface to route traffic between multiple VLANs on a network1. A router-on-a-stick requires sub-interfaces to be configured on the router interface, one for each VLAN. Each sub-interface is assigned a VLAN ID and an IP address that belongs to the corresponding VLAN subnet. The router interface is connected to a switch port that is configured as a trunk port, which allows traffic from multiple VLANs to pass through. The router then performs inter-VLAN routing by forwarding packets between the sub-interfaces based on their destination IP addresses. Inter-VLAN routing is a process that allows devices on different VLANs to communicate with each other. Inter-VLAN routing can be performed by a router-on-a-stick configuration, as explained above, or by a multilayer switch that has routing capabilities. A multilayer switch does not require sub-interfaces to be configured for inter-VLAN routing; instead, it uses switch virtual interfaces (SVIs) that are associated with each VLAN. An SVI is a logical interface that represents a VLAN on a switch and has an IP address that belongs to the VLAN subnet. The switch then performs inter-VLAN routing by forwarding packets between the SVIs based on their destination IP addresses.

VLAN trunking is a method that allows traffic from multiple VLANs to be carried over a single link between switches or routers. VLAN trunking requires the use of a tagging protocol, such as 802.1Q, that adds a header to each frame that identifies its VLAN ID. VLAN trunking does not require sub-interfaces to be configured on the switches or routers; instead, it uses trunk ports that are configured to allow or deny traffic from specific VLANs. The switches or routers then forward packets between the trunk ports based on their VLAN IDs.

\* 802.1Q is a standard that defines how VLAN tagging and trunking are performed on Ethernet networks.

\* 802.1Q adds a 4-byte header to each frame that contains a 12-bit field for the VLAN ID and a 3-bit field for the priority level. 802.1Q does not require sub-interfaces to be configured on the switches or routers; instead, it uses trunk ports that are configured to support 802.1Q tagging and untagging. The switches or routers then forward packets between the trunk ports based on their VLAN IDs and priority levels.

#### NEW QUESTION 335

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