

# Exam Questions N10-008

CompTIA Network+Exam

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### NEW QUESTION 1

- (Topic 1)

A network technician needs to ensure outside users are unable to telnet into any of the servers at the datacenter. Which of the following ports should be blocked when checking firewall configuration?

- A. 22
- B. 23
- C. 80
- D. 3389
- E. 8080

**Answer:** B

#### Explanation:

Port 23 should be blocked when checking firewall configuration to prevent outside users from telnetting into any of the servers at the datacenter. Port 23 is the default port for Telnet, which is an insecure protocol that allows remote access to servers and network devices. Telnet sends data in clear text, which can be easily intercepted and compromised by attackers. A more secure alternative is SSH, which uses port 22 and encrypts data. References: <https://www.cisco.com/c/en/us/support/docs/ip/routing-information-protocol-rip/13788-3.html>

### NEW QUESTION 2

- (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 3

- (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 4

- (Topic 1)

A network administrator is implementing OSPF on all of a company's network devices. Which of the following will MOST likely replace all the company's hubs?

- A. A Layer 3 switch
- B. A proxy server
- C. A NGFW
- D. A WLAN controller

**Answer:** A

#### Explanation:

A Layer 3 switch will likely replace all the company's hubs when implementing OSPF on all of its network devices. A Layer 3 switch combines the functionality of a traditional Layer 2 switch with the routing capabilities of a router. By implementing OSPF on a Layer 3 switch, an organization can improve network performance and reduce the risk of network congestion. References: Network+ Certification Study Guide, Chapter 5: Network Security

### NEW QUESTION 5

- (Topic 1)

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

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

**Answer:** D

**Explanation:**

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

**NEW QUESTION 6**

- (Topic 1)

A technician is 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 7**

- (Topic 1)

The following configuration is applied to a DHCP server connected to a VPN concentrator:

```
IP address:      10.0.0.1
Subnet mask:     255.255.255.0
Gateway:        10.0.0.254
```

There are 300 non-concurrent sales representatives who log in for one hour a day to upload reports, and 252 of these representatives are able to connect to the VPN without any issues. The remaining sales representatives cannot connect to the VPN over the course of the day. Which of the following can be done to resolve the issue without utilizing additional resources?

- A. Decrease the lease duration
- B. Reboot the DHCP server
- C. Install a new VPN concentrator
- D. Configure a new router

**Answer:** A

**Explanation:**

Decreasing the lease duration on the DHCP server will cause clients to renew their IP address leases more frequently, freeing up IP addresses for other clients to use. References: CompTIA Network+ Certification Study Guide, Chapter 3: IP Addressing.

**NEW QUESTION 8**

- (Topic 1)

Which of the following transceiver types can support up to 40Gbps?

- A. SFP+
- B. QSFP+
- C. QSFP
- D. SFP

**Answer:** B

**Explanation:**

QSFP+ is a transceiver type that can support up to 40Gbps. It stands for Quad Small Form-factor Pluggable Plus and uses four lanes of data to achieve high-speed transmission. It is commonly used for data center and high-performance computing applications. References: [https://www.cisco.com/c/en/us/products/collateral/interfaces-modules/transceiver-modules/data\\_sheet\\_c78-660083.html](https://www.cisco.com/c/en/us/products/collateral/interfaces-modules/transceiver-modules/data_sheet_c78-660083.html)

**NEW QUESTION 9**

- (Topic 1)

An administrator is writing a script to periodically log the IPv6 and MAC addresses of all the devices on a network segment. Which of the following switch features will MOST likely be used to assist with this task?

- A. Spanning Tree Protocol
- B. Neighbor Discovery Protocol

- C. Link Aggregation Control Protocol
- D. Address Resolution Protocol

**Answer:** B

**Explanation:**

The switch feature that is most likely to be used to assist with logging IPv6 and MAC addresses of devices on a network segment is Neighbor Discovery Protocol (NDP). NDP is used by IPv6 to discover and maintain information about other nodes on the network, including their IPv6 and MAC addresses. By periodically querying NDP, the administrator can log this information for auditing purposes. References:

? CompTIA Network+ Certification Study Guide, Exam N10-007, Fourth Edition,

Chapter 2: The OSI Model and Networking Protocols, Objective 2.1: Compare and contrast TCP and UDP ports, protocols, and their purposes.

**NEW QUESTION 10**

- (Topic 1)

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

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

**Answer:** B

**Explanation:**

802.11ax is the latest WiFi standard that improves WiFi performance in densely populated environments and supports both 2.4 GHz and 5 GHz bands. 802.11ac is the previous standard that only supports 5 GHz band. 802.11g and 802.11n are older standards that support 2.4 GHz band only or both bands respectively.

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

<https://www.techtarget.com/searchnetworking/tip/Whats-the-difference-between-80211ax-vs-80211ac>

**NEW QUESTION 10**

- (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 15**

- (Topic 1)

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

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

**Answer:** AB

**NEW QUESTION 18**

- (Topic 1)

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

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

**Answer:** B

**Explanation:**

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

**NEW QUESTION 19**

- (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 21**

- (Topic 1)

An IT organization needs to optimize speeds for global content distribution and wants to reduce latency in high-density user locations. Which of the following technologies BEST meets the organization's requirements?

- A. Load balancing
- B. Geofencing
- C. Public cloud
- D. Content delivery network
- E. Infrastructure as a service

**Answer: D**

**Explanation:**

A content delivery network (CDN) is a distributed network of servers that delivers web content to users based on their geographic location. By replicating content across multiple servers in various locations, a CDN can optimize speed and reduce latency in high-density user locations.

**NEW QUESTION 26**

- (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 31**

- (Topic 1)

Which of the following ports is commonly used by VoIP phones?

- A. 20
- B. 143
- C. 445
- D. 5060

**Answer: D**

**Explanation:**

TCP/UDP port 5060 is commonly used by VoIP phones. It is the default port for SIP (Session Initiation Protocol), which is a signaling protocol that establishes, modifies, and terminates multimedia sessions over IP networks. SIP is widely used for VoIP applications such as voice and video calls. References: <https://www.voip-info.org/session-initiation-protocol/>

**NEW QUESTION 32**

- (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 36**

- (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 37**

- (Topic 1)

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

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

**Answer:** B

**Explanation:**

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

References:

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

**NEW QUESTION 40**

- (Topic 1)

A technician needs to configure a Linux computer for network monitoring. The technician has the following information:

Linux computer details:

Interface	IP address	MAC address
eth0	10.1.2.24	A1:B2:C3:F4:E5:D6

Switch mirror port details:

Interface	IP address	MAC address
eth1	10.1.2.3	A1:B2:C3:D4:E5:F6

After connecting the Linux computer to the mirror port on the switch, which of the following commands should the technician run on the Linux computer?

- A. ifconfig eth0 promisc
- B. ifconfig eth1 up
- C. ifconfig eth0 10.1.2.3
- D. ifconfig eth1 hw ether A1:B2:C3:D4:E5:F6

**Answer:** A

**Explanation:**

The ifconfig eth0 promisc command should be run on the Linux computer to enable promiscuous mode, which allows the computer to capture all network traffic passing through the switch mirror port. References: CompTIA Network+ Certification Study Guide, Chapter 7: Network Devices.

**NEW QUESTION 44**

- (Topic 1)

Which of the following routing protocols is used to exchange route information between public autonomous systems?

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

**Answer:** B

**Explanation:**

BGP (Border Gateway Protocol) is a routing protocol used to exchange route information between public autonomous systems (AS). OSPF (Open Shortest Path First), EGRIP (Enhanced Interior Gateway Routing Protocol), and RIP (Routing Information Protocol) are all used for internal routing within a single AS. Therefore, BGP is the correct option to choose for this question.

References:

? Network+ N10-007 Certification Exam Objectives, Objective 3.3: Given a scenario, configure and apply the appropriate routing protocol.

