

# CompTIA

## Exam Questions N10-009

CompTIA Network+ Exam



### NEW QUESTION 1

- (Exam Topic 1)

A technician wants to deploy a new wireless network that comprises 30 WAPs installed throughout a three-story office building. All the APs will broadcast the same SSID for client access. Which of the following BEST describes this deployment?

- A. Extended service set
- B. Basic service set
- C. Unified service set
- D. Independent basic service set

**Answer:** A

#### Explanation:

An extended service set (ESS) is a wireless network that consists of multiple access points (APs) that share the same SSID and are connected by a wired network. An ESS allows wireless clients to roam seamlessly between different APs without losing connectivity. A basic service set (BSS) is a wireless network that consists of a single AP and its associated clients. An independent basic service set (IBSS) is a wireless network that consists of a group of clients that communicate directly without an AP. A unified service set is not a standard term for a wireless network. 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://en.wikipedia.org/wiki/Service\\_set\\_\(802.11\\_network\)](https://en.wikipedia.org/wiki/Service_set_(802.11_network))

### NEW QUESTION 2

- (Exam 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

- (Exam Topic 1)

An engineer notices some late collisions on a half-duplex link. The engineer verifies that the devices on both ends of the connection are configured for half duplex. Which of the following is the MOST likely cause of this issue?

- A. The link is improperly terminated
- B. One of the devices is misconfigured
- C. The cable length is excessive
- D. One of the devices has a hardware issue

**Answer:** C

#### Explanation:

In a half-duplex link, devices can only send or receive data at one time, not simultaneously. Late collisions occur when devices transmit data at the same time after waiting for a clear channel. One of the causes of late collisions is excessive cable length, which increases the propagation delay and makes it harder for devices to detect collisions. The link termination, device configuration, and device hardware are not likely to cause late collisions on a half-duplex link.

### NEW QUESTION 4

- (Exam Topic 1)

Wireless users are reporting intermittent internet connectivity. Connectivity is restored when the users disconnect and reconnect, utilizing the web authentication process each time. The network administrator can see the devices connected to the APs at all times. Which of the following steps will MOST likely determine the cause of the issue?

- A. Verify the session time-out configuration on the captive portal settings
- B. Check for encryption protocol mismatch on the client's wireless settings
- C. Confirm that a valid passphrase is being used during the web authentication
- D. Investigate for a client's disassociation caused by an evil twin AP

**Answer:** A

#### Explanation:

A captive portal is a web page that requires users to authenticate before they can access the internet. If the session time-out configuration is too short, users may experience intermittent internet connectivity and have to reconnect using the web authentication process each time. The network administrator can verify the session time-out configuration on the captive portal settings and adjust it if needed. References: CompTIA Network+ Certification Exam Objectives Version 2.0 (Exam Number: N10-006), Domain 1.0 Network Architecture, Objective 1.8 Explain the purposes and use cases for advanced networking devices.

#### NEW QUESTION 5

- (Exam Topic 1)

Which of the following would be BEST to use to detect a MAC spoofing attack?

- A. Internet Control Message Protocol
- B. Reverse Address Resolution Protocol
- C. Dynamic Host Configuration Protocol
- D. Internet Message Access Protocol

**Answer:** B

**Explanation:**

Reverse Address Resolution Protocol (RARP) is a protocol that allows a device to obtain its MAC address from its IP address. A MAC spoofing attack is an attack where a device pretends to have a different MAC address than its actual one. RARP can be used to detect a MAC spoofing attack by comparing the MAC address obtained from RARP with the MAC address obtained from other sources, such as ARP or DHCP. 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/25597/reverse-address-resolution-protocol-rarp>

#### NEW QUESTION 6

- (Exam 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 7

- (Exam 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 8

- (Exam Topic 1)

Which of the following DNS records works as an alias to another record?

- A. AAAA
- B. CNAME
- C. MX
- D. SOA

**Answer:** B

**Explanation:**

The DNS record that works as an alias to another record is called CNAME (Canonical Name). CNAME records are used to create an alias for a domain name that points to another domain name.

References:

➤ CompTIA Network+ Certification Study Guide, Exam N10-007, Fourth Edition, Chapter 2: The OSI Model and Networking Protocols, Objective 2.3: Given a scenario, implement and configure the appropriate addressing schema.

#### NEW QUESTION 9

- (Exam 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 10**

- (Exam Topic 1)

A technician is writing documentation regarding a company's server farm. The technician needs to confirm the server name for all Linux servers. Which of the following commands should the technician run?

- A. ipconfig
- B. nslookup
- C. arp
- D. route

**Answer:** B

**Explanation:**

The nslookup command should be run to confirm the server name for all Linux servers. Nslookup is a tool that queries DNS servers to resolve hostnames to IP addresses or vice versa. It can also provide other information about DNS records, such as MX, NS, SOA, etc. By running nslookup with the IP address of a Linux server, the technician can obtain its hostname. References:

<https://www.howtogeek.com/663056/how-to-use-the-nslookup-command-on-linux/>

**NEW QUESTION 10**

- (Exam 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 14**

- (Exam 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 19**

- (Exam 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 21**

- (Exam Topic 1)

A technician is configuring a network switch to be used in a publicly accessible location. Which of the following should the technician configure on the switch to prevent unintended connections?

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

**Answer: C**

**Explanation:**

Port security is a feature that restricts input to a switch port by limiting and identifying MAC addresses of the devices allowed to access the port. This prevents unintended connections from unauthorized devices or spoofed MAC addresses. Port security can also be configured to take actions such as shutting down the port or sending an alert when a violation occurs. 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/td/docs/switches/lan/catalyst9500/software/release/16-10/configuration\\_guide/se](https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst9500/software/release/16-10/configuration_guide/se)

**NEW QUESTION 24**

- (Exam Topic 1)

Which of the following types of devices can provide content filtering and threat protection, and manage multiple IPSec site-to-site connections?

- A. Layer 3 switch
- B. VPN headend
- C. Next-generation firewall
- D. Proxy server
- E. Intrusion prevention

**Answer: C**

**Explanation:**

Next-generation firewalls can provide content filtering and threat protection, and can manage multiple IPSec site-to-site connections. References: CompTIA Network+ Certification Study Guide, Chapter 5: Network Security.

**NEW QUESTION 27**

- (Exam Topic 1)

A network engineer is investigating reports of poor network performance. Upon reviewing a report, the engineer finds that jitter at the office is greater than 10ms on the only WAN connection available. Which of the following would be MOST affected by this statistic?

- A. A VoIP sales call with a customer
- B. An in-office video call with a coworker
- C. Routing table from the ISP
- D. Firewall CPU processing time

**Answer: A**

**Explanation:**

A VoIP sales call with a customer would be most affected by jitter greater than 10ms on the WAN connection. Jitter is the variation in delay of packets arriving at the destination. It can cause choppy or distorted audio quality for VoIP applications, especially over WAN links that have limited bandwidth and high latency. The recommended jitter for VoIP is less than 10ms. References: <https://www.voip-info.org/voip-jitter/>

**NEW QUESTION 29**

- (Exam Topic 1)

A technician is installing a cable modem in a SOHO. Which of the following cable types will the technician MOST likely use to connect a modem to the ISP?

- A. Coaxial



- B. Single-mode fiber
- C. Cat 6e
- D. Multimode fiber

**Answer:** A

**Explanation:**

Coaxial cable is a type of cable that consists of a central copper conductor surrounded by an insulating layer and a braided metal shield. Coaxial cable is commonly used to connect a cable modem to an ISP by transmitting data over cable television networks. Coaxial cable can support high bandwidth and long distances with minimal interference or attenuation. 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/4027/coaxial-cable>

**NEW QUESTION 34**

- (Exam Topic 1)

A new cabling certification is being requested every time a network technician rebuilds one end of a Cat 6 (vendor-certified) cable to create a crossover connection that is used to connect switches. Which of the following would address this issue by allowing the use of the original cable?

- A. CSMA/CD
- B. LACP
- C. PoE+
- D. MDIX

**Answer:** D

**Explanation:**

MDIX (medium-dependent interface crossover) is a feature that allows network devices to automatically detect and configure the appropriate cabling type, eliminating the need for crossover cables. By enabling MDIX on the switches, a technician can use the original Cat 6 cable to create a crossover connection. References: CompTIA Network+ Certification Study Guide, Sixth Edition by Glen E. Clarke

**NEW QUESTION 36**

- (Exam Topic 1)

According to troubleshooting methodology, which of the following should the technician do NEXT after determining the most likely probable cause of an issue?

- A. Establish a plan of action to resolve the issue and identify potential effects
- B. Verify full system functionality and, if applicable, implement preventive measures
- C. Implement the solution or escalate as necessary
- D. Test the theory to determine the cause

**Answer:** A

**Explanation:**

According to troubleshooting methodology, after determining the most likely probable cause of an issue, the next step is to establish a plan of action to resolve the issue and identify potential effects. This step involves defining the steps needed to implement a solution, considering the possible consequences of each step, and obtaining approval from relevant stakeholders if necessary. 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.comptia.org/blog/the-comptia-guide-to-it-troubleshooting>

**NEW QUESTION 41**

- (Exam Topic 1)

Within the realm of network security, Zero Trust:

- A. prevents attackers from moving laterally through a system.
- B. allows a server to communicate with outside networks without a firewall.
- C. block malicious software that is too new to be found in virus definitions.
- D. stops infected files from being downloaded via websites.

**Answer:** A

**Explanation:**

Zero Trust is a security framework that requires all users, whether in or outside the organization's network, to be authenticated, authorized, and continuously validated for security configuration and posture before being granted or keeping access to applications and data. Zero Trust prevents attackers from moving laterally through a system by applying granular policies and controls based on the principle of least privilege and by segmenting and encrypting data flows across the network. 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.crowdstrike.com/cybersecurity-101/zero-trust-security/>

**NEW QUESTION 43**

- (Exam 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 46

- (Exam Topic 1)

An engineer is configuring redundant network links between switches. Which of the following should the engineer enable to prevent network stability issues?

- A. 802.1Q
- B. STP
- C. Flow control
- D. CSMA/CD

**Answer:** B

#### Explanation:

Spanning Tree Protocol (STP) should be enabled when configuring redundant network links between switches. STP ensures that only one active path is used at a time, preventing network loops and stability issues.

