

CompTIA

Exam Questions N10-009

CompTIA Network+ Exam



NEW QUESTION 1

- (Topic 3)

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

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

Answer: A

Explanation:

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

? Network Hardening - N10-008 CompTIA Network+ : 4.3 - YouTube¹

? CompTIA Network+ Certification Exam Objectives, page 151

NEW QUESTION 2

- (Topic 3)

Which of the following can have multiple VLAN interfaces?

- A. Hub
- B. Layer 3 switch
- C. Bridge
- D. Load balancer

Answer: B

NEW QUESTION 3

- (Topic 3)

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

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

Answer: D

Explanation:

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

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

NEW QUESTION 4

- (Topic 3)

An organization has a security requirement that all network connections can be traced back to a user. A network administrator needs to identify a solution to implement on the wireless network. Which of the following is the best solution?

- A. Implementing enterprise authentication
- B. Requiring the use of PSKs
- C. Configuring a captive portal for users
- D. Enforcing wired equivalent protection

Answer: A

Explanation:

Enterprise authentication is a method of securing wireless networks that uses an external authentication server, such as RADIUS, to verify the identity of users and devices. Enterprise authentication can provide user traceability by logging the network connections and activities of each authenticated user. This can help the organization meet its security requirement and comply with any regulations or policies that mandate user accountability¹².

References:

? CompTIA Network+ N10-008 Certification Exam Objectives, page 83

? CompTIA Network+ Cert Guide: Wireless Networking, page 13

NEW QUESTION 5

- (Topic 3)

Which of the following is the MOST appropriate use case for the deployment of a clientless VPN?

- A. Secure web access to internal corporate resources.
- B. Upgrade security via the use of an NFV technology
- C. Connect two data centers across the internet.

D. Increase VPN availability by using a SDWAN technology.

Answer: A

NEW QUESTION 6

- (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 devices¹²

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 network³⁴⁵

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 7

- (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 8

- (Topic 3)

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

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

Answer: A

NEW QUESTION 9

- (Topic 3)

A company is moving to a new building designed with a guest waiting area that has existing network ports. Which of the following practices would BEST secure the network?

- A. Ensure all guests sign an NDA.
- B. Disable unneeded switchports in the area.
- C. Lower the radio strength to reduce Wi-Fi coverage in the waiting area.
- D. Enable MAC filtering to block unknown hardware addresses.

Answer: B

Explanation:

One of the best practices to secure the network would be to disable unneeded switchports in the guest waiting area. This will prevent unauthorized users from connecting to the network through these ports. It's important to identify which switchports are not in use and disable them, as this will prevent unauthorized access to the network. Other practices such as ensuring all guests sign an NDA, lowering the radio strength to reduce Wi-Fi coverage in the waiting area and enabling MAC filtering to block unknown hardware addresses are not as effective in securing the network as disabling unneeded switchports. Enforcing an NDA with guests may not stop a malicious user from attempting to access the network, reducing the radio strength only limits the Wi-Fi coverage, and MAC filtering can be easily bypassed by hackers.

NEW QUESTION 10

- (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 10

- (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 14

- (Topic 3)

The following DHCP scope was configured for a new VLAN dedicated to a large deployment of 325 IoT sensors:

```
DHCP network scope: 10.10.0.0/24
Exclusion range: 10.10.10.1-10.10.10.10
Gateway: 10.10.0.1
DNS: 10.10.0.2
DHCP option 66 (TFTP): 10.10.10.4
DHCP option 4 (NTP): 10.10.10.5
```

The first 244 IoT sensors were able to connect to the TFTP server, download the configuration file, and register to an IoT management system. The other sensors are being shown as offline. Which of the following should be performed to determine the MOST likely cause of the partial deployment of the sensors?

- A. Check the gateway connectivity to the TFTP server.
- B. Check the DHCP network scope.
- C. Check whether the NTP server is online.
- D. Check the IoT devices for a hardware failure.

Answer: B

NEW QUESTION 18

- (Topic 3)

A network administrator is trying to create a subnet, which is the most efficient size possible, for 31 laptops. Which of the following network subnets would be best in this situation?

- A. 10.10.10.0/24
- B. 10.10.10.0/25
- C. 10.10.10.0/26
- D. 10.10.10.0/27

Answer: D

Explanation:

A /27 subnet mask has 32 IP addresses, of which 30 are usable for hosts. This is the smallest subnet that can accommodate 31 laptops, as the other options have either too few or too many IP addresses. A /27 subnet mask is equivalent to 255.255.255.224 in decimal notation, and has a wildcard mask of 0.0.0.31. The network address is 10.10.10.0, and the broadcast address is 10.10.10.31. The usable host range is 10.10.10.1 to 10.10.10.30.

References

1: Subnet Cheat Sheet – 24 Subnet Mask, 30, 26, 27, 29, and other IP Address CIDR Network References

2: IP Subnet Calculator

NEW QUESTION 23

- (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 28

- (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 29

- (Topic 3)

Which of the following technologies would MOST likely be used to prevent the loss of connection between a virtual server and network storage devices?

- A. Multipathing
- B. VRRP
- C. Port aggregation
- D. NIC teaming

Answer: D

Explanation:

NIC teaming is a technology that allows multiple network interface cards (NICs) to work together as a single logical interface, providing redundancy and load balancing. This can prevent the loss of connection between a virtual server and network storage devices if one of the NICs fails or becomes disconnected. References: [CompTIA Network+ Certification Exam Objectives], Domain 2.0 Networking Concepts, Objective 2.5: Explain the purposes and use cases for advanced networking devices, Subobjective: NIC bonding/teaming

NEW QUESTION 30

- (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 35

- (Topic 3)

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

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

Answer: C

Explanation:

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

NEW QUESTION 37

- (Topic 3)

Which of the following records can be used to track the number of changes on a DNS zone?

- A. SOA
- B. SRV
- C. PTR
- D. NS

Answer: A

Explanation:

The DNS 'start of authority' (SOA) record stores important information about a domain or zone such as the email address of the administrator, when the domain was last updated, and how long the server should wait between refreshes. All DNS zones need an SOA record in order to conform to IETF standards. SOA records are also important for zone transfers.

NEW QUESTION 39

- (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 packets². 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 another³.
References² - VoIP Troubleshooting: 5 Fixes for Common Connection Issues - Nextiva³ - Troubleshooting VoIP — Is it You or the Network? - PingPlotter

NEW QUESTION 44

- (Topic 3)

An engineer recently decided to upgrade the firmware on a router. During the upgrade, the help desk received calls about a network outage, and a critical ticket was opened. The network manager would like to create a policy to prevent this from happening in the future. Which of the following documents should the manager create?