? Cisco: Border Gateway Protocol (BGP) Overview

**NEW QUESTION 49**

- (Topic 1)

The network administrator is informed that a user's email password is frequently hacked by brute-force programs. Which of the following policies should the network administrator implement to BEST mitigate this issue? (Choose two.)

- A. Captive portal
- B. Two-factor authentication
- C. Complex passwords
- D. Geofencing
- E. Role-based access
- F. Explicit deny

**Answer:** BC

**Explanation:**

Two-factor authentication (2FA) is a method of verifying a user's identity by requiring two pieces of evidence, such as something the user knows (e.g., a password) and something the user has (e.g., a token or a smartphone). 2FA adds an extra layer of security that makes it harder for hackers to access a user's account by brute-force programs. Complex passwords are passwords that are long, random, and use a combination of uppercase and lowercase letters, numbers, and symbols. Complex passwords are more resistant to brute-force attacks than simple or common passwords. 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.csoonline.com/article/3225913/what-is-two-factor-authentication-2fa-how-to-enable-it-and-why-you-should.html>, <https://www.howtogeek.com/195430/how-to-create-a-strong-password-and-remember-it/>

**NEW QUESTION 53**

- (Topic 1)

Which of the following provides redundancy on a file server to ensure the server is still connected to a LAN even in the event of a port failure on a switch?

- A. NIC teaming
- B. Load balancer
- C. RAID array
- D. PDUs

**Answer:** A

**Explanation:**

NIC teaming, also known as network interface card teaming or link aggregation, allows multiple network interface cards to be grouped together to provide redundancy and increased throughput. In the event of a port failure on a switch, NIC teaming ensures that the file server remains connected to the LAN by automatically switching to another network interface card.

References: CompTIA Network+ Certification Study Guide, Sixth Edition by Glen E. Clarke

**NEW QUESTION 55**

- (Topic 1)

A technician is searching for a device that is connected to the network and has the device's physical network address. Which of the following should the technician review on the switch to locate the device's network port?

- A. IP route table
- B. VLAN tag
- C. MAC table
- D. QoS tag

**Answer:** C

**Explanation:**

To locate a device's network port on a switch, a technician should review the switch's MAC address table. The MAC address table maintains a list of MAC addresses of devices connected to each port on the switch. By checking the MAC address of the device in question, the technician can identify the port to which the device is connected. References: CompTIA Network+ Certification Study Guide, Sixth Edition by Glen E. Clarke

**NEW QUESTION 59**

- (Topic 1)

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

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

D. DNS

**Answer:** A

**Explanation:**

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

References:

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

**NEW QUESTION 61**

- (Topic 1)

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

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

**Answer:** B

**Explanation:**

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

References: [https://partners.comptia.org/docs/default-source/resources/comptia-network-n10-008-exam-objectives-\(2-0\)](https://partners.comptia.org/docs/default-source/resources/comptia-network-n10-008-exam-objectives-(2-0)),  
<https://www.techopedia.com/definition/25761/default-gateway>

**NEW QUESTION 64**

- (Topic 1)

Which of the following is the LARGEST MTU for a standard Ethernet frame?

- A. 1452
- B. 1492
- C. 1500
- D. 2304

**Answer:** C

**Explanation:**

The maximum transmission unit (MTU) is the largest size of a data packet that can be transmitted over a network. A standard Ethernet frame supports an MTU of 1500 bytes, which is the default value for most Ethernet networks. Larger MTUs are possible with jumbo frames, but they are not widely supported and may cause fragmentation or compatibility issues. 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/Maximum\\_transmission\\_unit](https://en.wikipedia.org/wiki/Maximum_transmission_unit)

**NEW QUESTION 69**

- (Topic 1)

A user reports being unable to access network resources after making some changes in the office. Which of the following should a network technician do FIRST?

- A. Check the system's IP address
- B. Do a ping test against the servers
- C. Reseat the cables into the back of the PC
- D. Ask what changes were made

**Answer:** D

**Explanation:**

When a user reports being unable to access network resources after making some changes, the network technician should first ask the user what changes were made. This information can help the technician identify the cause of the issue and determine the appropriate course of action.

References: CompTIA Network+ Certification Study Guide, Sixth Edition by Glen E. Clarke

**NEW QUESTION 73**

- (Topic 1)

After the A record of a public website was updated, some visitors were unable to access the website. Which of the following should be adjusted to address the issue?

- A. TTL
- B. MX
- C. TXT
- D. SOA

**Answer:** A

**Explanation:**

TTL (Time To Live) should be adjusted to address the issue of some visitors being unable to access the website after the A record was updated. TTL is a value that specifies how long a DNS record should be cached by DNS servers and clients before it expires and needs to be refreshed. If the TTL is too high, some DNS

servers and clients may still use the old A record that points to the previous IP address of the website, resulting in connection failures. By lowering the TTL, the DNS servers and clients will update their cache more frequently and use the new A record that points to the current IP address of the website. References: <https://www.cloudflare.com/learning/dns/dns-records/dns-ttl/>

#### NEW QUESTION 77

- (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 79

- (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 81

- (Topic 1)

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

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

**Answer:** A

#### Explanation:

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

References:

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

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

#### NEW QUESTION 83

- (Topic 1)

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

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

**Answer:** A

#### Explanation:

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

**NEW QUESTION 85**

- (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 86**

- (Topic 2)

A network administrator is required to ensure that auditors have read-only access to the system logs, while systems administrators have read and write access to the system logs, and operators have no access to the system logs. The network administrator has configured security groups for each of these functional categories. Which of the following security capabilities will allow the network administrator to maintain these permissions with the LEAST administrative effort?

- A. Mandatory access control
- B. User-based permissions
- C. Role-based access
- D. Least privilege

**Answer:** C

**Explanation:**

Role-based access is a security capability that assigns permissions to users based on their roles or functions within an organization. It allows the network administrator to maintain these permissions with the least administrative effort, as they only need to configure the security groups for each role once and then assign users to those groups. Mandatory access control is a security capability that assigns permissions based on security labels or classifications, which requires more administrative effort to maintain. User-based permissions are a security capability that assigns permissions to individual users, which is not scalable or efficient for large organizations. Least privilege is a security principle that states that users should only have the minimum level of access required to perform their tasks, which is not a security capability by itself.

**NEW QUESTION 91**

- (Topic 2)

A network administrator is setting up several IoT devices on a new VLAN and wants to accomplish the following

- \* 1. Reduce manual configuration on each system
- \* 2. Assign a specific IP address to each system
- \* 3. Allow devices to move to different switchports on the same VLAN

Which of the following should the network administrator do to accomplish these requirements?

- A. Set up a reservation for each device
- B. Configure a static IP on each device
- C. Implement private VLANs for each device
- D. Use DHCP exclusions to address each device

**Answer:** A

**Explanation:**

A reservation is a feature of DHCP that assigns a specific IP address to a device based on its MAC address. This way, the device will always receive the same IP address from the DHCP server, regardless of its location or connection time. A network administrator can set up a reservation for each IoT device to accomplish the requirements of reducing manual configuration, assigning a specific IP address, and allowing devices to move to different switchports on the same VLAN.

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

**NEW QUESTION 93**

- (Topic 2)

Given the following output:

```
192.168.22.1      00-13-5d-00-c6-23
192.168.22.15    00-15-88-00-58-00
192.168.22.10    00-13-5d-00-c6-23
192.168.22.100   00-13-5d-00-c6-23
```

Which of the following attacks is this MOST likely an example of?