References:

➤ [CompTIA Network+ Certification Study Guide](#)

#### NEW QUESTION 49

- (Exam Topic 1)

Client devices cannot enter a network, and the network administrator determines the DHCP scope is exhausted. The administrator wants to avoid creating a new DHCP pool. Which of the following can the administrator perform to resolve the issue?

- A. Install load balancers
- B. Install more switches
- C. Decrease the number of VLANs
- D. Reduce the lease time

**Answer:** D

#### Explanation:

To resolve the issue of DHCP scope exhaustion without creating a new DHCP pool, the administrator can reduce the lease time. By decreasing the lease time, the IP addresses assigned by DHCP will be released back to the DHCP scope more quickly, allowing them to be assigned to new devices.

References:

➤ [CompTIA Network+ Certification Study Guide, Exam N10-007, Fourth Edition, Chapter 2: The OSI Model and Networking Protocols, Objective 2.3: Given a scenario, implement and configure the appropriate addressing schema.](#)

➤ <https://www.networkcomputing.com/data-centers/10-tips-optimizing-dhcp-performance>

#### NEW QUESTION 51

- (Exam 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 53

- (Exam 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 55

- (Exam Topic 1)

A branch of a company recently switched to a new ISP. The network engineer was given a new IP range to assign. The ISP assigned 196.26.4.0/26, and the branch gateway router now has the following configurations on the interface that peers to the ISP:

```
IP address:      196.26.4.30
Subnet mask:     255.255.255.224
Gateway:        196.24.4.1
```

The network engineer observes that all users have lost Internet connectivity. Which of the following describes the issue?

- A. The incorrect subnet mask was configured
- B. The incorrect gateway was configured
- C. The incorrect IP address was configured
- D. The incorrect interface was configured

**Answer: C**

### Explanation:

The IP address configured on the router interface is 196.26.4.1/26, which belongs to the IP range assigned by the ISP (196.26.4.0/26). However, this IP address is not valid for this interface because it is the network address of the subnet, which cannot be assigned to any host device. The network address is the first address of a subnet that identifies the subnet itself. The valid IP addresses for this subnet are from 196.26.4.1 to 196.26.4.62, excluding the network address (196.26.4.0) and the broadcast address (196.26.4.63). The router interface should be configured with a valid IP address within this range to restore Internet connectivity for all users. 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/24136/network-address>

## NEW QUESTION 60

- (Exam Topic 1)

You are tasked with verifying the following requirements are met in order to ensure network security. Requirements:

Datacenter

Ensure network is subnetted to allow all devices to communicate properly while minimizing address space usage

Provide a dedicated server to resolve IP addresses and hostnames correctly and handle port 53 traffic Building A

Ensure network is subnetted to allow all devices to communicate properly while minimizing address space usage

Provide devices to support 5 additional different office users

Add an additional mobile user

Replace the Telnet server with a more secure solution Screened subnet

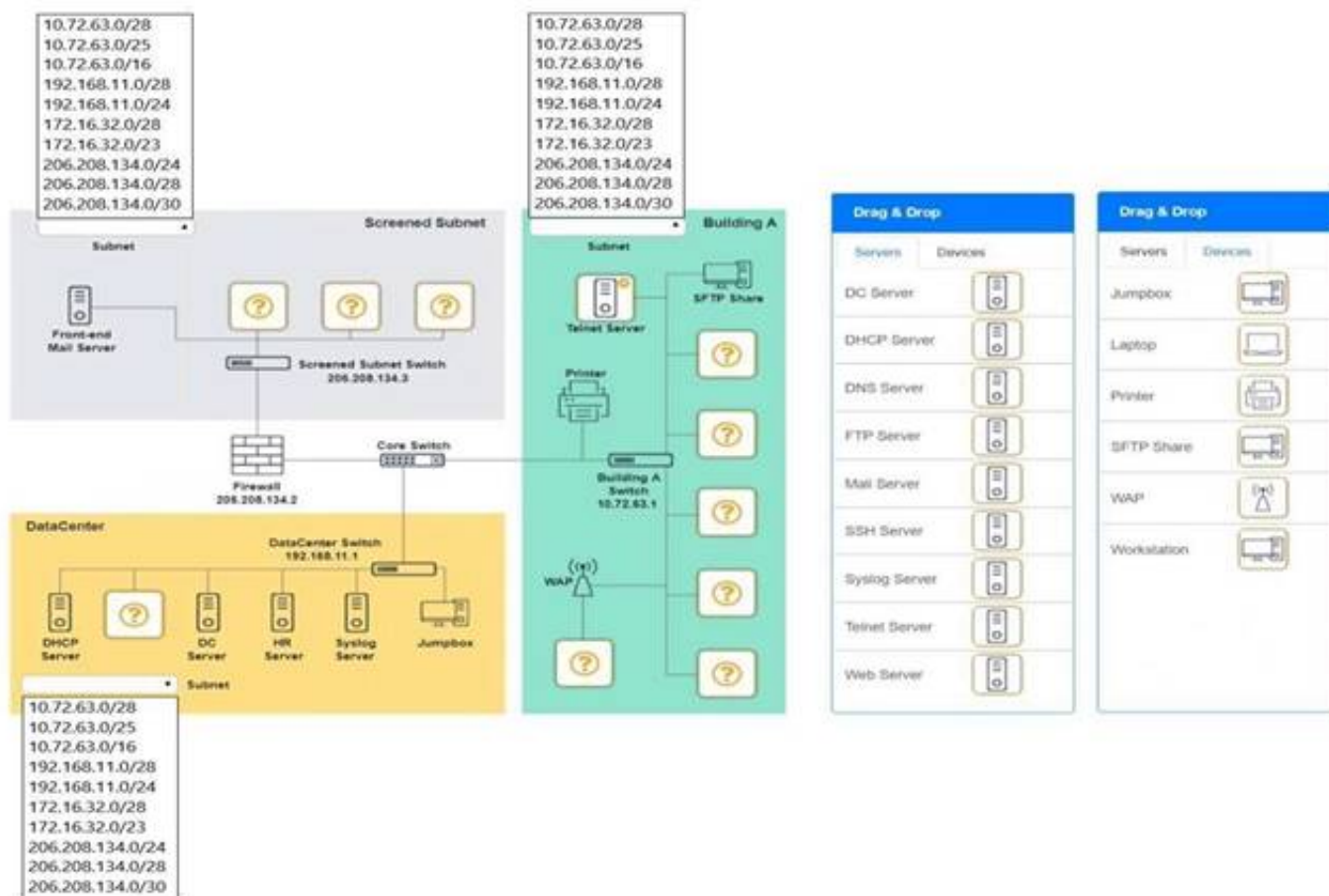
Ensure network is subnetted to allow all devices to communicate properly while minimizing address space usage

Provide a server to handle external 80/443 traffic Provide a server to handle port 20/21 traffic INSTRUCTIONS

Drag and drop objects onto the appropriate locations. Objects can be used multiple times and not all placeholders need to be filled.

Available objects are located in both the Servers and Devices tabs of the Drag & Drop menu.

If at any time you would like to bring back the initial state of the simulation, please click the Reset All button.



- A. Mastered
- B. Not Mastered

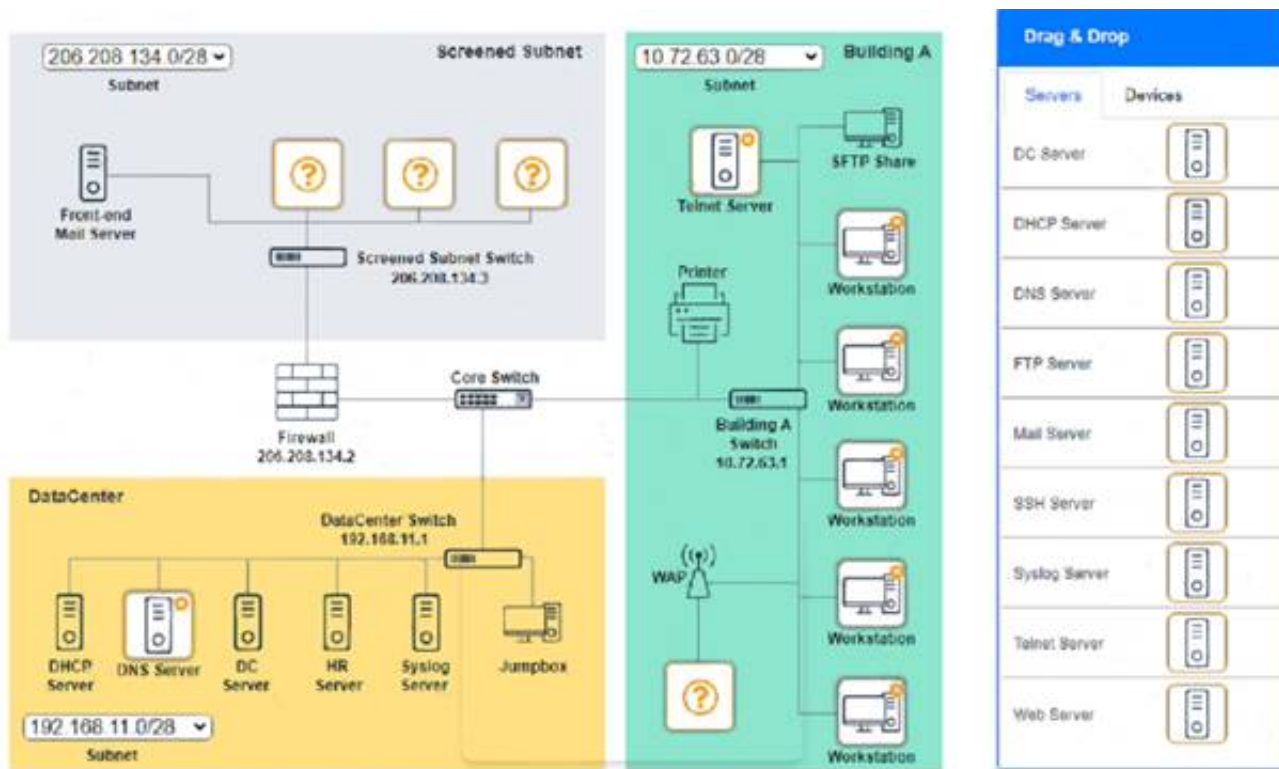
**Answer: A**

### Explanation:

Screened Subnet devices – Web server, FTP server

Building A devices – SSH server top left, workstations on all 5 on the right, laptop on bottom left DataCenter devices – DNS server.