- A. Change management
- B. incident response
- C. Standard operating procedure
- D. System life cycle

Answer: A

NEW QUESTION 47

- (Topic 3)

Users in a branch can access an In-house database server, but it is taking too long to fetch records. The analyst does not know whether the issue is being caused by network latency. Which of the following will the analyst MOST likely use to retrieve the metrics that are needed to resolve this issue?

- A. SNMP
- B. Link state
- C. Syslog
- D. QoS
- E. Traffic shaping

Answer: A

NEW QUESTION 51

- (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 54

- (Topic 3)

A network administrator would like to purchase a device that provides access ports to endpoints and has the ability to route between networks. Which of the following would be BEST for the administrator to purchase?

- A. An IPS
- B. A Layer 3 switch
- C. A router
- D. A wireless LAN controller

Answer: B

NEW QUESTION 57

- (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 available¹. 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 issues¹. 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 resources².

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 operations¹.

NEW QUESTION 58

- (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 63

- (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 68

- (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 70

- (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 71

- (Topic 3)

Which of the following architectures would allow the network-forwarding elements to adapt to new business requirements with the least amount of operating effort?

- A. Software-defined network
- B. Spine and leaf
- C. Three-tier
- D. Backbone

Answer: A

Explanation:

Software-defined network (SDN) is a network architecture that allows the network-forwarding elements to be controlled by a centralized software application. This enables the network to adapt to new business requirements with the least amount of operating effort, as the network administrator can configure and manage the network from a single console, without having to manually configure each device individually. SDN also provides more flexibility, agility, and scalability for the network, as it can dynamically adjust the network resources and policies based on the application needs and traffic conditions.

References:

- ? CompTIA Network+ Certification Exam Objectives, page 5, section 1.3: "Explain the concepts and characteristics of routing and switching."
- ? Software-Defined Networking – CompTIA Network+ N10-007 – 1.3, video lecture by Professor Messer.

NEW QUESTION 74

- (Topic 3)

An ISP is providing Internet to a retail store and has terminated its point of connection using a standard Cat 6 pin-out. Which of the following terminations should the technician use when running a cable from the ISP's port to the front desk?

- A. F-type connector
- B. TIA/EIA-568-B
- C. LC
- D. SC

Answer: B

Explanation:

The termination that the technician should use when running a cable from the ISP's port to the front desk is B. TIA/EIA-568-B. This is a standard pin-out for Cat 6 cables that is used for Ethernet and other network physical layers. It specifies how to arrange the eight wires in an RJ45 connector, which is a common type of

connector for network cables.

NEW QUESTION 75

- (Topic 3)

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

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

Answer: B

Explanation:

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

NEW QUESTION 78

- (Topic 3)

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

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

Answer: A

Explanation:

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

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

? Install a protocol analyzer tool on a device that is connected to the same network

as the server, such as Wireshark³ or Microsoft Network Monitor⁴.

? Select the network interface that is used to communicate with the server, and start capturing the network traffic.

? Filter the captured traffic by using the IP address or hostname of the server, or by using a specific port or protocol that is used by the database service.

? Analyze the filtered traffic and look for any signs of successful or failed connection attempts, such as TCP SYN, ACK, or RST packets, or ICMP messages.

? If there are no connection attempts to or from the server, then there may be a problem with the network configuration or device settings that prevent the traffic from reaching the server.

? If there are connection attempts but they are rejected or dropped by the server, then there may be a problem with the server configuration or service settings that prevent the traffic from being accepted by the server.

The other options are not the best ways to verify traffic to and from the server. nmap is a tool that can scan a network and discover hosts and services, but it cannot capture and analyze the network packets in detail. ipconfig is a command that can display and configure the IP settings of a device, but it cannot monitor or test the network communication with another device. Speed test is a tool that can measure the bandwidth and latency of a network connection, but it cannot diagnose or troubleshoot specific network problems.

NEW QUESTION 80

- (Topic 3)

A network architect is developing documentation for an upcoming IPv4/IPv6 dual-stack implementation. The architect wants to shorten the following IPv6 address: ef82:0000:0000:0000:0000:1ab1:1234:1bc2. Which of the following is the MOST appropriate shortened version?

- A. ef82:0:1ab1:1234:1bc2
- B. ef82:0::1ab1:1234:1bc2
- C. ef82:0:0:0:1ab1:1234:1bc2
- D. ef82::1ab1:1234:1bc2

Answer: D

Explanation:

The most appropriate shortened version of the IPv6 address ef82:0000:0000:0000:0000:1ab1:1234:1bc2 is ef82::1ab1:1234:1bc2. IPv6 addresses are 128-bit hexadecimal values that are divided into eight groups of 16 bits each, separated by colons. IPv6 addresses can be shortened by using two rules: omitting leading zeros within each group, and replacing one or more consecutive groups of zeros with a double colon (::). Only one double colon can be used in an address. Applying these rules to the given address results in ef82::1ab1:1234:1bc2. References: CompTIA Network+ N10-008 Certification Study Guide, page 114; The Official CompTIA Network+ Student Guide (Exam N10-008), page 5-7.

NEW QUESTION 82

- (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 83

- (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 87

- (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 the connectivity failure?

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

Answer: D

NEW QUESTION 90

- (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 92

- (Topic 3)

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

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

Answer: D

Explanation:

A PoE injector is a device that provides power over Ethernet (PoE) to a WAP or other network device that does not have a built-in power supply. A PoE injector connects to a power outlet and an Ethernet cable, and sends both power and data to the WAP. If the WAP was moved to a location where there is no power outlet or PoE switch, it would need a PoE injector to boot up. References:
? Part 3 of the current page talks about PoE and PoE injectors as a way to power WAPs.
? [This article] explains how PoE injectors work and how to use them.

NEW QUESTION 97

- (Topic 3)

A network administrator is preparing new switches that will be deployed to support a network extension project. The lead network engineer has already provided documentation to ensure the switches are set up properly Which of the following did the engineer most likely provide?

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

Answer: C

Explanation:

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

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

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

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

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

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

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

NEW QUESTION 99

- (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 102

- (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 103

- (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 106

- (Topic 3)

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

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

Answer: C

Explanation:

Port mirroring is a technique that allows a network administrator to monitor the traffic on a specific port on a switch by sending a copy of the packets seen on that port to another port where a monitoring device is connected¹. Port mirroring can be used to analyze and debug data, diagnose errors, or perform security audits on the network without affecting the normal operation of the switch

NEW QUESTION 111

- (Topic 3)

While setting up a new workstation, a technician discovers that the network connection is only 100 full duplex (FD), although it is connected to a gigabit switch. While reviewing the interface information in the switch CLI, the technician notes the port is operating at IOOFD but Shows many RX and TX errors. The technician moves the computer to another switchport and experiences the same issues. Which of the following is MOST likely the cause of the low data rate and port errors?