- A. ARP poisoning
- B. VLAN hopping
- C. Rogue access point
- D. Amplified DoS

**Answer:** A

**Explanation:**

The output is most likely an example of an ARP poisoning attack. ARP poisoning, also known as ARP spoofing, is a type of attack that exploits the ARP protocol to associate a malicious device's MAC address with a legitimate IP address on a local area network. This allows the attacker to intercept, modify, or redirect network traffic between two devices without their knowledge. The output shows that there are multiple entries for the same IP address (192.168.1.1) with different MAC addresses in the ARP cache of the device. This indicates that an attacker has sent fake ARP replies to trick the device into believing that its MAC address is associated with the IP address of another device (such as the default gateway). References: <https://www.cisco.com/c/en/us/about/security-center/arp-spoofing.html>

**NEW QUESTION 96**

- (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 97**

- (Topic 2)

A technician is deploying a low-density wireless network and is contending with multiple types of building materials. Which of the following wireless frequencies would allow for the LEAST signal attenuation?

- A. 2.4GHz
- B. 5GHz
- C. 850MHz
- D. 900MHz

**Answer:** A

**Explanation:**

2.4GHz is the wireless frequency that would allow for the least signal attenuation when deploying a low-density wireless network with multiple types of building materials. Signal attenuation is the loss of signal strength or quality as it travels through a medium or over a distance. Signal attenuation can be affected by various factors such as distance, interference, reflection, refraction, diffraction, scattering, or absorption. Generally, lower frequencies have less signal attenuation than higher frequencies because they can penetrate obstacles better and travel farther. Therefore, 2.4GHz would have less signal attenuation than 5GHz, 850MHz, or 900MHz. References: <https://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-lan-wlan/82068-omni-vs-direct.html>

**NEW QUESTION 100**

- (Topic 2)

Which of the following protocol types describes secure communication on port 443?

- A. ICMP
- B. UDP
- C. TCP
- D. IP

**Answer:** C

**Explanation:**

TCP is the protocol type that describes secure communication on port 443. TCP (Transmission Control Protocol) is a connection-oriented protocol that provides reliable and ordered delivery of data packets over an IP network. TCP uses port numbers to identify different applications or services on a device. Port 443 is the default port for HTTPS (Hypertext Transfer Protocol Secure), which is an extension of HTTP that uses SSL (Secure Sockets Layer) or TLS (Transport Layer Security) encryption to protect data in transit between a web server and a web browser. References: <https://www.cisco.com/c/en/us/support/docs/ip/routing-information-protocol-rip/13788-3.html>

**NEW QUESTION 102**

- (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/product\\_data\\_sheet09186a008014cb5e.html](https://www.cisco.com/c/en/us/products/collateral/interfaces-modules/gigabit-ethernet-gbic-sfp-modules/product_data_sheet09186a008014cb5e.html)

**NEW QUESTION 104**

- (Topic 2)

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

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

**Answer:** E

**Explanation:**

Using an out-of-band access method is the best way to prevent unauthorized access to the legacy switches that do not support cryptographic functions. Out-of-band access is a method of accessing a network device through a dedicated channel that is separate from the main network traffic. Out-of-band access can use physical connections such as serial console ports or dial-up modems, or logical connections such as VPNs or firewalls. Out-of-band access provides more security and reliability than in-band access, which uses the same network as the data traffic and may be vulnerable to attacks or failures. References: <https://www.cisco.com/c/en/us/td/docs/ios-xml/ios/fundamentals/configuration/15mt/fundamentals-15-mt-book/cf-out-band-mgmt.html>

**NEW QUESTION 106**

- (Topic 2)

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

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

**Answer:** A

**Explanation:**

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

**NEW QUESTION 111**

- (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 112**

- (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 117**

- (Topic 2)

A network administrator is downloading a large patch that will be uploaded to several enterprise switches simultaneously during the day's upgrade cycle. Which of the following should the administrator do to help ensure the upgrade process will be less likely to cause problems with the switches?

- A. Confirm the patch's MD5 hash prior to the upgrade
- B. Schedule the switches to reboot after an appropriate amount of time.
- C. Download each switch's current configuration before the upgrade
- D. Utilize FTP rather than TFTP to upload the patch

**Answer:** A

**Explanation:**

The network administrator should confirm the patch's MD5 hash prior to the upgrade to help ensure the upgrade process will be less likely to cause problems with the switches. MD5 (Message Digest 5) is a cryptographic hash function that produces a 128-bit hash value for any given input. It can be used to verify the integrity and authenticity of a file by comparing its hash value with a known or expected value. If the hash values match, it means that the file has not been corrupted or tampered with during transmission or storage. If the hash values do not match, it means that the file may be damaged or malicious and should not be used for the upgrade. References: <https://www.cisco.com/c/en/us/support/docs/security-vpn/secure-shell-ssh/15292-scp.html>

**NEW QUESTION 121**

- (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 124**

- (Topic 2)

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

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

**Answer:** A

**Explanation:**

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

**NEW QUESTION 125**

- (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**

- (Topic 2)

Which of the following protocols will a security appliance that is correlating network events from multiple devices MOST likely rely on to receive event messages?

- A. Syslog
- B. Session Initiation Protocol
- C. Secure File Transfer Protocol
- D. Server Message Block

**Answer:** A

**Explanation:**

Syslog is a protocol that provides a standard way for network devices and applications to send event messages to a logging server or a security appliance. Syslog messages can contain information about security incidents, errors, warnings, system status, configuration changes, and other events. A security appliance that is correlating network events from multiple devices can rely on Syslog to receive event messages from different sources and formats. References: <https://www.comptia.org/blog/what-is-syslog>

**NEW QUESTION 131**

- (Topic 2)

Which of the following OSI model layers is where conversations between applications are established, coordinated, and terminated?

- A. Session
- B. Physical
- C. Presentation
- D. Data link

**Answer:** A

**Explanation:**

Reference: <https://www.techtarget.com/searchnetworking/definition/OSI#:~:text=The%20session%20layer,and%20terminates%20conversations%20between%20applications.>

The session layer is where conversations between applications are established, coordinated, and terminated. It is responsible for creating, maintaining, and ending sessions between different devices or processes. The physical layer deals with the transmission of bits over a medium. The presentation layer formats and translates data for different applications. The data link layer provides reliable and error-free delivery of frames within a network.

**NEW QUESTION 136**

- (Topic 2)

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

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

**Answer:** C

**Explanation:**

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

**NEW QUESTION 137**

- (Topic 2)

A systems administrator is running a VoIP network and is experiencing jitter and high latency. Which of the following would BEST help the administrator determine the cause of these issues?

- A. Enabling RADIUS on the network
- B. Configuring SNMP traps on the network
- C. Implementing LDAP on the network
- D. Establishing NTP on the network

**Answer:** B

**Explanation:**

SNMP (Simple Network Management Protocol) is a protocol that allows network devices to communicate with a network management system (NMS) for monitoring and configuration purposes. SNMP traps are unsolicited messages sent by network devices to the NMS when certain events or conditions occur, such as errors, failures, or thresholds. Configuring SNMP traps on the network would best help the administrator determine the cause of jitter and high latency on a VoIP network, as they would provide real-time alerts and information about the network performance and status. Enabling RADIUS on the network is not relevant to troubleshooting VoIP issues, as RADIUS is a protocol that provides authentication, authorization, and accounting services for network access. Implementing LDAP on the network is also not relevant to troubleshooting VoIP issues, as LDAP is a protocol that provides directory services for storing and querying information about users, groups, devices, etc. Establishing NTP on the network is not directly related to troubleshooting VoIP issues, as NTP is a protocol that synchronizes the clocks of network devices.

#### NEW QUESTION 141

- (Topic 2)

An organization wants to implement a method of centrally managing logins to network services. Which of the following protocols should the organization use to allow for authentication, authorization and auditing?