### NEW QUESTION 61

- (Exam 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 63

- (Exam Topic 1)

A network engineer configured new firewalls with the correct configuration to be deployed to each remote branch. Unneeded services were disabled, and all firewall rules were applied successfully. Which of the following should the network engineer perform NEXT to ensure all the firewalls are hardened successfully?

- A. Ensure an implicit permit rule is enabled
- B. Configure the log settings on the firewalls to the central syslog server
- C. Update the firewalls with current firmware and software
- D. Use the same complex passwords on all firewalls

**Answer: C**

#### Explanation:

Updating the firewalls with current firmware and software is an important step to ensure all the firewalls are hardened successfully, as it can fix any known vulnerabilities or bugs and provide new features or enhancements. Enabling an implicit permit rule is not a good practice for firewall hardening, as it can allow unwanted traffic to pass through the firewall. Configuring the log settings on the firewalls to the central syslog server is a good practice for monitoring and auditing purposes, but it does not harden the firewalls themselves. Using the same complex passwords on all firewalls is not a good practice for password security, as it can increase the risk of compromise if one firewall is breached. References: CompTIA Network+ Certification Exam Objectives Version 2.0 (Exam Number: N10-006), Domain 3.0 Network Security, Objective 3.3 Given a scenario, implement network hardening techniques.

### NEW QUESTION 67

- (Exam Topic 1)

Which of the following would MOST likely be used to review previous upgrades to a system?

- A. Business continuity plan
- B. Change management
- C. System life cycle
- D. Standard operating procedures

**Answer: B**

#### Explanation:

Change management is the process of reviewing previous upgrades to a system. It is a systematic approach to managing changes to an organization's IT systems and infrastructure. Change management involves the assessment of potential risks associated with a change, as well as the identification of any necessary resources required to implement the change. References: Network+ Certification Study Guide, Chapter 8: Network Troubleshooting

### NEW QUESTION 69

- (Exam Topic 1)

A network technician is manually configuring the network settings for a new device and is told the network block is 192.168.0.0/20. Which of the following subnets

should the technician use?

- A. 255.255.128.0
- B. 255.255.192.0
- C. 255.255.240.0
- D. 255.255.248.0

**Answer:** C

**Explanation:**

A subnet mask is a binary number that indicates which bits of an IP address belong to the network portion and which bits belong to the host portion. A slash notation (/n) indicates how many bits are used for the network portion. A /20 notation means that 20 bits are used for the network portion and 12 bits are used for the host portion. To convert /20 to a dotted decimal notation, we need to write 20 ones followed by 12 zeros in binary and then divide them into four octets separated by dots. This gives us 11111111.11111111.11110000.00000000 or 255.255.240.0 in decimal. 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/950/subnet-mask>

**NEW QUESTION 70**

- (Exam 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 71**

- (Exam 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>  
<sup>1</sup>

**NEW QUESTION 73**

- (Exam 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 74**

- (Exam 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 75**

- (Exam Topic 2)

A business is using the local cable company to provide Internet access. Which of the following types of cabling will the cable company MOST likely use from the demarcation point back to the central office?

- A. Multimode
- B. Cat 5e
- C. RG-6
- D. Cat 6
- E. 100BASE-T

**Answer: C**

**Explanation:**

RG-6 is a type of coaxial cable that is commonly used by cable companies to provide Internet access from the demarcation point back to the central office. It has a thicker conductor and better shielding than RG-59, which is another type of coaxial cable. Multimode and Cat 5e are types of fiber optic and twisted pair cables respectively, which are not typically used by cable companies. Cat 6 and 100BASE-T are standards for twisted pair cables, not types of cabling.

**NEW QUESTION 80**

- (Exam 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 85**

- (Exam Topic 2)

A network technician is reviewing an upcoming project's requirements to implement IaaS. Which of the following should the technician consider?

- A. Software installation processes
- B. Type of database to be installed
- C. Operating system maintenance
- D. Server hardware requirements

**Answer: D**

**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. When implementing IaaS, the network technician should consider the server hardware requirements, such as CPU, RAM, disk space, and network bandwidth, that are needed to run the applications and services on the cloud. The other options are not relevant to IaaS, as they are either handled by the cloud provider or by the end-user. References: <https://www.comptia.org/blog/what-is-iaas>

**NEW QUESTION 90**

- (Exam 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 91**

- (Exam 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 93**

- (Exam Topic 2)

Which of the following is used to provide networking capability for VMs at Layer 2 of the OSI model?

- A. VPN
- B. VRRP
- C. vSwitch
- D. VIP

**Answer:** C

**Explanation:**

A vSwitch (virtual switch) is a software-based switch that provides networking capability for VMs (virtual machines) at Layer 2 of the OSI model. It connects the VMs to each other or to external networks using virtual NICs (network interface cards). A VPN (virtual private network) is a technology that creates a secure tunnel over a public network for remote access or site-to-site connectivity. VRRP (Virtual Router Redundancy Protocol) is a protocol that provides high availability for routers by creating a virtual router with multiple physical routers. A VIP (virtual IP) is an IP address that can be shared by multiple servers or devices for load balancing or failover purposes.

**NEW QUESTION 95**

- (Exam 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/>

**NEW QUESTION 97**

- (Exam Topic 2)

Two remote offices need to be connected securely over an untrustworthy MAN. Each office needs to access network shares at the other site. Which of the following will BEST provide this functionality?

- A. Client-to-site VPN
- B. Third-party VPN service
- C. Site-to-site VPN
- D. Split-tunnel VPN

**Answer:** C

**Explanation:**

A site-to-site VPN is a type of VPN that connects two or more remote offices securely over an untrustworthy network, such as the Internet. A site-to-site VPN allows each office to access network shares and resources at the other site, as if they were on the same local network. A site-to-site VPN encrypts and tunnels the traffic between the offices, ensuring privacy and integrity of the data. References: <https://www.comptia.org/blog/what-is-a-site-to-site-vpn>

**NEW QUESTION 100**

- (Exam Topic 2)

A user is having difficulty with video conferencing and is looking for assistance. Which of the following would BEST improve performance?



- A. Packet shaping
- B. Quality of service
- C. Port mirroring
- D. Load balancing

**Answer: B**

**Explanation:**

Quality of service (QoS) is a mechanism that prioritizes network traffic based on different criteria, such as application type, source and destination address, port number, etc., and allocates bandwidth and resources accordingly. QoS would best improve performance for video conferencing, as it would ensure that video traffic gets higher priority and lower latency than other types of traffic on the network. Packet shaping is a technique that controls the rate or volume of network traffic by delaying or dropping packets that exceed certain thresholds or violate certain policies, which may not improve performance for video conferencing if it causes packet loss or jitter. Port mirroring is a technique that copies traffic from one port to another port on a switch for monitoring or analysis purposes, which does not improve performance for video conferencing at all. Load balancing is a technique that distributes network traffic across multiple servers or devices for improved availability and scalability, which does not

**NEW QUESTION 104**

- (Exam 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 108**

- (Exam 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 109**

- (Exam Topic 2)

A network technician is investigating an IP phone that does not register in the VoIP system. Although it received an IP address, it did not receive the necessary DHCP options. The information that is needed for the registration is distributed by the DHCP scope. All other IP phones are working properly. Which of the following does the technician need to verify?

- A. VLAN mismatch
- B. Transceiver mismatch
- C. Latency
- D. DHCP exhaustion

**Answer: A**

**Explanation:**

A VLAN mismatch is the most likely reason why an IP phone does not receive the necessary DHCP options for registration. A VLAN mismatch occurs when a device is connected to a switch port that belongs to a different VLAN than the device's intended VLAN. This can cause communication problems or prevent access to network resources. For example, if an IP phone is connected to a switch port that belongs to the data VLAN instead of the voice VLAN, it may not receive the DHCP options that contain information such as the TFTP server address, the NTP server address, or the default gateway address for the voice VLAN. These DHCP options are essential for the IP phone to register with the VoIP system and function properly. References:

<https://www.cisco.com/c/en/us/support/docs/voice-unified-communications/unified-communications-manager-c>

**NEW QUESTION 110**

- (Exam Topic 2)



A network technician has multimode fiber optic cable available in an existing IDF. Which of the following Ethernet standards should the technician use to connect the network switch to the existing fiber?

- A. 10GBaseT
- B. 1000BaseT
- C. 1000BaseSX
- D. 1000BaseLX

**Answer:** C

**Explanation:**

1000BaseSX is an Ethernet standard that should be used to connect the network switch to the existing multimode fiber optic cable. 1000BaseSX is a Gigabit Ethernet standard that uses short-wavelength laser (850 nm) over multimode fiber optic cable. It can support distances up to 550 meters depending on the cable type and quality. It is suitable for short-range network segments such as campus or building backbone networks. References: <https://www.cisco.com/c/en/us/products/collateral/interfaces-modules/gigabit-ethernet-gbic-sfp-modules/produ>

**NEW QUESTION 115**

- (Exam Topic 2)

A network administrator is talking to different vendors about acquiring technology to support a new project for a large company. Which of the following documents will MOST likely need to be signed before information about the project is shared?

- A. BYOD policy
- B. NDA
- C. SLA
- D. MOU

**Answer:** B

**Explanation:**

NDA stands for Non-Disclosure Agreement, which is a legal contract between two or more parties that outlines confidential material, knowledge, or information that the parties wish to share with one another for certain purposes, but wish to restrict access to by others. A network administrator may need to sign an NDA before sharing information about a new project with different vendors, as the project may involve sensitive or proprietary data that the company wants to protect from competitors or unauthorized use. References: <https://www.adobe.com/sign/esignature-resources/sign-nda.html>

**NEW QUESTION 119**

- (Exam 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 120**

- (Exam Topic 2)

Which of the following policies is MOST commonly used for guest captive portals?

- A. AUP
- B. DLP
- C. BYOD
- D. NDA

**Answer:** A

**Explanation:**

AUP stands for Acceptable Use Policy, which is a policy that defines the rules and guidelines for using a network or service. A guest captive portal is a web page that requires users to agree to the AUP before accessing the Internet or other network resources. This is a common way to enforce security and legal compliance for guest users. References: [https://www.arubanetworks.com/techdocs/Instant\\_87\\_WebHelp/Content/instant-ug/captive-portal/captive-portal](https://www.arubanetworks.com/techdocs/Instant_87_WebHelp/Content/instant-ug/captive-portal/captive-portal)

**NEW QUESTION 125**

- (Exam 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 130**

- (Exam Topic 2)

A technician is troubleshooting a workstation's network connectivity and wants to confirm which switchport corresponds to the wall jack the PC is using Which of the following concepts would BEST help the technician?