- A. Bad switch ports
- B. Duplex issues
- C. Cable length
- D. Incorrect pinout

Answer: B

NEW QUESTION 116

- (Topic 3)

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

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

Which of the following configurations on the PC is incorrect?

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

Answer: C

Explanation:

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

NEW QUESTION 121

- (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 126

- (Topic 3)

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

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

Answer: D

Explanation:

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

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

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

References

What is a Default Gateway?

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

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

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

NEW QUESTION 129

- (Topic 3)

A technician completed troubleshooting and was able to fix an issue. Which of the following is the BEST method the technician can use to pass along the exact steps other technicians should follow in case the issue arises again?

- A. Use change management to build a database
- B. Send an email stating that the issue is resolved.
- C. Document the lessons learned
- D. Close the ticket and inform the users.

Answer: C

Explanation:

Documenting the lessons learned is the best method for passing along the exact steps other technicians should follow in case the issue arises again. Lessons learned are the knowledge and experience gained from completing a project or solving a problem. Documenting the lessons learned helps to capture the best practices, challenges, solutions, and recommendations for future reference and improvement. Documenting the lessons learned can also help to update the knowledge base, standard operating procedures, or policies related to the issue. References: [CompTIA Network+ Certification Exam Objectives], Lessons Learned: Definition & Examples for Project Managers

NEW QUESTION 133

- (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 134

- (Topic 3)

Which of the following protocols uses Dijkstra's algorithm to calculate the LOWEST cost between routers?

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

Answer: B

Explanation:

OSPF stands for Open Shortest Path First and is a link-state routing protocol that uses Dijkstra's algorithm to calculate the lowest cost between routers. OSPF assigns a cost value to each link based on factors such as bandwidth, delay, or reliability, and builds a map of the network topology. OSPF then uses Dijkstra's algorithm to find the shortest path from each router to every other router in the network¹. RIP stands for Routing Information Protocol and is a distance-vector routing protocol that uses hop count as the metric to find the best path. BGP stands for Border Gateway Protocol and is a path-vector routing protocol that uses attributes such as AS path, local preference, or origin to select the best route. EIGRP stands for Enhanced Interior Gateway Routing Protocol and is a hybrid routing protocol that uses a composite metric based on bandwidth, delay, load, and reliability.

References: 1 Dijkstra's algorithm - Wikipedia (https://en.wikipedia.org/wiki/Dijkstra%27s_algorithm)

NEW QUESTION 137

- (Topic 3)

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

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

Answer: D

NEW QUESTION 142

- (Topic 3)

A network engineer needs to change an entire subnet of SLAAC-configured workstation addresses. Which of the following methods would be the best for the engineer to use?

- A. Change the address prefix in ARP in order for the workstations to retrieve their new addresses.
- B. Change the address prefix in a router in order for the router to advertise the new prefix with an ND.
- C. Change the address prefix scope in a DHCP server in order for the workstations to retrieve their new addresses.
- D. Change the workstations' address prefix manually because an automated method does not exist.

Answer: B

Explanation:

SLAAC (Stateless Address Autoconfiguration) is a mechanism that enables each host on the network to auto-configure a unique IPv6 address without any device keeping track of which address is assigned to which node². SLAAC uses link-local addresses and the interface's MAC address or a random number to generate the host portion of the IPv6 address². SLAAC also relies on Router Solicitation (RS) and Router Advertisement (RA) messages to obtain the network prefix and other information from a router². Therefore, to change an entire subnet of SLAAC-configured workstation addresses, the network engineer needs to change the address prefix in a router and let the router advertise the new prefix with an ND (Neighbor Discovery) message. This way, the workstations will receive the new prefix and update their IPv6 addresses accordingly³.

References¹ - IPv6 Stateless Address Auto-configuration (SLAAC) | NetworkAcademy.io² - IPv6 SLAAC – Stateless Address Autoconfiguration - Study-CCNA3 - Mastering IPv6

SLAAC Concepts and Configuration - Cisco Press

NEW QUESTION 143

- (Topic 3)

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

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

Answer: A

NEW QUESTION 147

- (Topic 3)

Users are reporting intermittent Wi-Fi connectivity in specific parts of a building. Which of the following should the network administrator check FIRST when troubleshooting this issue? (Select TWO).

- A. Site survey
- B. EIRP
- C. AP placement
- D. Captive portal
- E. SSID assignment
- F. AP association time

Answer: AC

Explanation:

This is a coverage issue. WAP placement and power need to be checked. Site survey should be done NEXT because it takes a while.

NEW QUESTION 152

- (Topic 3)

A help desk technician is concerned that a client's network cable issues may be causing intermittent connectivity. Which of the following would help the technician determine if this is the issue?

- A. Run the show interface command on the switch
- B. Run the traceroute command on the server

- C. Run iperf on the technician's desktop
- D. Ping the client's computer from the router
- E. Run a port scanner on the client's IP address

Answer: A

Explanation:

To determine if a client's network cable issues may be causing intermittent connectivity, the help desk technician can run the show interface command on the switch.

This command allows the technician to view the status and statistics of the various interfaces on the switch, including the physical link status and the number of transmitted and received packets. If the interface is experiencing a large number of errors or dropped packets, this could indicate a problem with the network cable or with the connection between the client's device and the switch.

"Cisco routers and switches have a show interfaces IOS command that provides interface statistics/status information, including link state (up/down), speed/duplex, send/receive traffic, cyclic redundancy checks (CRCs), and protocol packet and byte counts."

NEW QUESTION 156

- (Topic 3)

Which of the following should a network administrator configure when adding OT devices to an organization's architecture?

- A. Honeynet
- B. Data-at-rest encryption
- C. Time-based authentication
- D. Network segmentation

Answer: D

Explanation:

Network segmentation is the process of dividing a network into smaller subnets or segments, each with its own security policies and access controls. This can help isolate OT devices from IT devices, guest networks, and other potential threats, as well as improve network performance and efficiency. Network segmentation is a recommended security practice for OT environments, as it can limit the attack surface, contain the damage of a breach, and comply with regulatory standards.

<https://sectrio.com/complete-guide-to-ot-network-segmentation/>

NEW QUESTION 161

- (Topic 3)

After installing a new wireless access point, an engineer tests the device and sees that it is not performing at the rated speeds. Which of the following should the engineer do to troubleshoot the issue? (Select two).