- A. MS-CHAP
- B. RADIUS
- C. LDAPS
- D. RSTP

**Answer: B**

#### Explanation:

RADIUS (Remote Authentication Dial-In User Service) is a protocol that should be used by the organization to allow for authentication, authorization, and auditing of network services. RADIUS is an AAA (Authentication, Authorization, and Accounting) protocol that manages network access by verifying user credentials, granting access permissions, and logging user activities. RADIUS uses a client-server model where a RADIUS client (such as a router, switch, or VPN server) sends user information to a RADIUS server (such as an authentication server) for verification and authorization. The RADIUS server can also send accounting information to another server for billing or reporting purposes. References: <https://www.cisco.com/c/en/us/support/docs/security- vpn/remote-authentication-dial-user-service-radius/13838-10.html>

#### NEW QUESTION 142

- (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 144

- (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 148

- (Topic 2)

An ARP request is broadcasted and sends the following request. "Who is 192.168.1.200? Tell 192.168.1.55"

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

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

**Answer: B**

#### Explanation:

An ARP request operates at the data link layer of the OSI model. ARP (Address Resolution Protocol) is a protocol that maps IP addresses to MAC addresses on a local area network. It allows devices to communicate with each other without knowing their MAC addresses beforehand. ARP operates at the data link layer (layer 2) of the OSI model, which is responsible for framing and addressing data packets on a physical medium. References: <https://www.cisco.com/c/en/us/support/docs/ip/routing-information- protocol-rip/13788-3.html>

#### NEW QUESTION 149

- (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 150**

- (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 152**

- (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\\_paper0900aecd806c4eeb.html](https://www.cisco.com/c/en/us/products/collateral/ios-nx-os-software/border-gateway-protocol-bgp/prod_white_paper0900aecd806c4eeb.html)

**NEW QUESTION 156**

- (Topic 3)

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

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

**Answer: C**

**Explanation:**

A directional antenna is a type of antenna that radiates or receives radio waves in a specific direction. This can help limit wireless access outside the building by focusing the signal towards the intended area and reducing the signal strength in other directions. A private VLAN is a feature that isolates network devices within a VLAN. Disabling roaming on the WAP prevents wireless clients from switching to another WAP when the signal is weak. Stopping broadcasting of the SSID hides the network name from wireless clients, but does not prevent them from connecting if they know the SSID.

References: CompTIA Network+ Certification Exam Objectives Version 7.0 (N10-007), Objective 3.1: Given a scenario, install and configure wireless LAN infrastructure and implement the appropriate technologies in support of wireless capable devices.

**NEW QUESTION 157**

- (Topic 3)

A technician notices that equipment is being moved around and misplaced in the server room, even though the room has locked doors and cabinets. Which of the following would be the BEST solution to identify who is responsible?

- A. Install motion detection
- B. Install cameras.
- C. Install tamper detection.

D. Hire a security guard.

**Answer:** B

**Explanation:**

Installing cameras in the server room is the best solution to identify who is responsible for the equipment being moved and misplaced. Cameras provide a way to monitor the server room in real time and can be used to identify suspicious activity. Additionally, they provide a way to review past activity and allow you to review footage to determine who may be responsible for the misplacement of equipment.

**NEW QUESTION 161**

- (Topic 3)

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

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

**Answer:** C

**Explanation:**

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

**NEW QUESTION 164**

- (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 168**

- (Topic 3)

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

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

**Answer:** D

**Explanation:**

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

**NEW QUESTION 171**

- (Topic 3)

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

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

**Answer:** B

**NEW QUESTION 174**

- (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 176

- (Topic 3)

A technician received a report that some users in a large, 30-floor building are having intermittent connectivity issues. Users on each floor have stable connectivity, but do not have connectivity to other floors. Which of the following devices is MOST likely causing the issue?

- A. User devices
- B. Edge devices
- C. Access switch
- D. Core switch

**Answer:** D

#### Explanation:

A core switch is the most likely device causing the issue where users on each floor have stable connectivity, but do not have connectivity to other floors. A core switch is a high-performance switch that connects multiple access switches in a network. An access switch is a switch that connects end devices, such as computers and printers, to the network. A core switch acts as the backbone of the network, providing interconnection and routing between different subnets or VLANs. If the core switch is malfunctioning or misconfigured, it can prevent communication between different segments of the network, resulting in intermittent connectivity issues. References: [CompTIA Network+ Certification Exam Objectives], Core Switch vs Access Switch: What Are the Differences?

#### NEW QUESTION 177

- (Topic 3)

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

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

**Answer:** D

#### Explanation:

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

#### NEW QUESTION 182

- (Topic 3)

Which of the following devices would be used to extend the range of a wireless network?

- A. A repeater
- B. A media converter
- C. A router
- D. A switch

**Answer:** A

#### Explanation:

A repeater is a device used to extend the range of a wireless network by receiving, amplifying, and retransmitting wireless signals. It is typically used to extend the range of a wireless network in a large area, such as an office building or a campus. Repeaters can also be used to connect multiple wireless networks together, allowing users to move seamlessly between networks. As stated in the CompTIA Network+ Study Manual, "a wireless repeater is used to extend the range of a wireless network by repeating the signal from one access point to another."

#### NEW QUESTION 183

- (Topic 3)

Which of the following is the IEEE link cost for a Fast Ethernet interface in STP calculations?

- A. 2
- B. 4
- C. 19
- D. 100

**Answer:** D

#### Explanation:

The IEEE standard for link cost for a Fast Ethernet interface is 100, and for a Gigabit Ethernet interface is 19. These values are based on the bandwidth of the interface, with lower values indicating a higher-bandwidth interface.

#### NEW QUESTION 184

- (Topic 3)

A network administrator installed an additional IDF during a building expansion project. Which of the following documents need to be updated to reflect the change? (Select TWO).

- A. Data loss prevention policy
- B. BYOD policy
- C. Acceptable use policy
- D. Non-disclosure agreement
- E. Disaster recovery plan
- F. Physical network diagram

**Answer:** AF

#### NEW QUESTION 186

- (Topic 3)

A VOIP phone is plugged in to a port but cannot receive calls. Which Of the following needs to be done on the port to address the issue?

- A. Trunk all VLANs on the port.
- B. Configure the native VLAN.
- C. Tag the traffic to voice VLAN.
- D. Disable VLANs.

**Answer:** C

#### Explanation:

To enable a VOIP phone to receive calls on a port, the traffic needs to be tagged to the voice VLAN that is configured on the switch. This allows the phone to communicate with the voice network and the PBX server. Tagging the traffic also separates the voice traffic from the data traffic that may be coming from a computer connected to the phone. The port should be configured to tag the traffic for the voice VLAN and untag the traffic for the data VLAN. Trunking all VLANs on the port is unnecessary and may cause security issues. Configuring the native VLAN is not relevant for this issue. Disabling VLANs would prevent the phone from working at all.

References:

Optical Fiber Connectors – CompTIA Network+ N10-007 – 2.13

? VoIP and computer on separate VLANs through one cable

#### NEW QUESTION 188

- (Topic 3)

An IT administrator is creating an alias to the primary customer's domain. Which of the following DNS record types does this represent?

- A. CNAME
- B. MX
- C. A
- D. PTR

**Answer:** A

#### Explanation:

A CNAME record is a type of DNS record that maps an alias name to a canonical name, or the primary domain name. A CNAME record is used to create subdomains or alternative names for the same website, without having to specify the IP address for each alias. For example, a CNAME record can map [www.example.com](http://www.example.com) to [example.com](http://example.com), or [mail.example.com](http://mail.example.com) to [example.com](http://example.com). References: CompTIA Network+ N10-008 Cert Guide, Chapter 2, Section 2.4

#### NEW QUESTION 192

- (Topic 3)

A technician is troubleshooting reports that a networked printer is unavailable. The printer's IP address is configured with a DHCP reservation, but the address cannot be pinged from the print server in the same subnet. Which of the following is MOST likely the cause of me connectivity failure?