- A. Consistent labeling
- B. Change management
- C. Standard work instructions
- D. Inventory management
- E. Network baseline

**Answer:** A

**Explanation:**

Consistent labeling would be the concept that would best help the technician to confirm which switchport corresponds to the wall jack the PC is using. Consistent labeling is a practice of using standardized and descriptive labels for network devices, ports, cables, jacks, and other components. It can help with identifying, locating, and troubleshooting network issues. For example, a technician can use consistent labeling to trace a cable from a PC to a wall jack, and then from a patch panel to a switchport. References: [https://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Data\\_Center/DC\\_Infra2\\_5/DCInfra\\_6.html](https://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Data_Center/DC_Infra2_5/DCInfra_6.html)

**NEW QUESTION 134**

- (Exam 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 138**

- (Exam 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 139**

- (Exam Topic 2)

Which of the following technologies allows traffic to be sent through two different ISPs to increase performance?

- A. Fault tolerance
- B. Quality of service
- C. Load balancing
- D. Port aggregation

**Answer:** C

**Explanation:**

Load balancing is a technology that allows traffic to be sent through two different ISPs to increase performance. Load balancing is a process of distributing network traffic across multiple servers or links to optimize resource utilization, throughput, latency, and reliability. Load balancing can be implemented at different layers of the OSI model, such as layer 4 (transport) or layer 7 (application). Load balancing can also be used for outbound traffic by using multiple ISPs and routing protocols such as BGP (Border Gateway Protocol) to select the best path for each packet. References:

[https://www.cisco.com/c/en/us/products/collateral/ios-nx-os-software/border-gateway-protocol-bgp/prod\\_white\\_](https://www.cisco.com/c/en/us/products/collateral/ios-nx-os-software/border-gateway-protocol-bgp/prod_white_)

**NEW QUESTION 144**

- (Exam Topic 2)

During the security audit of a financial firm the Chief Executive Officer (CEO) questions why there are three employees who perform very distinct functions on the server. There is an administrator for creating users another for assigning the users to groups and a third who is the only administrator to perform file rights assignment Which of the following mitigation techniques is being applied'

- A. Privileged user accounts
- B. Role separation
- C. Container administration
- D. Job rotation

**Answer: B**

**Explanation:**

Role separation is a security principle that involves dividing the tasks and privileges for a specific business process among multiple users. This reduces the risk of fraud and errors, as no one user has complete control over the process. In the scenario, there are three employees who perform very distinct functions on the server, which is an example of role separation. References: <https://hyperproof.io/resource/segregation-of-duties/>

**NEW QUESTION 146**

- (Exam Topic 2)

A company that uses VoIP telephones is experiencing intermittent issues with one-way audio and dropped conversations The manufacturer says the system will work if ping times are less than 50ms. The company has recorded the following ping times:

10ms	10ms	10ms	100ms	70ms	5ms	5ms	80ms	100ms	5ms	5ms
------	------	------	-------	------	-----	-----	------	-------	-----	-----

Which of the following is MOST likely causing the issue?

- A. Attenuation
- B. Latency
- C. VLAN mismatch
- D. Jitter

**Answer: D**

**Explanation:**

Jitter is most likely causing the issue of intermittent one-way audio and dropped conversations for the company that uses VoIP telephones. Jitter is a variation in delay of packets arriving at the destination. It can cause choppy or distorted audio quality for VoIP applications, especially over WAN links that have limited bandwidth and high latency. The recommended jitter for VoIP is less than 10ms. The company has recorded ping times that exceed 50ms, which indicates high jitter and latency on their network. References: <https://www.voip-info.org/voip-jitter/> 1

**NEW QUESTION 147**

- (Exam 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:**

\* 255.255.252.1 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 150**

- (Exam Topic 2)

Which of the following is MOST commonly used to address CVEs on network equipment and/or operating systems?

- A. Vulnerability assessment
- B. Factory reset
- C. Firmware update
- D. Screened subnet

**Answer: C**

**Explanation:**

Firmware is a type of software that controls the low-level functions of a hardware device, such as a router, switch, printer, or camera. Firmware updates are

patches or upgrades that fix bugs, improve performance, add features, or address security vulnerabilities in firmware. Firmware updates are commonly used to address CVEs (Common Vulnerabilities and Exposures) on network equipment and operating systems, as CVEs are publicly known flaws that can be exploited by attackers. References:

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

**NEW QUESTION 151**

- (Exam 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 155**

- (Exam Topic 2)

A customer wants to segregate the traffic between guests on a hypervisor. Which of the following does a technician need to configure to meet the requirement?

- A. Virtual switches
- B. OSPF routing
- C. Load balancers
- D. NIC teaming
- E. Fibre Channel

**Answer: A**

**Explanation:**

A virtual switch is a software-based switch that connects virtual machines on a hypervisor. A virtual switch can create and manage VLANs, which are logical segments of a network that isolate traffic between different groups of devices. A customer can use virtual switches to segregate the traffic between guests on a hypervisor by creating a separate VLAN for each guest and assigning it to a virtual switch port. References: <https://www.comptia.org/blog/what-is-a-virtual-switch>

**NEW QUESTION 158**

- (Exam Topic 2)

Which of the following would be used to expedite MX record updates to authoritative NSs?

- A. UDP forwarding
- B. DNS caching
- C. Recursive lookup
- D. Time to live

**Answer: D**

**Explanation:**

Time to live (TTL) is a value that indicates how long a DNS record can be cached by authoritative NSs (name servers) or other DNS servers before it expires and needs to be updated. A lower TTL value would expedite MX record updates to authoritative NSs, as they would refresh the record more frequently. UDP forwarding is not a DNS term, but a technique of sending UDP packets from one host to another. DNS caching is the process of storing DNS records locally for faster resolution, which does not expedite MX record updates. Recursive lookup is a type of DNS query where a DNS server queries other DNS servers on behalf of a client until it finds the answer, which does not expedite MX record updates.

**NEW QUESTION 163**

- (Exam 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 166

- (Exam Topic 3)

A technician is investigating a misconfiguration on a Layer 3 switch. When the technician logs in and runs a command, the following data is shown: Which of the following commands generated this output?

- A. show route
- B. show config
- C. show interface
- D. tcpdump
- E. netstat —s

**Answer: C**

#### Explanation:

The output shown in the image is from the show interface command, which displays information about the status and configuration of a network interface on a switch or router. The output includes the interface name, description, MAC address, IP address, speed, duplex mode, status, and statistics. The show route command displays the routing table of the device. The show config command displays the current configuration of the device. The tcpdump command captures and analyzes network traffic. The netstat -s command displays statistics for each protocol.

References: CompTIA Network+ Certification Exam Objectives Version 7.0 (N10-007), Objective 2.4: Given a scenario, use appropriate software tools to troubleshoot connectivity issues.

#### NEW QUESTION 170

- (Exam Topic 3)

A technician is consolidating a topology with multiple SSIDs into one unique SSID deployment. Which of the following features will be possible after this new configuration?

- A. Seamless roaming
- B. Basic service set
- C. WPA
- D. MU-MIMO

**Answer: A**

#### NEW QUESTION 175

- (Exam Topic 3)

A company is reviewing ways to cut the overall cost of its IT budget. A network technician suggests removing various computer programs from the IT budget and only providing these programs on an as-needed basis. Which of the following models would meet this requirement?

- A. Multitenancy
- B. IaaS
- C. SaaS
- D. VPN

**Answer: C**

#### Explanation:

SaaS stands for Software as a Service and is a cloud computing model where software applications are hosted and delivered over the internet by a service provider. SaaS can help the company cut the overall cost of its IT budget by eliminating the need to purchase, install, update, and maintain various computer programs on its own devices. The company can access the programs on an as-needed basis and pay only for what it uses. Multitenancy is a feature of cloud computing where multiple customers share the same physical or virtual resources. IaaS stands for Infrastructure as a Service and is a cloud computing model where computing resources such as servers, storage, and networking are provided over the internet by a service provider. VPN stands for Virtual Private Network and is a technology that creates a secure and encrypted connection over a public network.

References: CompTIA Network+ Certification Exam Objectives Version 7.0 (N10-007), Objective 1.9: Compare and contrast common network service types.

#### NEW QUESTION 180

- (Exam Topic 3)

A company needs a redundant link to provide a channel to the management network in an incident response scenario. Which of the following remote access methods provides the BEST solution?

- A. Out-of-band access
- B. Split-tunnel connections
- C. Virtual network computing
- D. Remote desktop gateways

**Answer: A**

#### Explanation:

Out-of-band access is a remote access method that provides a separate, independent channel for accessing network devices and systems. Out-of-band access uses a dedicated network connection or a separate communication channel, such as a dial-up or cellular connection, to provide access to network devices and systems. This allows an administrator to access the management network even if the primary network connection is unavailable or impaired. Out-of-band access is a good solution for providing a redundant link to the management network in an incident response scenario because it can be used to access the network even if the primary connection is unavailable or impaired.

#### NEW QUESTION 183

- (Exam Topic 3)

A network device needs to discover a server that can provide it with an IPv4 address. Which of the following does the device need to send the request to?

- A. Default gateway
- B. Broadcast address



- C. Unicast address
- D. Link local address

**Answer:** B

**Explanation:**

The DHCP client sends broadcast request packets to the network; the DHCP servers respond with broadcast packets that offer IP parameters, such as an IP address for the client. After the client chooses the IP parameters, communication between the client and server is by unicast packets.

"When a DHCP client boots up, it automatically sends out a DHCP Discover UDP datagram to the broadcast address, 255.255.255.255. This DHCP Discover message asks "Are there any DHCP servers out there?" The client can't send unicast traffic yet, as it doesn't have a valid IP address that can be used."

**NEW QUESTION 184**

- (Exam Topic 3)

A technician manages a DHCP scope but needs to allocate a portion of the scope's subnet for statically assigned devices. Which of the following DHCP concepts would be BEST to use to prevent IP address conflicts?