- A. Ensure a bottleneck is not coming from other devices on the network.
- B. Install the latest firmware for the device.
- C. Create a new VLAN for the access point.
- D. Make sure the SSID is not longer than 16 characters.
- E. Configure the AP in autonomous mode.
- F. Install a wireless LAN controller.

Answer: AB

Explanation:

One possible cause of poor wireless performance is a bottleneck in the network, which means that other devices or applications are consuming too much bandwidth or resources and limiting the speed of the wireless access point. To troubleshoot this issue, the engineer should ensure that there is no congestion or interference from other devices on the network, such as wired clients, servers, routers, switches, or other wireless access points. The engineer can use tools such as network analyzers, bandwidth monitors, or ping tests to check the network traffic and latency¹².

Another possible cause of poor wireless performance is outdated firmware on the device, which may contain bugs or vulnerabilities that affect the functionality or security of the wireless access point. To troubleshoot this issue, the engineer should install the latest firmware for the device from the manufacturer's website or support portal. The engineer should follow the instructions carefully and backup the configuration before updating the firmware. The engineer can also check the release notes or changelog of the firmware to see if there are any improvements or fixes related to the wireless performance³.

The other options are not relevant to troubleshooting poor wireless performance. Creating a new VLAN for the access point may help with network segmentation or security, but it will not improve the speed of the wireless connection. Making sure the SSID is not longer than 16 characters may help with compatibility or readability, but it will not affect the wireless performance. Configuring the AP in autonomous mode may give more control or flexibility to the engineer, but it will not enhance the wireless speed. Installing a wireless LAN controller may help with managing multiple access points or deploying advanced features, but it will not increase the wireless performance.

NEW QUESTION 163

- (Topic 3)

A company is designing a SAN and would like to use STP as its medium for communication. Which of the following protocols would BEST suit me company's needs?

- A. SFTP
- B. Fibre Channel
- C. iSCSI
- D. FTP

Answer: B

Explanation:

A SAN also employs a series of protocols enabling software to communicate or prepare data for storage. The most common protocol is the Fibre Channel Protocol (FCP), which maps SCSI commands over FC technology. The iSCSI SANs will employ an iSCSI protocol that maps SCSI commands over TCP/IP. STP (Spanning Tree Protocol) is a protocol used to prevent loops in Ethernet networks, and it is not a medium for communication in a storage area network (SAN). However, Fibre Channel is a protocol that is specifically designed for high-speed data transfer in SAN environments. It is a dedicated channel technology that provides high throughput and low latency, making it ideal for SANs. Therefore, Fibre Channel would be the best protocol for the company to use for its SAN. SFTP (Secure File Transfer Protocol), iSCSI (Internet Small Computer System Interface), and FTP (File Transfer Protocol) are protocols used for transferring files over a

network and are not suitable for use in a SAN environment.

NEW QUESTION 165

- (Topic 3)

A network administrator is reviewing the following metrics from a network management system regarding a switchport. The administrator suspects an issue because users are calling in regards to the switchport's performance:

Metric	Value
Uptime	201 days, 3 hours, 18 minutes
MDIX	On
CRCs	0
Giants	2508
Output queue maximum	40
Packets input	136208849
Packets output	64458087024

Based on the information in the chart above, which of the following fs the cause of these performance issues?

- A. The connected device is exceeding the configured MTU.
- B. The connected device is sending too many packets
- C. The switchport has been up for too long
- D. The connected device is receiving too many packets.
- E. The switchport does not have enough CRCs

Answer: A

NEW QUESTION 168

- (Topic 3)

Which of the following network cables involves bouncing light off of protective cladding?

- A. Twinaxial
- B. Coaxial
- C. Single-mode
- D. Multimode

Answer: D

Explanation:

Multimode fiber optic cables use multiple paths of light that bounce off the cladding, which is a layer of glass or plastic that surrounds the core of the cable.
<https://www.explainthatstuff.com/fiberoptics.html>

NEW QUESTION 169

- (Topic 3)

A user took a laptop on a trip and made changes to the network parameters while at the airport. The user can access all internet websites but not corporate intranet websites. Which of the following is the most likely cause of the issue?

- A. Duplicate IP address
- B. Duplicate SSID
- C. Incorrect DNS
- D. Incorrect subnet mask

Answer: C

Explanation:

DNS (Domain Name System) is a service that translates domain names into IP addresses. Corporate intranet websites are usually hosted on private IP addresses that are not accessible from the public internet. Therefore, the user's laptop needs to use the correct DNS server that can resolve the intranet domain names to the private IP addresses. If the user changed the network parameters at the airport and did not revert them back, the laptop might be using a public DNS server that does not have the records for the intranet websites. This would cause the user to access all internet websites but not corporate intranet websites.

References:

? An Overview of DNS - N10-008 CompTIA Network+ : 1.61

? DNS Configuration – CompTIA A+ 220-11012

? CompTIA Network+ Certification Exam Objectives, page 53

NEW QUESTION 170

- (Topic 3)

Which of the following DHCP settings would be used to ensure a device gets the same IP address each time it is connected to the network?

- A. Scope options
- B. Reservation
- C. Exclusion
- D. Relay
- E. Pool

Answer: A

NEW QUESTION 172

- (Topic 3)

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

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

Answer: D

Explanation:

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

RBAC is a method of restricting network access based on the roles of individual users within the organization. With RBAC, users are granted access only to the resources they need to perform their specific job functions. This approach reduces the risk of unauthorized access, provides greater visibility into user activity, and simplifies network management. Changing the default permissions to implicit deny may improve security, but it could also cause issues for legitimate users who require access to specific resources. Configuring uniform ACLs and NAC for contractors is a step in the right direction, but it may not be enough to address the overall lack of a formal process for granting network permissions. Deploying an RDP server to centralize access to the network is not a viable solution, as it would not address the root cause of the security incidents.

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

NEW QUESTION 173

- (Topic 3)

A network technician is having issues connecting an IoT sensor to the internet. The WLAN settings were enabled via a custom command line, and a proper IP address assignment was received on the wireless interface. However, when trying to connect to the internet, only HTTP redirections are being received when data is requested. Which of the following will point to the root cause of the issue?

- A. Verifying if an encryption protocol mismatch exists.
- B. Verifying if a captive portal is active for the WLAN.
- C. Verifying the minimum RSSI for operation in the device's documentation
- D. Verifying EIRP power settings on the access point.

Answer: C

Explanation:

A captive portal is a web page that is displayed to a user before they can access the internet or other network resources. This is often used in public or guest networks to present users with a login or terms and conditions page before they can access the internet. If a captive portal is active on the WLAN, it would explain why the IoT sensor is only receiving HTTP redirections when trying to connect to the internet.