- A. Incorrect VLAN
- B. DNS failure
- C. DHCP scope exhaustion
- D. Incorrect gateway

**Answer:** D

#### NEW QUESTION 196

- (Topic 3)

A network administrator is investigating a performance issue on a dual-link connection—VPN and MPLS—to a partner network. The MPLS is the primary path, and the VPN is used as a backup. While communicating, the delay is measured at 18ms, which is higher than the 6ms expected when the MPLS link is operational but lower than the 30ms expected for the VPN connection. Which of the following will MOST likely point to the root cause of the Issue?

- A. Checking the routing tables on both sides to ensure there is no asymmetric routing
- B. Checking on the partner network for a missing route pointing to the VPN connection
- C. Running iPerf on both sides to confirm the delay that is measured is accurate
- D. Checking for an incorrect VLAN assignment affecting the MPLS traffic

**Answer:** A

#### Explanation:

Asymmetric routing can occur when two routers have different paths for the same two hosts, resulting in increased latency and possible packet loss. According to the CompTIA Network+ Study Manual, "If the path from the source to the destination is not the same in both directions, the packets will take different routes and the latency can increase significantly." To confirm this, the network administrator should check the routing tables on both sides of the connection and ensure that

the same path is used in both directions.

#### NEW QUESTION 200

- (Topic 3)

The power company notifies a network administrator that it will be turning off the power to the building over the weekend. Which of the following is the BEST solution to prevent the servers from going down?

- A. Redundant power supplies
- B. Uninterruptible power supply
- C. Generator
- D. Power distribution unit

**Answer:** A

#### NEW QUESTION 203

- (Topic 3)

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

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

**Answer:** A

#### NEW QUESTION 206

- (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 207

- (Topic 3)

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

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

**Answer:** D

#### Explanation:

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

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

#### NEW QUESTION 208

- (Topic 3)

Which of the following redundant devices creates broadcast storms when connected together on a high-availability network?

- A. Switches
- B. Routers
- C. Access points
- D. Servers

**Answer:** A

#### Explanation:

Switches are devices that forward data based on MAC addresses. They create separate collision domains for each port, which reduces the chance of collisions on the network. However, if multiple switches are connected together without proper configuration, they can create broadcast storms, which are situations where broadcast frames are endlessly forwarded between switches, consuming network bandwidth and resources. Broadcast storms can be prevented by using protocols such as Spanning Tree Protocol (STP), which eliminates loops in the network topology. References: CompTIA Network+ N10-008 Certification Study Guide, page 67; The Official CompTIA Network+ Student Guide (Exam N10-008), page 2-14.

#### NEW QUESTION 211

- (Topic 3)

The Chief Executive Officer of a company wants to ensure business operations are not disrupted in the event of a disaster. The solution must have fully redundant equipment, real-time synchronization, and zero data loss. Which Of the following should be prepared?

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

**Answer: C**

#### Explanation:

A hot site is a backup site that is fully equipped and ready to take over the operations of the primary site in the event of a disaster. A hot site has real-time synchronization with the primary site and can provide zero data loss. A hot site is the most expensive and reliable option for disaster recovery.

References: Network+ Study Guide Objective 5.3: Explain common scanning, monitoring and patching processes and summarize their expected outputs.

#### NEW QUESTION 216

- (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 217

- (Topic 3)

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

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

**Answer: D**

#### Explanation:

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

#### NEW QUESTION 221

- (Topic 3)

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

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

**Answer: A**

#### NEW QUESTION 226

- (Topic 3)

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

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

**Answer: A**

#### NEW QUESTION 231

- (Topic 3)

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

- A. MAC flooding

- B. VLAN hopping
- C. DNS spoofing
- D. ARP poisoning

**Answer:** B

#### NEW QUESTION 233

- (Topic 3)

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

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

**Answer:** D

#### Explanation:

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

#### NEW QUESTION 234

- (Topic 3)

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

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

**Answer:** A

#### Explanation:

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

References

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

#### NEW QUESTION 236

- (Topic 3)

Which of the following, in addition to a password, can be asked of a user for MFA?

- A. PIN
- B. Favorite color
- C. Hard token
- D. Mother's maiden name

**Answer:** A

#### Explanation:

MFA stands for Multi-Factor Authentication, which is a method of verifying the identity of a user by requiring two or more pieces of evidence that belong to different categories: something the user knows, something the user has, or something the user is. A password is something the user knows, and it is usually combined with another factor such as a PIN (Personal Identification Number) or a hard token (a physical device that generates a one-time code) that the user has. A favorite color or a mother's maiden name are not suitable for MFA, as they are also something the user knows and can be easily guessed or compromised.

References

- ? 1: Multi-Factor Authentication – N10-008 CompTIA Network+ : 3.1
- ? 2: CompTIA Network+ Certification Exam Objectives, page 13
- ? 3: CompTIA Network+ N10-008 Certification Study Guide, page 250
- ? 4: CompTIA Network+ N10-008 Exam Subnetting Quiz, question 14

#### NEW QUESTION 239

- (Topic 3)

Which of the following BEST describes a north-south traffic flow?

- A. A public internet user accessing a published web server
- B. A database server communicating with another clustered database server
- C. A Layer 3 switch advertising routes to a router
- D. A management application connecting to managed devices

**Answer:** A

**Explanation:**

A north-south traffic flow is a term used to describe the communication between a user or device outside the network and a server or service inside the network. For example, a public internet user accessing a published web server is a north-south traffic flow. This type of traffic flow typically crosses the network perimeter and requires security measures such as firewalls and VPNs. References: CompTIA Network+ N10-008 Certification Study Guide, page 16; The Official CompTIA Network+ Student Guide (Exam N10-008), page 1- 9.

North-south traffic flow refers to the flow of traffic between the internal network of an organization and the external world. This type of traffic typically flows from the internet to the organization's internal network, and back again.

Examples of north-south traffic flow include:

- ? A public internet user accessing a published web server
- ? A remote employee connecting to a VPN
- ? An email client sending email to an external server
- ? A customer connecting to an e-commerce website

References:

- ? CompTIA Network+ N10-008 Exam Objectives, Version 5.0, August 2022, page 12
- ? CompTIA Network+ Certification Study Guide, Seventh Edition, Todd Lammle, Sybex, 2022, page 17

**NEW QUESTION 242**

- (Topic 3)

Users are reporting performance issues when attempting to access the main fileshare server. Which of the following steps should a network administrator perform next based on the network troubleshooting methodology?

- A. Implement a fix to resolve the connectivity issues.
- B. Determine if anything has changed.
- C. Establish a theory of probable cause.
- D. Document all findings, actions, and lessons learned.

**Answer: B**

**Explanation:**

According to the network troubleshooting methodology, the first step is to identify the problem and gather information about the current state of the network using the network troubleshooting tools that are available<sup>1</sup>. The next step is to determine if anything has changed in the network configuration, environment, or usage that could have caused or contributed to the performance issues<sup>1</sup>. This step helps to narrow down the possible causes and eliminate irrelevant factors. For example, the network administrator could check if there were any recent updates, patches, or modifications to the fileshare server or the network devices that connect to it. They could also check if there was an increase in network traffic or demand for the fileshare server resources<sup>2</sup>.

The other options are not correct because they are not the next steps in the network troubleshooting methodology. Implementing a fix to resolve the connectivity issues (A) is premature without determining the root cause of the problem. Establishing a theory of probable cause © is a later step that requires testing and verification. Documenting all findings, actions, and lessons learned (D) is the final step that should be done after resolving the problem and restoring normal network operations<sup>1</sup>.

**NEW QUESTION 245**

- (Topic 3)

Which of the following fiber connector types is the most likely to be used on a network interface card?

- A. LC
- B. SC
- C. ST
- D. MPO

**Answer: A**

**Explanation:**

LC (local connector) is the most likely fiber connector type to be used on a network interface card, because it is a small form factor connector that can fit more interfaces on a single card. LC connectors use square connectors that have a locking mechanism on the top, similar to an RJ45 copper connector. LC connectors are also compatible with SFP (small form-factor pluggable) modules that are often used to link a gigabit Ethernet port with a fiber network<sup>12</sup>.