- A. Dynamic assignment
- B. Exclusion range
- C. Address reservation
- D. IP helper

**Answer:** B

**Explanation:**

To prevent IP address conflicts when allocating a portion of a DHCP scope's subnet for statically assigned devices, it is recommended to use the concept of DHCP exclusion ranges. DHCP exclusion ranges allow a DHCP administrator to specify a range of IP addresses within the scope that should not be assigned to DHCP clients. This can be useful in situations where some devices on the network need to be assigned static IP addresses, as it ensures that the statically assigned addresses do not overlap with addresses assigned by the DHCP server. To set up a DHCP exclusion range, the administrator needs to specify the start and end IP addresses of the range, as well as the subnet mask. The DHCP server will then exclude the specified range of addresses from its pool of available addresses, and will not assign them to DHCP clients. By using DHCP exclusion ranges, the technician can ensure that the statically assigned addresses do not conflict with addresses assigned by the DHCP server, and can prevent IP address conflicts on the network.

Anthony Sequeira

"Another frequent configuration you might make in a DHCP implementation is to configure an exclusion range. This is a portion of the address pool that you never want leased out to clients in the network. Perhaps you have numbered your servers 192.168.1.1–192.168.1.10. Because the servers are statically configured with these addresses, you exclude these addresses from the 192.168.1.0/24 pool of addresses."

Mike Meyers

"Exclusion ranges represent an IP address or range of IP addresses from the pool of addresses that are not to be given out by the DHCP server. Exclusions should be made for the static addresses manually configured on servers and router interfaces, so these IP addresses won't be offered to DHCP clients."

**NEW QUESTION 187**

- (Exam Topic 3)

A company has wireless APS that were deployed with 802.11g. A network engineer has noticed more frequent reports of wireless performance issues during the lunch hour in comparison to the rest of the day. The engineer thinks bandwidth consumption will increase while users are on their breaks, but network utilization logs do not show increased bandwidth numbers. Which Of the following would MOST likely resolve this issue?

- A. Adding more wireless APS
- B. Increasing power settings to expand coverage
- C. Configuring the APS to be compatible with 802.11a
- D. Changing the wireless channel used

**Answer:** C

**Explanation:**

\* 802.11 g is an older wireless standard that operates in the 2.4 GHz frequency band and has a maximum data rate of 54 Mbps. 802.11a is a newer wireless standard that operates in the 5 GHz frequency band and has a maximum data rate of 54 Mbps. By configuring the APS to be compatible with 802.11a, the network engineer can reduce interference and congestion in the 2.4 GHz band and improve wireless performance.

References: Network+ Study Guide Objective 2.5: Implement network troubleshooting methodologies

**NEW QUESTION 192**

- (Exam Topic 3)

A network technician needs to ensure that all files on a company's network can be moved in a safe and protected manner without interception from someone who is not the intended recipient. Which of the following would allow the network technician to meet these requirements?

- A. FTP
- B. TFTP
- C. SMTP
- D. SFTP

**Answer:** D

**NEW QUESTION 194**

- (Exam Topic 3)

Which of the following layers of the OSI model has new protocols activated when a user moves from a wireless to a wired connection?

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

**Answer:** A

**Explanation:**

"The Data Link layer also determines how data is placed on the wire by using an access method. The wired access method, carrier-sense multiple access with collision detection (CSMA/CD), was once used by all wired Ethernet networks, but is automatically disabled on switched full-duplex links, which have been the norm for decades. Carrier-sense multiple access with collision avoidance (CSMA/CA) is used by wireless networks, in a similar fashion."

**NEW QUESTION 196**

- (Exam Topic 3)

Which of the following would MOST likely utilize PoE?

- A. A camera
- B. A printer
- C. A hub
- D. A modem

**Answer:** A

**Explanation:**

A camera is most likely to utilize PoE (Power over Ethernet). PoE is a technology that allows electrical power to be delivered over Ethernet cables. It is used to power a variety of devices, such as cameras, phones, access points, and other networking equipment. Cameras are particularly well-suited for PoE because they are often installed in locations where it is difficult or impossible to run electrical power. By using PoE, cameras can be powered directly over the Ethernet cable, eliminating the need for separate power cables and outlets. Other devices, such as printers, hubs, and modems, are less likely to utilize PoE because they typically do not need to be powered over Ethernet. These devices are usually powered by AC (alternating current) power and are typically connected to a power outlet rather than an Ethernet cable.

**NEW QUESTION 201**

- (Exam Topic 3)

A systems operator is granted access to a monitoring application, configuration application, and timekeeping application. The operator is denied access to the financial and project management applications by the system's security configuration. Which of the following BEST describes the security principle in use?

- A. Network access control
- B. Least privilege
- C. Multifactor authentication
- D. Separation of duties

**Answer:** D

**NEW QUESTION 204**

- (Exam 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. tracert
- D. ping

**Answer:** C

**NEW QUESTION 209**

- (Exam Topic 3)

A network technician is troubleshooting an area where the wireless connection to devices is poor. The technician theorizes that the signal-to-noise ratio in the area is causing the issue. Which of the following should the technician do NEXT?

- A. Run diagnostics on the relevant devices.
- B. Move the access point to a different location.
- C. Escalate the issue to the vendor's support team.
- D. Remove any electronics that might be causing interference.

**Answer:** D

**NEW QUESTION 212**

- (Exam Topic 3)

Which of the following is the MOST cost-effective alternative that provides proper cabling and supports gigabit Ethernet devices?

- A. Twisted cable with a minimum Cat 5e certification
- B. Multimode fiber with an SC connector
- C. Twinaxial cabling using an F-type connector
- D. Cable termination using TIA/EIA-568-B

**Answer:** A

**Explanation:**

twisted cable with a minimum Cat 5e certification is the MOST cost-effective alternative that provides proper cabling and supports gigabit Ethernet devices.

#### NEW QUESTION 215

- (Exam Topic 3)

An administrator needs to connect two laptops directly to each other using 802.11ac but does not have an AP available. Which of the following describes this configuration?

- A. Basic service set
- B. Extended service set
- C. Independent basic service set
- D. MU-MIMO

**Answer:** C

#### NEW QUESTION 216

- (Exam Topic 3)

Many IP security cameras use RTSP to control media playback. Which of the following default transport layer port numbers does RTSP use?

- A. 445
- B. 554
- C. 587
- D. 5060

**Answer:** B

#### Explanation:

RTSP stands for Real Time Streaming Protocol and is an application-level network protocol designed for controlling media playback on streaming media servers. RTSP uses the default transport layer port number 554 for both TCP and UDP. Port 445 is used for SMB (Server Message Block), a protocol for file and printer sharing. Port 587 is used for SMTP (Simple Mail Transfer Protocol), a protocol for sending email messages. Port 5060 is used for SIP (Session Initiation Protocol), a protocol for initiating and managing multimedia sessions.

References: 1 Real Time Streaming Protocol - Wikipedia ([https://en.wikipedia.org/wiki/Real\\_Time\\_Streaming\\_Protocol](https://en.wikipedia.org/wiki/Real_Time_Streaming_Protocol))

#### NEW QUESTION 220

- (Exam Topic 3)

All packets arriving at an interface need to be fully analyzed. Which of the following features should be used to enable monitoring of the packets?

- A. LACP
- B. Flow control
- C. Port mirroring
- D. NetFlow exporter

**Answer:** C

#### Explanation:

Port mirroring is a feature that can be used to enable monitoring of all packets arriving at an interface. This feature is used to direct a copy of all traffic passing through the switch to a monitoring device, such as a network analyzer. This allows the switch to be monitored with the network analyzer in order to identify any malicious or suspicious activity. Additionally, port mirroring can be used to troubleshoot network issues, such as latency or poor performance.

#### NEW QUESTION 221

- (Exam Topic 3)

A new global ISP needs to connect from central offices in North America to the United Kingdom. Which of the following would be the BEST cabling solution for this project?

- A. Single-mode
- B. Coaxial
- C. Cat 6a
- D. Twinaxial

**Answer:** A

#### Explanation:

For a new global ISP to connect from central offices in North America to the United Kingdom, the best cabling solution would be single-mode fiber optic cable.

Single-mode fiber optic cable is a type of cable that is used to transmit data over long distances using light signals. It is typically used in long-haul communication networks, such as those that connect different countries or continents.

#### NEW QUESTION 222

- (Exam Topic 3)

Due to concerns around single points of failure, a company decided to add an additional WAN to the network. The company added a second MPLS vendor to the current MPLS WAN and deployed an additional WAN router at each site. Both MPLS providers use OSPF on the WAN network, and EIGRP is run internally. The first site to go live with the new WAN is successful, but when the second site is activated significant network issues occur. Which of the following is the MOST likely cause for the WAN instability?

- A. A routing loop
- B. Asymmetrical routing
- C. A switching loop
- D. An incorrect IP address

**Answer:** B

#### Explanation:

Asymmetrical routing is the most likely cause for the WAN instability. When two different routing protocols are used, like OSPF and EIGRP, it can cause asymmetrical routing, which results in traffic being routed differently in each direction. This can lead to instability in the WAN. A CDP neighbor change, a switching loop, or an incorrect IP address are not likely causes for WAN instability.

**NEW QUESTION 226**

- (Exam Topic 3)

On a network with redundant switches, a network administrator replaced one of the switches but was unable to get a connection with another switch. Which of the following should the administrator check after successfully testing the cable that was wired for TIA/EIA-568A on both ends?

- A. If MDIX is enabled on the new switch
- B. If PoE is enabled
- C. If a plenum cable is being used
- D. If STP is disabled on the switches

**Answer:** A

**Explanation:**

Auto-MDIX (or medium dependent interface crossover) is a feature that automatically detects the type of cable connection and configures the interface accordingly (i.e. straight-through or crossover). This ensures that the connection between the two switches is successful. This is referenced in the CompTIA Network+ Study Manual, page 519.

**NEW QUESTION 227**

- (Exam Topic 3)

Users within a corporate network need to connect to the Internet, but corporate network policy does not allow direct connections. Which of the following is MOST likely to be used?

- A. Proxy server
- B. VPN client
- C. Bridge
- D. VLAN

**Answer:** A

**NEW QUESTION 231**

- (Exam Topic 3)

A technician needs to configure a routing protocol for an internet-facing edge router. Which of the following routing protocols will the technician MOST likely use?