NEW QUESTION 176

- (Topic 3)

Which of the following topologies requires the MOST connections when designing a network?

- A. Mesh
- B. Star
- C. Bus
- D. Ring

Answer: A

NEW QUESTION 180

- (Topic 3)

A network client is trying to connect to the wrong TCP port. Which of the following responses would the client MOST likely receive?

- A. RST
- B. FIN
- C. ICMP Time Exceeded
- D. Redirect

Answer: A

NEW QUESTION 181

- (Topic 3)

A network administrator wants to test the throughput of a new metro Ethernet circuit to verify that its performance matches the requirements specified in the SLA. Which of the following would BEST help measure the throughput?

- A. iPerf
- B. Ping
- C. NetFlow
- D. Netstat

Answer: A

NEW QUESTION 185

- (Topic 3)

An employee working in a warehouse facility is experiencing interruptions in mobile applications while walking around the facility. According to a recent site survey, the WLAN comprises autonomous APs that are directly connected to the internet, providing adequate signal coverage. Which of the following is the BEST solution to improve network stability?

- A. Implement client roaming using an extended service deployment employing a wireless controller.
- B. Remove omnidirectional antennas and adopt a directional bridge.
- C. Ensure all APs of the warehouse support MIMO and Wi-Fi 4.
- D. Verify that the level of EIRP power settings is set to the maximum permitted by regulations.

Answer: A

Explanation:

Client roaming refers to the ability of a wireless device to seamlessly connect to a different access point (AP) as the user moves around the facility. This can help to improve network stability and reduce interruptions in mobile applications. An extended service deployment is a type of wireless network configuration that uses multiple APs to cover a large area, such as a warehouse facility. By using a wireless controller to manage the APs, the network can be better optimized for client roaming, which can improve network stability.

"Roaming With multiple WAPs in an ESS, clients will connect to whichever WAP has the strongest signal. As clients move through the space covered by the broadcast area, they will change WAP connections seamlessly, a process called roaming."

NEW QUESTION 187

- (Topic 3)

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

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

Answer: C

Explanation:

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

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

NEW QUESTION 191

- (Topic 3)

A network engineer is troubleshooting application connectivity issues between a server and a client. The network engineer needs to view the certificate exchange between the two hosts. Which of the following tools should the network engineer use?

- A. dig
- B. tcpdump
- C. nmap
- D. traceroute

Answer: B

Explanation:

tcpdump is a tool that can capture and analyze network traffic, including the certificate exchange between two hosts. It can display the contents of packets, such as the SSL/TLS handshake, which involves the exchange of certificates. dig is a tool that can query DNS servers for domain name information. nmap is a tool that can scan ports and services on a network. traceroute is a tool that can show the path and hops between a source and a destination.

NEW QUESTION 194

- (Topic 3)

A network administrator is decommissioning a server. Which of the following will the network administrator MOST likely consult?

- A. Onboarding and off boarding policies
- B. Business continuity plan
- C. Password requirements
- D. Change management documentation

Answer: D

NEW QUESTION 195

- (Topic 3)

A network technician needs to use an RFC1918 IP space for a new office that only has a single public IP address. Which of the following subnets should the technician use for the LAN?

- A. 10.10.10.0/24
- B. 127.16.10.0/24

- C. 174.16.10.0/24
- D. 198.18.10.0/24

Answer: A

Explanation:

The RFC1918 IP space is a set of private IP addresses that are not routable on the public Internet and can be used for internal networks. The RFC1918 IP space consists of three ranges: 10.0.0.0/8, 172.16.0.0/12, and 192.168.0.0/16. Out of the four options, only A. 10.10.10.0/24 belongs to one of these ranges, specifically the 10.0.0.0/8 range. Therefore, the technician should use this subnet for the LAN.

References1: https://en.wikipedia.org/wiki/Private_network

NEW QUESTION 199

- (Topic 3)

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

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

Answer: B

Explanation:

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

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

NEW QUESTION 203

- (Topic 3)

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

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

Answer: A

Explanation:

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

NEW QUESTION 208

- (Topic 3)

Which of the following would be the BEST choice to connect branch sites to a main office securely?

- A. VPN headend
- B. Proxy server
- C. Bridge
- D. Load balancer

Answer: A

Explanation:

Host-to-Site, or Client-to-Site, VPN allows for remote servers, clients, and other hosts to establish tunnels through a VPN gateway (or VPN headend) via a private network. The tunnel between the headend and the client host encapsulates and encrypts data.

NEW QUESTION 211

- (Topic 3)

A network team is getting reports that air conditioning is out in an IDF. The team would like to determine whether additional network issues are occurring. Which of the following should the network team do?

- A. Confirm that memory usage on the network devices in the IDF is normal.
- B. Access network baseline data for references to an air conditioning issue.
- C. Verify severity levels on the corporate syslog server.
- D. Check for SNMP traps from a network device in the IDF.
- E. Review interface statistics looking for cyclic redundancy errors.

Answer: D

Explanation:

"Baselines play an integral part in network documentation because they let you monitor the network's overall performance. In simple terms, a baseline is a measure of performance that indicates how hard the network is working and where network resources are spent. The purpose of a baseline is to provide a basis of comparison. For example, you can compare the network's performance results taken in March to results taken in June, or from one year to the next. More

commonly, you would compare the baseline information at a time when the network is having a problem to information recorded when the network was operating with greater efficiency. Such comparisons help you determine whether there has been a problem with the network, how significant that problem is, and even where the problem lies."

NEW QUESTION 213

- (Topic 3)

During an annual review of policy documents, a company decided to adjust its recovery time frames. The company agreed that critical applications can be down for no more than six hours, and the acceptable amount of data loss is no more than two hours. Which of the following should be documented as the RPO?

- A. Two hours
- B. Four hours
- C. Six hours
- D. Eight hours

Answer: A

Explanation:

" RPO designates the variable amount of data that will be lost or will have to be re-entered during network downtime. RTO designates the amount of "real time" that can pass before the disruption begins to seriously and unacceptably impede the flow of normal business operations."