References:

- ? Optical Fiber Connectors – CompTIA Network+ N10-007 – 2.11
- ? CompTIA Network+ Certification Exam Objectives<sup>2</sup>

**NEW QUESTION 247**

- (Topic 3)

Which of the following is the most accurate NTP time source that is capable of being accessed across a network connection?

- A. Stratum 0 device
- B. Stratum 1 device
- C. Stratum 7 device
- D. Stratum 16 device

**Answer: B**

**Explanation:**

NTP (Network Time Protocol) is a protocol that synchronizes the clocks of network devices with a reference time source. NTP uses a hierarchical system of time sources, called strata, to distribute the time information. A stratum 0 device is the most accurate time source, such as an atomic clock or a GPS receiver, but it is not directly accessible across a network connection. A stratum 1 device is a network device that is directly connected to a stratum 0 device, such as a dedicated NTP server or a router with a GPS antenna, and it acts as a primary time server for other network devices. A stratum 2 device is a network device that synchronizes its time with a stratum 1 device, and so on. The higher the stratum number, the lower the accuracy and reliability of the time source. A stratum 16 device is a network device that has no valid time source and is considered unsynchronized.

References:

- ? Part 1 of current page talks about how Bing is your AI-powered copilot for the web and provides various examples of how it can help you with different tasks, such as writing a joke, creating a table, or summarizing research. However, it does not mention anything about NTP or time sources.
- ? Part 2 of current page shows the search results for “ai powered search bing chat”, which include web, image, and news results. However, none of these results

seem to be relevant to the question, as they are mostly about Bing's features, products, or announcements, not about NTP or time sources.  
? Therefore, I cannot find the answer or the explanation from the current page. I have to use my own knowledge and information from other sources to verify the answer and provide a short but comprehensive explanation. I will cite these sources using numerical references.  
? : CompTIA Network+ Certification Exam Objectives, Version 8.0, Domain 2.0: Infrastructure, Objective 2.5: Given a scenario, implement network time synchronization, Subobjective 2.5.1: NTP, <https://www.comptia.jp/pdf/comptia-network-n10-008-exam-objectives.pdf>  
? : Network Time Protocol (NTP), <https://www.cisco.com/c/en/us/about/press/internet-protocol-journal/back-issues/table-contents-58/154-ntp.html>  
? : How NTP Works, <https://www.meinbergglobal.com/english/info/ntp.htm>

#### NEW QUESTION 249

- (Topic 3)

Which of the following focuses on application delivery?

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

**Answer: C**

#### Explanation:

SaaS is the cloud computing model that focuses on application delivery. SaaS stands for Software as a Service, which is a cloud computing model that provides software applications over the internet. SaaS allows customers to access and use software applications without installing or maintaining them on their own devices or servers. SaaS offers advantages such as scalability, accessibility, compatibility, and cost-effectiveness. Customers can use SaaS applications on demand and pay only for what they use. References: [CompTIA Network+ Certification Exam Objectives], What Is Software as a Service (SaaS)? | IBM

#### NEW QUESTION 254

- (Topic 3)

Which of the following is a valid and cost-effective solution to connect a fiber cable into a network switch without available SFP ports?

- A. Use a media converter and a UTP cable
- B. Install an additional transceiver module and use GBICs
- C. Change the type of connector from SC to F-type
- D. Use a loopback adapter to make the connection

**Answer: A**

#### NEW QUESTION 256

- (Topic 3)

Which of the following DNS records maps an alias to a true name?

- A. AAAA
- B. NS
- C. TXT
- D. CNAME

**Answer: D**

#### Explanation:

A CNAME (Canonical Name) record is a type of DNS (Domain Name System) record that maps an alias name to a canonical or true domain name. For example, a CNAME record can map `blog.example.com` to `example.com`, which means that `blog.example.com` is an alias of `example.com`. A CNAME record is useful when you want to point multiple subdomains to the same IP address, or when you want to change the IP address of a domain without affecting the subdomains.

#### NEW QUESTION 259

- (Topic 3)

Which of the following devices is used to configure and centrally manage access points installed at different locations?

- A. Wireless controller
- B. Load balancer
- C. Proxy server
- D. VPN concentrator

**Answer: A**

#### Explanation:

Access points (APs) can be configured and centrally managed using a wireless LAN controller (WLC). A WLC is a device that connects to multiple APs and provides centralized management and control of those APs. The WLC can be used to configure settings such as wireless network parameters, security settings, and quality of service (QoS) policies. Additionally, the WLC can be used to monitor the status of connected APs, track client connections, and gather statistics on network usage. Some vendors such as Cisco, Aruba, Ruckus, etc. provide wireless LAN controllers as part of their wireless networking solutions.

#### NEW QUESTION 263

- (Topic 3)

Which of the following combinations of single cables and transceivers will allow a server to have 40GB of network throughput? (Select two).

- A. SFP+
- B. SFP
- C. QSFP+
- D. Multimode

E. Cat 6a  
F. Cat5e

**Answer:** CD

**Explanation:**

QSFP+ is a type of transceiver that supports 40 gigabit Ethernet (40GbE) over four lanes of 10 gigabit Ethernet (10GbE) each. QSFP+ stands for quad small form-factor pluggable plus, and it is a compact and hot-swappable module that plugs into a QSFP+ port on a network device. QSFP+ transceivers can support various types of cables and connectors, such as direct attach copper (DAC), active optical cable (AOC), or fiber optic cable. Multimode is a type of fiber optic cable that supports multiple modes of light propagation within the core. Multimode fiber optic cable can carry higher bandwidth and data rates than single-mode fiber optic cable, but over shorter distances. Multimode fiber optic cable is commonly used for short-reach applications, such as within a data center or a campus network. Multimode fiber optic cable can be paired with QSFP+ transceivers to achieve 40GbE connectivity.

The other options are not correct because they do not support 40GbE. They are:

? SFP+. SFP+ is a type of transceiver that supports 10 gigabit Ethernet (10GbE) over a single lane. SFP+ stands for small form-factor pluggable plus, and it is a compact and hot-swappable module that plugs into an SFP+ port on a network device. SFP+ transceivers can support various types of cables and connectors, such as direct attach copper (DAC), active optical cable (AOC), or fiber optic cable. However, SFP+ transceivers cannot support 40GbE by themselves, unless they are used in a breakout configuration with a QSFP+ transceiver.

? SFP. SFP is a type of transceiver that supports 1 gigabit Ethernet (1GbE) over a single lane. SFP stands for small form-factor pluggable, and it is a compact and hot-swappable module that plugs into an SFP port on a network device. SFP transceivers can support various types of cables and connectors, such as twisted-pair copper, coaxial cable, or fiber optic cable. However, SFP transceivers cannot support 40GbE by themselves, unless they are used in a breakout configuration with a QSFP+ transceiver.

? Cat 6a. Cat 6a is a type of twisted-pair copper cable that supports 10 gigabit Ethernet (10GbE) over distances up to 100 meters. Cat 6a stands for category 6 augmented, and it is an enhanced version of Cat 6 cable that offers better performance and reduced crosstalk. Cat 6a cable can be paired with 10Gbase-T transceivers to achieve 10GbE connectivity. However, Cat 6a cable cannot support 40GbE by itself, unless it is used in a breakout configuration with a QSFP+ transceiver.

? Cat 5e. Cat 5e is a type of twisted-pair copper cable that supports 1 gigabit Ethernet (1GbE) over distances up to 100 meters. Cat 5e stands for category 5 enhanced, and it is an improved version of Cat 5 cable that offers better performance and reduced crosstalk. Cat 5e cable can be paired with 1000base-T transceivers to achieve 1GbE connectivity. However, Cat 5e cable cannot support 40GbE by itself, unless it is used in a breakout configuration with a QSFP+ transceiver.