- A. BGP
- B. RIPv2
- C. OSPF
- D. EIGRP

**Answer:** A

**NEW QUESTION 236**

- (Exam Topic 3)

A network administrator needs to provide evidence to confirm that recent network outages were caused by increased traffic generated by a recently released application. Which of the following actions will BEST support the administrator's response?

- A. Generate a network baseline report for comparison.
- B. Export the firewall traffic logs.
- C. Collect the router's NetFlow data.
- D. Plot interface statistics for dropped packets.

**Answer:** C

**NEW QUESTION 240**

- (Exam Topic 3)

A network administrator is getting reports of some internal users who cannot connect to network resources. The users state they were able to connect last week, but not today. No changes have been configured on the network devices or server during the last few weeks. Which of the following is the MOST likely cause of the issue?

- A. The client DHCP scope is fully utilized
- B. The wired network is experiencing electrical interference
- C. The captive portal is down and needs to be restarted
- D. SNMP traps are being received
- E. The packet counter on the router interface is high.

**Answer:** A

**NEW QUESTION 242**

- (Exam Topic 3)

A new company recently moved into an empty office space. Within days, users in the next office began noticing increased latency and packet drops with their Wi-Fi-connected devices. Which of the following is the MOST likely reason for this issue?

- A. Channel overlap
- B. Distance from the AP

- C. Bandwidth latency
- D. RF attenuation
- E. Network congestion

**Answer:** A

#### NEW QUESTION 247

- (Exam Topic 3)

A network technician receives a report about a performance issue on a client PC that is connected to port 1/3 on a network switch. The technician observes the following configuration output from the switch:

1/1	Client PC	Connected	Full	1000
1/2	Client PC	Connected	Full	1000
1/3	Client PC	Connected	Full	10

Which of the following is a cause of the issue on port 1/3?

- A. Speed
- B. Duplex
- C. Errors
- D. VLAN

**Answer:** A

#### NEW QUESTION 252

- (Exam Topic 3)

A network administrator is configuring logging on an edge switch. The requirements are to log each time a switch port goes up or down. Which of the following logging levels will provide this information?

- A. Warnings
- B. Notifications
- C. Alert
- D. Errors

**Answer:** B

#### Explanation:

Notifications are the lowest logging level and will provide the desired information regarding switch port up/down activity. According to the CompTIA Network+ Study Manual, notifications "are used for logging normal activities, such as port up/down events, link changes, and link flaps."

#### NEW QUESTION 255

- (Exam Topic 3)

A network engineer is investigating reports of poor performance on a videoconferencing application. Upon reviewing the report, the engineer finds that available bandwidth at the WAN connection is low.

Which Of the following is the MOST appropriate mechanism to handle this issue?

- A. Traffic shaping
- B. Flow control
- C. NetFlow
- D. Link aggregation

**Answer:** A

#### Explanation:

Traffic shaping is a congestion management method that regulates network data transfer by delaying the flow of less important or less desired packets<sup>1</sup>. Traffic shaping can help to improve the performance of a videoconferencing application by prioritizing its packets over other types of traffic and smoothing out traffic bursts. Traffic shaping can also help to avoid packet loss and ensure fair allocation of bandwidth among different applications or users.

Flow control is a mechanism that prevents a sender from overwhelming a receiver with more data than it can handle. Flow control can help to avoid buffer overflow and data loss, but it does not prioritize different types of traffic or smooth out traffic bursts. Flow control operates at the data link layer or the transport layer, while traffic shaping operates at the network layer or above.

NetFlow is a protocol that collects and analyzes network traffic data for monitoring and troubleshooting purposes<sup>2</sup>. NetFlow can help to identify the sources, destinations, volumes, and types of traffic on a network, but it does not regulate or shape the traffic flow. NetFlow operates at the network layer or above.

Link aggregation is a technique that combines multiple physical links into one logical link for increased bandwidth, redundancy, and load balancing. Link aggregation can help to improve the performance of a videoconferencing application by providing more available bandwidth at the WAN connection, but it does not prioritize different types of traffic or smooth out traffic bursts. Link aggregation operates at the data link layer.

#### NEW QUESTION 258

- (Exam Topic 3)

Which of the following protocols is widely used in large-scale enterprise networks to support complex networks with multiple routers and balance traffic load on multiple links?

- A. OSPF
- B. RIPv2
- C. QoS
- D. STP

**Answer:** A



#### NEW QUESTION 263

- (Exam Topic 3)

A company wants to add a local redundant data center to its network in case of failure at its primary location. Which of the following would give the LEAST amount of redundancy for the company's network?

- A. Cold site
- B. Hot site
- C. Cloud site
- D. Warm site

**Answer:** A

#### NEW QUESTION 265

- (Exam Topic 3)

Which of the following is an advanced distance vector routing protocol that automates routing tables and also uses some features of link-state routing protocols?

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

**Answer:** C

#### Explanation:

EIGRP is an advanced distance vector routing protocol that is able to automatically update routing tables and also uses features of link-state routing protocols, such as the ability to send updates about the current topology of the network. EIGRP also has the ability to use a variety of algorithms to determine the best route for a packet to take, allowing for more efficient routing across the network.

#### NEW QUESTION 266

- (Exam Topic 3)

A network technician recently installed 35 additional workstations. After installation, some users are unable to access network resources. Many of the original workstations that are experiencing the network access issue were offline when the new workstations were turned on. Which of the following is the MOST likely cause of this issue?

- A. Incorrect VLAN setting
- B. Insufficient DHCP scope
- C. Improper NIC setting
- D. Duplicate IP address

**Answer:** B

#### NEW QUESTION 271

- (Exam Topic 3)

A network technician is attempting to increase throughput by configuring link port aggregation between a Gigabit Ethernet distribution switch and a Fast Ethernet access switch. Which of the following is the BEST choice concerning speed and duplex for all interfaces that are participating in the link aggregation?

- A. Half duplex and 1GB speed
- B. Full duplex and 1GB speed
- C. Half duplex and 100MB speed
- D. Full duplex and 100MB speed

**Answer:** B

#### Explanation:

The best choice for configuring link port aggregation between a Gigabit Ethernet distribution switch and a Fast Ethernet access switch is to use full duplex and 1GB speed for all interfaces that are participating in the link aggregation. This will allow for maximum throughput, as the full duplex connection will enable simultaneous sending and receiving of data, and the 1GB speed will ensure that the data is transferred quickly.

According to the CompTIA Network+ Study Guide, "Full-duplex Ethernet allows the network adapter to transmit and receive data simultaneously, which can result in double the bandwidth of half-duplex Ethernet." Additionally, the official text states, "Ethernet and Fast Ethernet use different speeds for data transmission, with Ethernet being 1,000 megabits (1 gigabit) per second and Fast Ethernet being 100 megabits per second."

#### NEW QUESTION 274

- (Exam Topic 3)

A network technician is working at a new office location and needs to connect one laptop to another to transfer files. The laptops are newer models and do not have Ethernet ports. Access points are not available either. Which Of the following types Of wireless network SSIDs does the network technician need to configure to be able to connect the laptops together?

- A. Independent Basic Service Set
- B. Extended Service Set
- C. Distribution System Service
- D. Basic Service Set

**Answer:** A

#### Explanation:

An Independent Basic Service Set (IBSS) is a type of wireless network that does not require an access point or a wired network. An IBSS allows wireless devices to communicate directly with each other using ad hoc mode. An IBSS is also known as an ad hoc network or a peer-to-peer network. A network technician can configure an IBSS to connect two laptops together and transfer files.

References: Network+ Study Guide Objective 1.4: Explain the properties and characteristics of TCP/IP

**NEW QUESTION 278**

- (Exam Topic 3)

A company's web server is hosted at a local ISP. This is an example of:

- A. allocation.
- B. an on-premises data center.
- C. a branch office.
- D. a cloud provider.

**Answer:** D

**NEW QUESTION 283**

- (Exam Topic 3)

Which of the following is most likely to have the HIGHEST latency while being the most accessible?

- A. Satellite
- B. DSL
- C. Cable
- D. 4G

**Answer:** A

**NEW QUESTION 285**

- (Exam Topic 3)

A network administrator is implementing process changes based on recommendations following a recent penetration test. The testers used a method to gain access to the network that involved exploiting a publicly available and fixed remote code execution vulnerability in the VPN appliance. Which of the following should the administrator do to BEST prevent this from happening again?

- A. Change default passwords on internet-facing hardware.
- B. Implement robust ACLs with explicit deny-all entries.
- C. Create private VLANs for management plane traffic.
- D. Routinely upgrade all network equipment firmware.

**Answer:** D

**Explanation:**

Firmware is the software that runs on network equipment such as routers, switches, and VPN appliances. Firmware updates often contain bug fixes, security patches, and performance improvements that can prevent or mitigate vulnerabilities and attacks. By routinely upgrading all network equipment firmware, a network administrator can ensure that the network devices are running the latest and most secure versions of firmware and avoid exploiting known and fixed remote code execution vulnerabilities in the VPN appliance. References: <https://www.comptia.org/training/books/network-n10-008-study-guide> (page 462)

**NEW QUESTION 287**

- (Exam Topic 3)

A technician was cleaning a storage closet and found a box of transceivers labeled 8Gbps. Which of the following protocols uses those transceivers?

- A. Coaxial over Ethernet
- B. Internet Small Computer Systems Interface
- C. Fibre Channel
- D. Gigabit interface converter

**Answer:** C

**Explanation:**

The transceivers labeled 8Gbps are likely to be used with the Fibre Channel protocol. Fibre Channel is a high-speed networking technology that is primarily used to connect storage devices to servers in storage area networks (SANs). It is capable of transmitting data at speeds of up to 8 Gbps (gigabits per second), and uses specialized transceivers to transmit and receive data over fiber optic cables.

Coaxial over Ethernet (CoE) is a networking technology that uses coaxial cables to transmit data, and is not related to the transceivers in question. Internet Small Computer Systems Interface (iSCSI) is a protocol that allows devices to communicate over a network using the SCSI protocol, and does not typically use specialized transceivers. Gigabit interface converter (GBIC) is a type of transceiver used to transmit and receive data over fiber optic cables, but it is not capable of transmitting data at 8 Gbps.

**NEW QUESTION 291**

- (Exam Topic 3)

To comply with an industry regulation, all communication destined to a secure server should be logged and archived on a storage device. Which of the following can be configured to fulfill this requirement?