NEW QUESTION 215

- (Topic 3)

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

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

Answer: A

NEW QUESTION 217

- (Topic 3)

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

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

Answer: A

NEW QUESTION 221

- (Topic 3)

An organization has a security staff shortage and must prioritize efforts in areas where the staff will have the most impact. In particular, the focus is to avoid expending resources on identifying non-relevant events. A security analyst is reviewing web server logs and sees the following:

```
202.180.155.1 - [14/Jan/2021:04:12:28 -0200] "GET /img/us.gif" 404 295
202.180.155.1 - [14/Jan/2021:04:12:28 -0200] "GET /img/org.gif" 404 295
202.180.155.1 - [14/Jan/2021:04:12:29 -0200] "GET /img/org2.gif" 404 295
202.180.155.1 - [14/Jan/2021:04:12:29 -0200] "GET /img/org3.gif" 404 295
202.180.155.1 - [14/Jan/2021:04:12:30 -0200] "GET /img/org4.gif" 404 295
202.180.155.1 - [14/Jan/2021:04:12:31 -0200] "GET /img/directors.gif" 404 295
202.180.155.1 - [14/Jan/2021:04:12:31 -0200] "GET /img/directors2.gif" 404 295
202.180.155.1 - [14/Jan/2021:04:12:32 -0200] "GET /img/directors3.gif" 404 295
202.180.155.1 - [14/Jan/2021:04:12:33 -0200] "GET /img/directors4.gif" 404 295
```

Which of the following should the analyst recommend?

- A. Configuring the web server log to filter out 404 errors on image files
- B. Updating firewall rules to block 202.180.155.1
- C. Resyncing the network time server and monitoring logs for future anomalous behavior
- D. Checking with the penetration testing team to see if the team ran any scans on January 14, 2021

Answer: A

Explanation:

This answer will help the organization to avoid expending resources on identifying non-relevant events, as the 404 errors on image files are not indicative of any security threat or issue, but rather a misconfiguration or a broken link on the web server. The 404 errors on image files are also very frequent and repetitive, as shown by the web server log, which can clutter the log and make it harder to spot any relevant events. By filtering out these errors, the analyst can focus on more important events and reduce the noise in the log. The other answers are not as good as A, because they either do not address the problem of identifying non-relevant events, or they are based on incorrect assumptions or information. For example:

? B. Updating firewall rules to block 202.180.155.1 is not a good answer, because the IP address 202.180.155.1 is not doing anything malicious or suspicious, but rather requesting image files that do not exist on the web server. Blocking this IP address will not improve the security of the web server, but rather create unnecessary firewall rules and possibly deny legitimate access to the web server.

? C. Resyncing the network time server and monitoring logs for future anomalous behavior is not a good answer, because there is no evidence that the network time server is out of sync or causing any problems. The web server log shows that the entries are all within a few minutes of each other, which is normal and expected. Resyncing the network time server will not help the analyst to identify non-relevant events, but rather waste time and resources on an unrelated task.

? D. Checking with the penetration testing team to see if the team ran any scans on January 14, 2021 is not a good answer, because the web server log does not show any signs of a penetration test or a scan. The log shows only 404 errors on image files, which are not typical of a penetration test or a scan, which would usually target different types of files, ports, or vulnerabilities. Checking with the penetration testing team will not help the analyst to identify non-relevant events, but rather distract the analyst from the actual events and possibly create false alarms.
<https://www.professormesser.com/network-plus/n10-008/n10-008-video/general-network-troubleshooting-n10-008/>

NEW QUESTION 226

- (Topic 3)

A Network engineer is investigating issues on a Layer 2 Switch. The department typically snares a Switchport during meetings for presentations, but after the first user Shares, no Other users can connect. Which Of the following is MOST likely related to this issue?

- A. Spanning Tree Protocol is enabled on the switch.
- B. VLAN trunking is enabled on the switch.
- C. Port security is configured on the switch.
- D. Dynamic ARP inspection is configured on the switch.

Answer: C

NEW QUESTION 227

- (Topic 3)

A network administrator is installing a new server in the data center. The administrator is concerned the amount of traffic generated will exceed 1GB. and higher-throughput NiCs are not available for installation. Which of the following is the BEST solution for this issue?

- A. Install an additional NIC and configure LACP.
- B. Remove some of the applications from the server.
- C. Configure the NIC to use full duplex
- D. Configure port mirroring to send traffic to another server.
- E. Install a SSD to decrease data processing time.

Answer: A

NEW QUESTION 231

- (Topic 3)

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

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

Answer: A

Explanation:

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

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

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

NEW QUESTION 232

- (Topic 3)

A network technician is troubleshooting an issue that involves connecting to a server via SSH. The server has one network interface that does not support subinterfaces. The technician runs a command on the server and receives the following output:

Proto	Local address	Foreign address	State
TCP	0.0.0.0:22	0.0.0.0:0	LISTENING
TCP	0.0.0.0:23	0.0.0.0:0	LISTENING
TCP	0.0.0.0:443	0.0.0.0:0	LISTENING
TCP	10.10.10.15:22	10.10.10.42:21231	ESTABLISHED

On the host, the technician runs another command and receives the following:

Destination	Gateway	Genmask	Flags	Iface
default	31.242.12.9	0.0.0.0	UG	eth0
192.168.1.0	0.0.0.0	255.255.255.0	UG	eth1

Which of the following best explains the issue?

- A. A firewall is blocking access to the server.
- B. The server is plugged into a trunk port.
- C. The host does not have a route to the server.

D. The server is not running the SSH daemon.

Answer: C

NEW QUESTION 235

- (Topic 3)

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

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

Answer: D

NEW QUESTION 236

- (Topic 3)

A network administrator is setting up a new phone system and needs to define the location where VoIP phones can download configuration files. Which of the following DHCP services can be used to accomplish this task?

- A. Scope options
- B. Exclusion ranges
- C. Lease time
- D. Relay

Answer: A

Explanation:

To define the location where VoIP phones can download configuration files, the network administrator can use scope options within the Dynamic Host Configuration Protocol (DHCP) service. Scope options are a set of values that can be configured within a DHCP scope, which defines a range of IP addresses that can be leased to clients on a network. One of the scope options that can be configured is the option for the location of the configuration file server, which specifies the URL or IP address of the server where the configuration files can be downloaded.

<https://pbxbook.com/voip/dhccfg.html>

NEW QUESTION 241

- (Topic 3)

Which of the following is a requirement when certifying a network cabling as Cat 7?

- A. Ensure the patch panel is certified for the same category.
- B. Limit 10Gb transmissions to 180ft (55m).
- C. Use F-type connectors on the network terminations.
- D. Ensure the termination standard is TIA/EIA-568-A.

Answer: D

Explanation:

Category 7 (Cat 7) is a cabling standard that supports 10GBASE-T Ethernet connections up to 100 meters (328 feet). In order for a cabling system to be certified as Cat 7, all components, including the patch panel, must meet the TIA/EIA-568-A standard. This standard requires the use of shielded cables with F-type connectors for the network terminations. Reference: CompTIA Network+ Study Manual, 8th Edition, page 158.