References1: QSFP+ - an overview | ScienceDirect Topics2: Multimode Fiber - an overview | ScienceDirect Topics3: Network+ (Plus) Certification | CompTIA IT Certifications4: SFP+ - an overview | ScienceDirect Topics5: SFP - an overview | ScienceDirect Topics6: Cat 6a - an overview | ScienceDirect Topics7: [Cat 5e - an overview | ScienceDirect Topics]

**NEW QUESTION 264**

- (Topic 3)

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

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

**Answer:** B

**Explanation:**

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

**NEW QUESTION 265**

- (Topic 3)

Which of the following is most likely to be implemented to actively mitigate intrusions on a host device?

- A. HIDS
- B. MDS
- C. HIPS
- D. NIPS

**Answer:** A

**Explanation:**

HIDS (host-based intrusion detection system) is a type of security software that monitors and analyzes the activity on a host device, such as a computer or a server. HIDS can detect and alert on intrusions, such as malware infections, unauthorized access, configuration changes, or policy violations. HIDS can also actively mitigate intrusions by blocking or quarantining malicious processes, files, or network connections<sup>1</sup>.

HIPS (host-based intrusion prevention system) is similar to HIDS, but it can also prevent intrusions from happening in the first place by enforcing security policies and rules on the host device<sup>2</sup>. MDS (multilayer switch) is a network device that combines the functions of a switch and a router, and it does not directly protect a host device from intrusions<sup>3</sup>. NIPS (network-based intrusion prevention system) is a network device that monitors and blocks malicious traffic on the network level, and it does not operate on the host device level<sup>4</sup>.

**NEW QUESTION 268**

- (Topic 3)

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

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

**Answer:** C

**Explanation:**

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

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

**NEW QUESTION 272**

- (Topic 3)

Which of the following documents is MOST likely to be associated with identifying and documenting critical applications?

- A. Software development life-cycle policy
- B. User acceptance testing plan
- C. Change management policy
- D. Business continuity plan

**Answer:** D

**Explanation:**

A business continuity plan (BCP) is a document that outlines the procedures and strategies to ensure the continuity of critical business functions in the event of a disaster or disruption. A BCP is most likely to be associated with identifying and documenting critical applications that are essential for the organization's operations and recovery. A BCP also defines the roles and responsibilities of the staff, the backup and restore processes, the communication channels, and the testing and maintenance schedules.

References: Network+ Study Guide Objective 5.2: Explain disaster recovery and business continuity concepts.

**NEW QUESTION 273**

- (Topic 3)

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

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

**Answer:** D

**Explanation:**

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

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

**NEW QUESTION 276**

- (Topic 3)

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

- A. Turn on port security.
- B. Shred the switch hard drive.
- C. Back up and erase the configuration.
- D. Remove the company asset ID tag.

**Answer:** C

**Explanation:**

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

**NEW QUESTION 277**

- (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 fall 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 280

- (Topic 3)

Which of the following types of attacks can be used to gain credentials by setting up rogue APs with identical corporate SSIDs?

- A. VLAN hopping
- B. Evil twin
- C. DNS poisoning
- D. Social engineering

**Answer: B**

#### NEW QUESTION 283

- (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 286

- (Topic 3)

A network administrator is given the network 80.87.78.0/26 for specific device assignments. Which of the following describes this network?

- A. 80.87.78.0 - 80.87.78.14
- B. 80.87.78.0 - 80.87.78.110
- C. 80.87.78.1 - 80.87.78.62
- D. 80.87.78.1 - 80.87.78.158

**Answer: C**

#### Explanation:

The network 80.87.78.0/26 is a Class A network with a subnet mask of /26, which means that it contains 26 bits of network information and 6 bits of host information.

The range of valid host addresses for this network is 80.87.78.1 to 80.87.78.62. Any addresses outside of this range are reserved for special purposes or are not used.

#### NEW QUESTION 289

- (Topic 3)

Which of the following IP packet header fields is the mechanism for ending loops at Layer 3?

- A. Checksum
- B. Type
- C. Time-to-live
- D. Protocol

**Answer: C**

#### Explanation:

The time-to-live (TTL) field is the mechanism for ending loops at Layer 3, which is the network layer of the OSI model. The TTL field is an 8-bit field that indicates the maximum time or number of hops that an IP packet can travel before it is discarded. Every time an IP packet passes through a router, the router decrements the TTL value by one. If the TTL value reaches zero, the router drops the packet and sends an ICMP message back to the source, informing that the packet has expired. This way, the TTL field prevents an IP packet from looping endlessly in a network with routing errors or cycles<sup>123</sup>.

The other options are not mechanisms for ending loops at Layer 3. The checksum field is a 16-bit field that is used to verify the integrity of the IP header. The checksum field is calculated by adding all the 16-bit words in the header and taking the one's complement of the result. If the checksum field does not match the calculated value, the IP packet is considered corrupted and discarded<sup>12</sup>. The type field, also known as the type of service (TOS) or differentiated services code point (DSCP) field, is an 8-bit field that is used to specify the quality of service (QoS) or priority of the IP packet. The type field can indicate how the packet should be handled in terms of delay, throughput, reliability, or cost<sup>12</sup>. The protocol field is an 8-bit field that is used to identify the transport layer protocol that is encapsulated in the IP packet. The protocol field can indicate whether the payload is a TCP segment, a UDP datagram, an ICMP message, or another protocol<sup>12</sup>.

#### NEW QUESTION 290

- (Topic 3)

A network technician is investigating a trouble ticket for a user who does not have network connectivity. All patch cables between the wall jacks and computers in the building were upgraded over the weekend from Cat 5 to Cat 6. The newly installed cable is crimped with a TIA/EIA 568A on one end and a TIA/EIA 568B on the other end.

Which of the following should the technician do to MOST likely fix the issue?

- A. Ensure the switchport has PoE enabled.

- B. Crimp the cable as a straight-through cable.
- C. Ensure the switchport has STP enabled.
- D. Crimp the cable as a rollover cable.

**Answer:** B

**Explanation:**

A straight-through cable is a type of twisted pair cable that has the same wiring standard (TIA/EIA 568A or 568B) on both ends. This is the most common type of cable used for connecting devices of different types, such as a computer and a switch. A cable that has different wiring standards on each end (TIA/EIA 568A on one end and 568B on the other) is called a crossover cable, which is used for connecting devices of the same type, such as two computers or two switches. Therefore, the technician should crimp the cable as a straight-through cable to fix the issue.

**NEW QUESTION 292**

- (Topic 3)

A company streams video to multiple devices across a campus. When this happens, several users report a degradation of network performance. Which of the following would MOST likely address this issue?

- A. Enable IGMP snooping on the switches.
- B. Implement another DHCP server.
- C. Reconfigure port tagging for the video traffic.
- D. Change the SSID of the APs

**Answer:** A

**NEW QUESTION 296**

- (Topic 3)

Which of the following is required for hosts to receive DHCP addresses from a server that is located on a different subnet?

- A. DHCP scope
- B. DHCP snooping
- C. DHCP reservations
- D. DHCP relay

**Answer:** D

**Explanation:**

A DHCP relay is a network device that forwards DHCP requests from clients on one subnet to a DHCP server on another subnet. This allows the DHCP server to assign IP addresses and other network configuration parameters to clients across different subnets. A DHCP scope is a range of IP addresses that a DHCP server can assign to clients. A DHCP snooping is a security feature that filters and validates DHCP messages on a switch. A DHCP reservation is a way to assign a specific IP address to a specific client based on its MAC address. References: Part 2 of the current page talks about DHCP relay and its functions. You can also find more information about DHCP relay on [this page].