- A. QoS traffic classification
- B. Port mirroring
- C. Flow control
- D. Link Aggregation Control Protocol

**Answer:** B

**NEW QUESTION 292**

- (Exam Topic 3)

A Wi-Fi network was recently deployed in a new, multilevel building. Several issues are now being reported related to latency and drops in coverage. Which of the following is the FIRST step to troubleshoot the issues?

- A. Perform a site survey.
- B. Review the AP placement
- C. Monitor channel utilization.
- D. Test cable attenuation.

**Answer:** A

#### NEW QUESTION 294

- (Exam 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 299

- (Exam Topic 3)

An engineer needs to verify the external record for SMTP traffic. The engineer logged in to the server and entered the nslookup command. Which of the following commands should the engineer send before entering the DNS name?

- A. set type=A
- B. is -d company-mail.com
- C. set domain=company.mail.com
- D. set querytype=Mx

**Answer:** D

#### NEW QUESTION 303

- (Exam 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 307

- (Exam Topic 3)

An IT technician installs five old switches in a network. In addition to the low port rates on these switches, they also have improper network configurations. After three hours, the network becomes overwhelmed by continuous traffic and eventually shuts down. Which of the following is causing the issue?

- A. Broadcast storm
- B. Collisions
- C. IP settings
- D. Routing loops

**Answer:** A

#### Explanation:

A broadcast storm is a situation where a network is flooded with broadcast packets, which are sent to all devices on the network. This can consume bandwidth, cause congestion, and degrade performance. A broadcast storm can be caused by improper network configurations, such as loops or misconfigured switches. In this scenario, the old switches may have created loops or failed to filter broadcast packets, resulting in a broadcast storm that overwhelmed the network. References: CompTIA Network+ Certification Exam Objectives Version 7.0 (N10-007), Objective 2.4: Given a scenario, use appropriate software tools to troubleshoot connectivity issues.

#### NEW QUESTION 310

- (Exam Topic 3)

An ISP configured an internet connection to provide 20Mbps, but actual data rates are occurring at 10Mbps and causing a significant delay in data transmission. Which of the following specifications should the ISP check?

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

D. Jitter

**Answer:** A

**Explanation:**

Throughput is the actual amount of data that can be transferred over a network in a given time. Throughput can be affected by various factors such as congestion, interference, errors, or hardware limitations. If the throughput is lower than the configured internet connection speed, it can cause a significant delay in data transmission. The ISP should check the throughput and identify the source of the problem.

References: Network+ Study Guide Objective 2.2: Explain the concepts and characteristics of routing and switching.

**NEW QUESTION 313**

- (Exam Topic 3)

Which of the following should be used to manage outside cables that need to be routed to various multimode uplinks?

- A. Fiber distribution panel
- B. 110 punchdown block
- C. PDU
- D. TIA/EIA-568A patch bay
- E. Cat 6 patch panel

**Answer:** A

**Explanation:**

A fiber distribution panel is a device that provides a central location for connecting and managing fiber optic cables and optical modules. It can support various types and speeds of fiber optic links, including multimode uplinks. Therefore, a fiber distribution panel should be used to manage outside cables that need to be routed to various multimode uplinks.

**NEW QUESTION 316**

- (Exam Topic 3)

A company, which is located in a coastal town, retrofitted an office building for a new data center. The underground fiber optics were brought in and connected to the switches in the basement network MDF. A server data center was built on the fifth floor with the two rooms vertically connected by fiber optics. Which of the following types of environmental sensors is MOST needed?

- A. Temperature sensor in the network MDF
- B. Water sensor in the network MDF
- C. Temperature sensor in the data center
- D. Water sensor in the data center

**Answer:** B

**Explanation:**

A water sensor is a type of environmental sensor that detects the presence of water or moisture in an area. A water sensor is most needed in a network main distribution frame (MDF) that is located in a basement near underground fiber-optic cables. A network MDF is a central point where all the network connections converge and where network equipment such as switches and routers are located. If water leaks into the basement and damages the fiber-optic cables or the network equipment, it can cause network outages, performance degradation, or data loss. A water sensor can alert the network administrator of any water intrusion and help prevent or minimize the damage. References:

<https://www.comptia.org/training/books/network-n10-008-study-guide> (page 446)

**NEW QUESTION 318**

- (Exam 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 319**

- (Exam Topic 3)

A network security engineer locates an unapproved wireless bridge connected to the corporate LAN that is broadcasting a hidden SSID, providing unauthenticated access to internal resources. Which of the following types of attacks BEST describes this finding?

- A. Rogue access point Most Voted
- B. Evil twin
- C. ARP spoofing
- D. VLAN hopping

**Answer:** A

**Explanation:**

A rogue access point is an illegitimate access point plugged into a network to create a bypass from outside into the legitimate network. By contrast, an evil twin is a copy of a legitimate access point.

**NEW QUESTION 321**

- (Exam Topic 3)

The lack of a formal process to grant network permissions to different profiles of employees and contractors is leading to an increasing number of security incidents. Non-uniform and overly permissive network accesses are being granted. Which of the following would be the MOST appropriate method to improve the security of the environment?

- A. Change the default permissions to implicit deny
- B. Configure uniform ACLs to employees and NAC for contractors.
- C. Deploy an RDP server to centralize the access to the network
- D. Implement role-based access control

**Answer:** D

**Explanation:**

The most appropriate method to improve the security of the environment would be to implement role-based access control (RBAC). With RBAC, users are granted access to the network based on their role within the organization. This allows for more granular access control, as different roles may require different levels of access. Additionally, this ensures that users only have access to the resources they need and no more. This helps to reduce the risk of unauthorized access or misuse of the network. References and further information can be found in the CompTIA Network+ Study Manual, Chapter 8, Access Control.

RBAC is a method of restricting network access based on the roles of individual users within the organization. With RBAC, users are granted access only to the resources they need to perform their specific job functions. This approach reduces the risk of unauthorized access, provides greater visibility into user activity, and simplifies network management.

Changing the default permissions to implicit deny may improve security, but it could also cause issues for legitimate users who require access to specific resources. Configuring uniform ACLs and NAC for contractors is a step in the right direction, but it may not be enough to address the overall lack of a formal process for granting network permissions. Deploying an RDP server to centralize access to the network is not a viable solution, as it would not address the root cause of the security incidents.

Therefore, the most appropriate option is to implement role-based access control. Reference: CompTIA Network+ Study Guide, Fourth Edition, Chapter 7, section 7.4.

**NEW QUESTION 322**

- (Exam 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 327**

- (Exam Topic 3)

A coffee shop owner hired a network consultant to provide recommendations for installing a new wireless network. The coffee shop customers expect high speeds even when the network is congested. Which of the following standards should the consultant recommend?

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

**Answer:** B

**Explanation:**

\* 802.11 ax is the latest and most advanced wireless standard, providing higher speeds, lower latency, and more capacity than previous standards. It also supports OFDMA, which allows multiple devices to share a channel and reduce congestion. The other options are older standards that have lower bandwidth, range, and efficiency than 802.11ax. Therefore, 802.11ax is the best option for the coffee shop owner who wants to provide high speeds even when the network is congested.

**NEW QUESTION 332**

- (Exam Topic 3)

A network administrator received a report stating a critical vulnerability was detected on an application that is exposed to the internet. Which of the following is the appropriate NEXT step?

- A. Check for the existence of a known exploit in order to assess the risk
- B. Immediately shut down the vulnerable application server.
- C. Install a network access control agent on the server.
- D. Deploy a new server to host the application.



**Answer:** A

**Explanation:**

The appropriate next step in this situation would be to check for the existence of a known exploit in order to assess the risk. This is important because it will help the network administrator determine the severity of the vulnerability and the potential impact it could have on the organization. Once the network administrator has assessed the risk, they can then take appropriate action to address the vulnerability. This might include patching the application, deploying a new server to host the application, or implementing other security measures to mitigate the risk. It is generally not advisable to immediately shut down the vulnerable application server, as this could disrupt business operations and cause significant downtime. Similarly, installing a network access control agent on the server may not be the most effective solution, as it would not address the underlying vulnerability.

**NEW QUESTION 334**

- (Exam Topic 3)

Given the following Information:

Connection	Cable length	Cable type	Configuration
PC A to switch 1	394ft (120m)	Cat 5	Straight through
Switch 1 to switch 2	3.3ft (1m)	Cat 6	Crossover
Switch 2 to PC B	16ft (5m)	Cat 5	Straight through

Which of the following would cause performance degradation between PC A and PC B?

- A. Attenuation
- B. Interference
- C. Decibel loss
- D. Incorrect pinout

**Answer:** D

**NEW QUESTION 335**

- (Exam Topic 3)

An engineer is using a tool to run an ICMP sweep of a network to find devices that are online. When reviewing the results, the engineer notices a number of workstations that are currently verified as being online are not listed in the report.

The tool was configured to scan using the following information: Network address: 172.28.16.0

CIDR: /22

The engineer collected the following information from the client workstation: IP address: 172.28.17.206

Subnet mask: 255.255.252.0

Which of the following MOST likely explains why the tool is failing to detect some workstations?

- A. The scanned network range is incorrect.
- B. The subnet mask on the client is misconfigured.
- C. The workstation has a firewall enabled.
- D. The tool is unable to scan remote networks.

**Answer:** C

**Explanation:**

A firewall is a device or software that filters and controls the incoming and outgoing network traffic based on predefined rules. A firewall can block ICMP packets, which are used for ping and other diagnostic tools. If the workstation has a firewall enabled, it may not respond to the ICMP sweep and appear as offline. The engineer should check the firewall settings on the workstation and allow ICMP traffic if needed.

References: Network+ Study Guide Objective 4.1: Given a scenario, use the appropriate tool.

**NEW QUESTION 340**

- (Exam Topic 3)

A consultant is working with two international companies. The companies will be sharing cloud resources for a project. Which of the following documents would provide an agreement on how to utilize the resources?

- A. MOU
- B. NDA
- C. AUP
- D. SLA

**Answer:** A

**Explanation:**

A memorandum of understanding (MOU) is a document that describes an agreement between two or more parties on how to utilize shared resources for a project. An MOU is not legally binding, but it outlines the expectations and responsibilities of each party involved in the collaboration. An MOU can be used when two international companies want to share cloud resources for a project without creating a formal contract. References: <https://www.comptia.org/training/books/network-n10-008-study-guide> (page 405)

**NEW QUESTION 341**

- (Exam Topic 3)

Which of the following issues are present with RIPv2? (Select TWO).