NEW QUESTION 244

- (Topic 3)

Which of the following is a valid alternative to maintain a deployed proxy technology while saving physical space in the data center by moving the network service to the virtualization infrastructure?

- A. NFV
- B. SDWAN
- C. Networking as code
- D. VIP

Answer: A

Explanation:

The valid alternative to maintain a deployed proxy technology while saving physical space in the data center by moving the network service to the virtualization infrastructure is NFV (Network Function Virtualization). NFV is a technique that allows network functions, such as proxies, firewalls, routers, or load balancers, to be implemented as software applications running on virtual machines or containers. NFV reduces the need for dedicated hardware devices and improves scalability and flexibility of network services. References: CompTIA Network+ N10-008 Certification Study Guide, page 440; The Official CompTIA Network+ Student Guide (Exam N10-008), page 16-11.

NFV can be used to virtualize a wide variety of network functions, including proxy servers. By virtualizing proxy servers, organizations can save physical space in the data center and improve the scalability and efficiency of their networks.

To virtualize a proxy server using NFV, an organization would need to deploy a virtualization platform, such as VMware ESXi or Microsoft Hyper-V. The organization would then need to install a virtual proxy server appliance on the virtualization platform.

Once the virtual proxy server appliance is installed, it can be configured and used just like a physical proxy server.

NFV is a relatively new technology, but it is quickly gaining popularity as organizations look for ways to improve the efficiency and scalability of their networks.

NEW QUESTION 245

- (Topic 3)

A device is connected to a managed Layer 3 network switch. The MAC address of the device is known, but the static IP address assigned to the device is not. Which of the following features of a Layer 3 network switch should be used to determine the IPv4 address of the device?

- A. MAC table
- B. Neighbor Discovery Protocol
- C. ARP table
- D. IPConfig
- E. ACL table

Answer: C

Explanation:

The ARP table is a database that is used by a device to map MAC addresses to their corresponding IP addresses. When a device sends a packet to another device on the same network, it uses the MAC address of the destination device to deliver the packet. The ARP table allows the device to determine the IP address of the destination device based on its MAC address.

NEW QUESTION 246

- (Topic 3)

After installing a series of Cat 8 keystones, a data center architect notices higher than normal interference during tests. Which of the following steps should the architect take to troubleshoot the issue?

- A. Check to see if the end connections were wrapped in copper tape before terminating.
- B. Use passthrough modular crimping plugs instead of traditional crimping plugs.
- C. Connect the RX/TX wires to different pins.
- D. Run a speed test on a device that can only achieve 100Mbps speeds.

Answer: A

Explanation:

Cat 8 keystones are shielded to prevent interference from external sources, but they also require proper grounding to avoid interference from within the cable. Wrapping the end connections with copper tape before terminating them is one way to ensure a good ground connection and reduce interference. Using passthrough modular crimping plugs, connecting the RX/TX wires to different pins, or running a speed test on a slow device are not relevant or effective steps to troubleshoot the issue.

References:

- ? CompTIA Network+ N10-008 Certification Study Guide, page 191
- ? CompTIA Network+ N10-008 Cert Guide, Deluxe Edition, page 362
- ? CAT8 RJ45 Keystone Problem : r/HomeNetworking2
- ? How to Terminate Cat8 Shielded Keystone Jacks3

NEW QUESTION 248

- (Topic 3)

A technician is concerned about unauthorized personnel moving assets that are installed in a data center server rack. The technician installs a networked sensor that sends an alert when the server rack door is opened. Which of the following did the technician install?

- A. Cipher lock
- B. Asset tags
- C. Access control vestibule
- D. Tamper detection

Answer: D

Explanation:

Tamper detection is a physical security feature that can alert the technician when someone opens the server rack door without authorization. Tamper detection sensors can be installed inside the equipment or on the rack itself, and they can send an alert via email, SMS, or other methods. Tamper detection can help prevent unauthorized access, theft, or damage to the network assets.

References:

- ? Physical Security – N10-008 CompTIA Network+ : 4.51

NEW QUESTION 249

- (Topic 3)

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

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

Answer: A

NEW QUESTION 253

- (Topic 3)

A network engineer is concerned about VLAN hopping happening on the network. Which of the following should the engineer do to address this concern?

- A. Configure private VLANs.
- B. Change the default VLAN.

- C. Implement ACLs on the VLAN.
- D. Enable dynamic ARP inspection.

Answer: B

Explanation:

VLAN hopping is a type of attack that allows an attacker to access or manipulate traffic on a different VLAN than the one they are connected to. One way to prevent VLAN hopping is to change the default VLAN on a switch. The default VLAN is the VLAN that is assigned to all ports on a switch by default, usually VLAN 1. If an attacker connects to an unused port on a switch that has not been configured with a specific VLAN, they can access or spoof traffic on the default VLAN. By changing the default VLAN to an unused or isolated VLAN, the network administrator can prevent unauthorized access or interference with legitimate traffic on other VLANs. References: <https://www.comptia.org/training/books/network-n10-008-study-guide> (page 308)

NEW QUESTION 254

- (Topic 3)

Which of the following is a benefit of the spine-and-leaf network topology?

- A. Increased network security
- B. Stable network latency
- C. Simplified network management
- D. Eliminated need for inter-VLAN routing

Answer: A

NEW QUESTION 255

- (Topic 3)

A network administrator installed a new data and VoIP network. Users are now experiencing poor call quality when making calls. Which of the following should the administrator do to increase VoIP performance?

- A. Configure a voice VLAN.
- B. Configure LACP on all VoIP phones.
- C. Configure PoE on the network.
- D. Configure jumbo frames on the network.

Answer: A

Explanation:

"Benefits of Voice VLAN

It ensures that your VoIP (Voice over Internet Phone) devices do not have to contend directly with all the broadcasts and other traffic from the data VLAN. A voice VLAN can simplify network configuration in some circumstances."

<https://community.fs.com/blog/auto-voip-vs-voice-vlan-what-s-the-difference.html> Jumbo Frames

"When jumbo frames on a VoIP/UC network are enabled, it can cause the same kind of delay to your network transmissions."

"VoIP uses will always not benefit from jumbo frame, as VoIP like gaming, is latency and time sensitive. Jumbo Frame for Internet Purpose: You will not see any performance boost as the files that came across the internet does not support jumbo frame."

<https://www.ankmax.com/newsinfo/1358641.html#:~:text=VoIP%20uses%20will%20always%20not,does%20not%20support%20jumbo%20frame.>

"To summarize this general best practice guide, you should NOT enable jumbo frame feature as a general home user."