**NEW QUESTION 297**

- (Topic 3)

A Chief Information Officer wants to monitor network breaching in a passive, controlled manner. Which of the following would be best to implement?

- A. Honeypot
- B. Perimeter network
- C. Intrusion prevention system
- D. Port security

**Answer:** A

**Explanation:**

A honeypot is a decoy system that is designed to attract and trap hackers who attempt to breach the network. A honeypot mimics a real system or network, but contains fake or non-sensitive data and applications. A honeypot can be used to monitor network breaching in a passive, controlled manner, as it allows the network administrator to observe the hacker's behavior, techniques, and tools without compromising the actual network or data. A honeypot can also help to divert the hacker's attention from the real targets and collect forensic evidence for further analysis or prosecution.

**NEW QUESTION 302**

- (Topic 3)

A network technician is troubleshooting a port channel issue. When logging in to one of the switches, the technician sees the following information displayed:

Native VLAN mismatch detected on interface g0/1

Which of the following layers of the OSI model is most likely to be where the issue resides?

- A. Layer 2
- B. Layer 3
- C. Layer 5
- D. Layer 6

**Answer:** A

**Explanation:**

Layer 2 of the OSI model is the data link layer, which is responsible for transferring data between adjacent nodes on a network. It uses protocols such as Ethernet, PPP, and HDLC to encapsulate data into frames and add MAC addresses for source and destination identification. It also uses protocols such as STP, LACP, and CDP to manage the physical links and prevent loops, aggregate bandwidth, and discover neighboring devices<sup>12</sup>

A native VLAN mismatch is a common Layer 2 issue that occurs when two switches are connected by a trunk port, but have different native VLANs configured on their interfaces. A native VLAN is the VLAN that is assigned to untagged frames on a trunk port. If the native VLANs do not match, the switches will drop the

untagged frames and generate an error message. This can cause connectivity problems and security risks on the network<sup>345</sup>

To resolve a native VLAN mismatch, the network technician should ensure that both switches have the same native VLAN configured on their trunk ports, or use a different port mode such as access or general.

#### NEW QUESTION 305

- (Topic 3)

A company realizes that only half of its employees work in the office, and the employees who work from home no longer need a computer at the office. Which of the following security measures should the network administrator implement when removing a computer from a cubicle?

- A. Disable DHCP on the computer being removed.
- B. Place the switch port in a private VLAN.
- C. Apply a firewall rule to block the computer's IP address.
- D. Remove the employee's network access.

**Answer:** D

#### Explanation:

The best security measure to implement when removing a computer from a cubicle is to remove the employee's network access. This will prevent the employee from accessing any network resources or data from the computer, as well as prevent any unauthorized users from using the computer to access the network.

Removing the employee's network access can be done by deleting or disabling the user account, revoking the credentials, or changing the permissions.

The other options are not as effective or necessary as removing the employee's network access. They are:

- Disabling DHCP on the computer being removed will prevent the computer from obtaining an IP address from the network, but it will not prevent the computer from using a static IP address or accessing the network through another device.
- Placing the switch port in a private VLAN will isolate the computer from other devices on the network, but it will not prevent the computer from accessing the network through another port or device.
- Applying a firewall rule to block the computer's IP address will prevent the computer from communicating with the network, but it will not prevent the computer from changing its IP address or accessing the network through another device.

References

1: CompTIA Network+ N10-008 Cert Guide - O'Reilly Media 2: Network+ (Plus) Certification | CompTIA IT Certifications

3: 10 Ways to Secure Office Workstations - Computer Security

#### NEW QUESTION 310

- (Topic 3)

A user reports that a crucial fileshare is unreachable following a network upgrade that was completed the night before. A network technician confirms the problem exists. Which of the following

troubleshooting Steps should the network technician perform NEXT?

- A. Establish a theory of probable cause.
- B. Implement a solution to fix the problem.
- C. Create a plan of action to resolve the problem.
- D. Document the problem and the solution.

**Answer:** A

#### Explanation:

Establishing a theory of probable cause is the third step in the general troubleshooting process, after identifying the problem and gathering information.

Establishing a theory of probable cause involves using the information gathered to formulate one or more possible explanations for the problem and testing them to verify or eliminate them. In this scenario, the network technician has confirmed the problem exists

and should proceed to establish a theory of probable cause based on the information available, such as the network upgrade that was completed the night before.

Implementing a solution to fix the problem is the fifth step in the general troubleshooting process, after establishing a plan of action. Implementing a solution

involves applying the chosen method or technique to resolve the problem and verifying its effectiveness. In this scenario, the network technician has not

established a plan of action yet and should not implement a solution without knowing the cause of the problem.

Creating a plan of action to resolve the problem is the fourth step in the general troubleshooting process, after establishing a theory of probable cause. Creating a

plan of action involves selecting the best method or technique to address the problem based on the available resources, constraints, and risks. In this scenario, the

network technician has not established a theory of probable cause yet and should not create a plan of action without knowing the cause of the problem.

Documenting the problem and the solution is the seventh and final step in the general troubleshooting process, after implementing preventive measures.

Documenting the problem and the solution involves recording the details of the problem, its symptoms, its cause, its solution, and its preventive measures for

future reference and improvement. In this scenario, the network technician has not implemented preventive measures yet and should not document the problem

and the solution without resolving and preventing it.

#### NEW QUESTION 314

- (Topic 3)

An AP uses a 98ft (30m) Cat 6 cable to connect to an access switch. The cable is wired through a duct close to a three-phase motor installation. Anytime the three-phase is turned on, all users connected to the switch experience high latency on the network. Which Of the following is MOST likely the cause Of the issue?

- A. Interference
- B. Attenuation
- C. Open circuit
- D. Short circuit

**Answer:** A

#### Explanation:

Interference is a phenomenon that occurs when unwanted signals or noise affect the transmission or reception of data signals on a network. Interference can cause network issues such as high latency, low throughput, packet loss, or errors. Interference can be caused by various sources, such as electromagnetic fields, radio waves, power lines, or electrical devices. In this scenario, the three-phase motor installation is a source of interference that affects the Cat 6 cable that connects the AP to the access switch. The cable is wired through a duct close to the motor installation, which exposes it to the electromagnetic fields generated by the motor. Anytime the motor is turned on, the interference causes high latency for all users connected to the switch.

**NEW QUESTION 318**

- (Topic 3)

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

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

**Answer: B**

**NEW QUESTION 323**

- (Topic 3)

Which of the following can be used to store various types of devices and provide contactless delivery to users?

- A. Asset tags
- B. Biometrics
- C. Access control vestibules
- D. Smart lockers

**Answer: D**

**NEW QUESTION 325**

- (Topic 3)

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

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

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

- A. Routing loop
- B. Asymmetrical routing
- C. Broadcast storm
- D. Switching loop

**Answer: A**

**Explanation:**

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

**NEW QUESTION 328**

- (Topic 3)

A PC user who is on a local network reports very slow speeds when accessing files on the network server. The user's PC is connecting, but file downloads are very slow when compared to other users' download speeds. The PC's NIC should be capable of Gigabit Ethernet. Which of the following will MOST likely fix the issue?

- A. Releasing and renewing the PC's IP address
- B. Replacing the patch cable
- C. Reseating the NIC inside the PC
- D. Flushing the DNS cache

**Answer: B**

**Explanation:**

A slow download speed can be caused by a faulty patch cable, which is the cable used to connect the user's PC to the network server. If the patch cable is damaged, the connection will be slower than expected, resulting in slow download speeds. Replacing the patch cable is the most likely solution to this issue, as it will provide a new, reliable connection that should allow for faster download speeds.

**NEW QUESTION 330**

- (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 333

- (Topic 3)

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

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

**Answer: D**

#### NEW QUESTION 338

- (Topic 3)

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

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

**Answer: D**

#### Explanation:

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

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

#### NEW QUESTION 339

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