- A. Route poisoning
- B. Time to converge
- C. Scalability
- D. Unicast
- E. Adjacent neighbors
- F. Maximum transmission unit

**Answer:** BC

**Explanation:**

The disadvantages of RIP (Routing Information Protocol) include the following.

---Outdated, insecure, and slow. This is your parents' protocol. It was a thing before the Web was born.

---The more well-known problem of the 15 hop limitation in which data must travel

---Convergence time is terrible for information propagation in a network

---Metrics. It determines the number of hops from source to destination, and gives no regard to other factors when determining the best path for data to travel

---Overhead. A good example would be routing tables. These are broadcast at half-minute intervals to other routers regardless of whether the data has changed or not. It's essentially like those old cartoons where the

town guard in the walled city cries out, '10 o' the clock and all is well!'.

RIPv2 introduced more security and reduced broadcast traffic, which is relevant for some available answers here.

**NEW QUESTION 345**

- (Exam 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:** BF

**NEW QUESTION 346**

- (Exam Topic 3)

Which of the following would be BEST suited for use at the access layer in a three-tier architecture system?

- A. Router
- B. Multilayer switch
- C. Layer 2 switch
- D. Access point

**Answer:** C

**Explanation:**

A layer 2 switch is a device that forwards traffic based on MAC addresses within a single network segment or VLAN. A layer 2 switch is best suited for use at the access layer in a three-tier architecture system. The access layer is the layer that connects end devices such as computers, printers, and phones to the network. A layer 2 switch can provide fast and efficient switching for end devices without adding complexity or overhead to the network. References:

<https://www.comptia.org/training/books/network-n10-008-study-guide> (page 139)

**NEW QUESTION 351**

- (Exam Topic 3)

A company is utilizing multifactor authentication for data center access. Which of the following is the MOST effective security mechanism against physical intrusions due to stolen credentials?

- A. Biometrics security hardware
- B. Access card readers
- C. Access control vestibule
- D. Motion detection cameras

**Answer:** C

**NEW QUESTION 355**

- (Exam Topic 3)

Which of the following would be increased by adding encryption to data communication across the network?

- A. Availability
- B. Integrity
- C. Accountability
- D. Confidentiality

**Answer:** D

**Explanation:**

Confidentiality is the property of preventing unauthorized access or disclosure of data. Encryption is a method of transforming data into an unreadable format that can only be decrypted by authorized parties who have the correct key. Encryption can increase the confidentiality of data communication across the network by making it harder for attackers to intercept or eavesdrop on the data. References: Network+ Study Guide Objective 4.1: Summarize the purposes of physical security devices. Subobjective: Encryption.

**NEW QUESTION 357**

- (Exam Topic 3)

A network administrator is planning a WLAN for a soccer stadium and was advised to use MU-MIMO to improve connection performance in high-density areas.

The project requires compatibility with clients

connecting using 2.4GHz or 5GHz frequencies. Which of the following would be the BEST wireless standard for this project?

- A. 80211ac
- B. 802.11ax
- C. 802.11g
- D. 80211n

**Answer:** B

**NEW QUESTION 359**

- (Exam Topic 3)

A false camera is installed outside a building to assist with physical security. Which of the following is the device assisting?

- A. Detection
- B. Recovery
- C. Identification
- D. Prevention

**Answer:** A

**NEW QUESTION 363**

- (Exam Topic 3)

A network technician has determined the cause of a network disruption. Which of the following is the NEXT step for the technician to perform?

- A. Validate the findings in a top-to-bottom approach
- B. Duplicate the issue, if possible
- C. Establish a plan of action to resolve the issue
- D. Document the findings and actions

**Answer:** C

**NEW QUESTION 364**

- (Exam Topic 3)

Which of the following describes when an active exploit is used to gain access to a network?

- A. Penetration testing
- B. Vulnerability testing
- C. Risk assessment
- D. Posture assessment
- E. Baseline testing

**Answer:** A

**Explanation:**

Penetration testing is a type of security testing that is used to assess the security of a system or network by actively exploiting known vulnerabilities. It is used to simulate an attack on the system and identify any weaknesses that may be exploited by malicious actors. As stated in the CompTIA Security+ Study Guide, "penetration testing is a type of security assessment that attempts to gain unauthorized access to networks and systems by exploiting security vulnerabilities."

**NEW QUESTION 365**

- (Exam Topic 3)

A network resource was accessed by an outsider as a result of a successful phishing campaign. Which of the following strategies should be employed to mitigate the effects of phishing?

- A. Multifactor authentication
- B. Single sign-on
- C. RADIUS
- D. VPN

**Answer:** A

**Explanation:**

Multifactor authentication is a security measure that requires users to provide multiple pieces of evidence before they can access a network resource. This could include requiring users to enter a username, password, and a code sent to the user's mobile phone before they are allowed access. This ensures that the user is who they say they are, reducing the risk of malicious actors gaining access to network resources as a result of a successful phishing campaign.

**NEW QUESTION 369**

- (Exam Topic 3)

A security engineer is trying to determine whether an internal server was accessed by hosts on the internet. The internal server was shut down during the investigation. Which of the following will the engineer review to determine whether the internal server had an unauthorized access attempt?

- A. The server's syslog
- B. The NetFlow statistics
- C. The firewall logs
- D. The audit logs on the core switch

**Answer:** A

**NEW QUESTION 372**

- (Exam Topic 3)

Which of the following is conducted frequently to maintain an updated list of a system's weaknesses?

- A. Penetration test
- B. Posture assessment
- C. Risk assessment
- D. Vulnerability scan

**Answer:** D

#### NEW QUESTION 375

- (Exam Topic 3)

A network technician receives a report from the server team that a server's network connection is not working correctly. The server team confirms the server is operating correctly except for the network connection. The technician checks the switchport connected to the server and reviews the following data;

Metric	Value
Bytes input	441,164,698
Bytes output	2,625,115,257
Runts	0
CRCs	5,489
Collisions	1
MDIX	On
Speed	1,000
Duplex	Full

Which of the following should the network technician perform to correct the issue?

- A. Replace the Cat 5 patch cable with a Cat 6 cable
- B. Install a crossover cable between the server and the switch
- C. Reset the switchport configuration.
- D. Use NetFlow data from the switch to isolate the issue.
- E. Disable MDIX on the switchport and reboot the server.

**Answer:** A

#### Explanation:

"Bad cables, incorrect pinouts, or bent pins: Faulty cables (with electrical characteristics preventing successful transmission) or faulty connectors (which do not properly make connections) can prevent successful data transmission at Layer 1. A bad cable could simply be an incorrect category of cable being used for a specific purpose. For example, using a Cat 5 cable (instead of a Cat 6 or higher cable) to connect two 1000BASE-TX devices would result in data corruption. Bent pins in a connector or incorrect pinouts could also cause data to become corrupted."

#### NEW QUESTION 377

- (Exam Topic 3)

Which of the following would be used when connecting devices that have different physical characteristics?

- A. A proxy server
- B. An industrial control system
- C. A load balancer
- D. A media converter

**Answer:** D

#### NEW QUESTION 378

- (Exam Topic 3)

A network administrator is troubleshooting a connectivity performance issue. As part of the troubleshooting process, the administrator performs a traceout from the client to the server, and also from the server to the client. While comparing the outputs, the administrator notes they show different hops between the hosts. Which of the following BEST explains these findings?

- A. Asymmetric routing
- B. A routing loop
- C. A switch loop
- D. An incorrect gateway

**Answer:** C

#### NEW QUESTION 383

- (Exam Topic 3)

Which of the following would be used to enforce and schedule critical updates with supervisory approval and include backup plans in case of failure?

- A. Business continuity plan
- B. Onboarding and offboarding policies
- C. Acceptable use policy
- D. System life cycle
- E. Change management

**Answer:** A

#### NEW QUESTION 384

- (Exam Topic 3)

A technician is troubleshooting a connectivity issue with an end user. The end user can access local network shares and intranet pages but is unable to access the internet or remote resources. Which of the following needs to be reconfigured?

- A. The IP address
- B. The subnet mask
- C. The gateway address
- D. The DNS servers

**Answer:** C

#### NEW QUESTION 386

- (Exam Topic 3)

A technician is investigating packet loss to a device that has varying data bursts throughout the day. Which of the following will the technician MOST likely configure to resolve the issue?

- A. Flow control
- B. Jumbo frames
- C. Duplex
- D. Port mirroring

**Answer:** A

#### Explanation:

Ethernet flow control is a mechanism for temporarily stopping the transmission of data on Ethernet family computer networks. The goal of this mechanism is to avoid packet loss in the presence of network congestion.

Flow control is a mechanism that allows a device to regulate the amount of data it receives from another device, ensuring that the receiving device is not overwhelmed with data. If the device experiencing packet loss is receiving large bursts of data at times when it is not able to process it quickly enough, configuring flow control could help prevent packets from being lost.

"In theory, flow control can help with situations like a host that can't keep up with the flow of traffic. It enables the host to send an Ethernet PAUSE frame, which asks the switch to hold up for some amount of time so the host can catch its breath. If the switch can, it'll buffer transmissions until the pause expires, and then start sending again. If the host catches up early, it can send another PAUSE frame with a delay of zero to ask the switch to resume. In practice, flow control can cause latency trouble for modern real-time applications such as VoIP, and the same needs are usually met by QoS"

#### NEW QUESTION 387

- (Exam Topic 3)

A company wants to invest in new hardware for the core network infrastructure. The management team requires that the infrastructure be capable of being repaired in less than 60 minutes if any major part fails. Which of the following metrics is MOST likely associated with this requirement?

- A. RPO
- B. MTTR
- C. FHRP
- D. MTBF

**Answer:** B

#### Explanation:

MTTR is directly related to how quickly a system can be repaired if any major part fails<sup>3</sup>. The management team requires that the infrastructure be capable of being repaired in less than 60 minutes, which means they have a low MTTR requirement.

MTTR stands for Mean Time To Repair and is a metric used to measure the average amount of time it takes to repair a failed component or system. In this case, the requirement is for the infrastructure to be capable of being repaired in less than 60 minutes if any major part fails, which means the MTTR should be less than 60 minutes.

#### NEW QUESTION 388

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