NEW QUESTION 257

- (Topic 3)

AGRE tunnel has been configured between two remote sites. Which of the following features, when configured, ensures me GRE overhead does not affect payload?

- A. jumbo frames
- B. Auto medium-dependent Interface
- C. Interface crossover
- D. Collision detection

Answer: A

Explanation:

One of the features that can be configured to ensure that GRE overhead does not affect payload is A. jumbo frames. Jumbo frames are Ethernet frames that have a payload size larger than 1500 bytes, which is the standard maximum transmission unit (MTU) for Ethernet. By using jumbo frames, more data can be sent in each packet, reducing the overhead ratio and improving efficiency.

Auto medium-dependent interface (MDI), interface crossover, and collision detection are features related to Ethernet physical layer connectivity, but they do not affect GRE overhead or payload.

NEW QUESTION 261

- (Topic 3)

Which of the following can be used to identify users after an action has occurred?

- A. Access control vestibule
- B. Cameras
- C. Asset tag
- D. Motion detectors

Answer: B

Explanation:

Cameras can be used to identify users after an action has occurred by recording their faces, clothing, or other distinctive features. Cameras are often used as a deterrent and a forensic tool for security purposes. Access control vestibules, asset tags, and motion detectors are not effective in identifying users, but rather in controlling access, tracking assets, and detecting movement.

References:

CompTIA Network+ N10-008 Certification Exam Objectives, Domain 5.0: Network Security, Subobjective 5.1: Summarize the importance of physical security controls, page 231 CompTIA Network+ Certification All-in-One Exam Guide, Eighth Edition (Exam N10-008), Chapter 18: Network Security, Section: Physical Security, page 7372

NEW QUESTION 264

- (Topic 3)

Which of the following network types is composed of computers that can all communicate with one another with equal permissions and allows users to directly share what is on or attached to their computers?

- A. Local area network
- B. Peer-to-peer network
- C. Client-server network
- D. Personal area network

Answer: B

Explanation:

A peer-to-peer network is a type of network in which each computer (or node) can communicate directly with any other node, without requiring a central server or authority. Each node can act as both a client and a server, and can share its own resources, such as files, printers, or internet connection, with other nodes. A peer-to-peer network allows users to directly access and exchange what is on or attached to their computers, with equal permissions and responsibilities

NEW QUESTION 266

- (Topic 3)

A network technician is investigating why a core switch is logging excessive amounts of data to the syslog server. The running configuration of the switch showed the following logging information:

```
ip ssh logging events logging level debugging logging host 192.168.1.100 logging synchronous
```

Which of the following changes should the technician make to best fix the issue?

- A. Update the logging host IP.
- B. Change to asynchronous logging.
- C. Stop logging SSH events.
- D. Adjust the logging level.

Answer: D

Explanation:

The logging level debugging is the highest level of logging, which means that the switch will log every possible event, including low-priority and verbose messages. This can result in excessive amounts of data being sent to the syslog server, which can affect the performance and storage of the server. To fix the issue, the technician should adjust the logging level to a lower value, such as informational, warning, or error, depending on the desired level of detail and severity. This will reduce the amount of log data generated by the switch and only send the relevant and necessary messages to the syslog server.

<https://betterstack.com/community/guides/logging/log-levels-explained/>

NEW QUESTION 271

- (Topic 3)

Which of the following would be used to forward requests and replies between a DHCP server and client?

- A. Relay
- B. Lease
- C. Scope
- D. Range

Answer: B

NEW QUESTION 272

- (Topic 3)

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

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

Answer: A

Explanation:

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

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

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

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

NEW QUESTION 277

- (Topic 3)

A technician is equipped with a tablet, a smartphone, and a laptop to troubleshoot a switch with the help of support over the phone. However, the technician is having issues interconnecting all these tools in troubleshooting the switch. Which Of the following should the technician use to gain connectivity?

- A. PAN
- B. WAN
- C. LAN
- D. MAN

Answer: A

Explanation:

A PAN stands for Personal Area Network and it is a type of network that connects devices within a small range, such as a few meters. A PAN can use wireless technologies such as Bluetooth or Wi-Fi to interconnect devices such as tablets, smartphones, and laptops. A technician can use a PAN to gain connectivity among these tools and troubleshoot the switch.

References: Network+ Study Guide Objective 1.2: Explain devices, applications, protocols and services at their appropriate OSI layers.

NEW QUESTION 279

- (Topic 3)

A network technician is responding to an issue with a local company. To which of the following documents should the network technician refer to determine the scope of the issue?

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

Answer: D

Explanation:

SLA stands for Service Level Agreement, and it is a contract that defines the expectations and responsibilities between a service provider and a customer. SLA can specify the quality, availability, and performance metrics of the service, as well as the penalties for non-compliance and the procedures for resolving issues. SLA can help the network technician determine the scope of the issue by providing the baseline and target values for the service, the escalation process and contacts, and the service credits or remedies for the customer⁴⁵.

CompTIA Network+ N10-008 Cert Guide - Chapter 15: Network Troubleshooting Methodology³⁵: What is a Service Level Agreement (SLA)? | ITIL | AXELOS

NEW QUESTION 282

- (Topic 3)

Which of the following protocols should be used when Layer 3 availability is of the highest concern?

- A. LACP
- B. LDAP
- C. FHRP
- D. DHCP

Answer: C

Explanation:

FHRP stands for First Hop Redundancy Protocol, which is a group of protocols that allow routers or switches to provide backup or failover for the default gateway in a network. FHRP ensures that the network traffic can reach its destination even if the primary gateway fails or becomes unavailable. Some examples of FHRP protocols are HSRP, VRRP, and GLBP.

References

? 1: CompTIA Network+ N10-008 Exam Subnetting Quiz, question 18

? 2: CompTIA Network+ N10-008 Certification Practice Test, question 9

? 3: CompTIA Network+ Study Guide: Exam N10-008, 5th Edition, page 263

? 4: CompTIA Network+ (N10-008) Practice Exam w/PBQ & Solution, question 5

? 5: What's on the CompTIA Network+ 008 certification? | CompTIA, section 3.1

NEW QUESTION 284

- (Topic 3)

Which of the following steps of the troubleshooting methodology would most likely include checking through each level of the OSI model after the problem has been identified?

- A. Establish a theory.
- B. Implement the solution.
- C. Create a plan of action.
- D. Verify functionality.

Answer: C

Explanation:

Creating a plan of action is the step of the troubleshooting methodology that would most likely include checking through each level of the OSI model after the problem has been identified. According to the web search results, the troubleshooting methodology consists of the following steps: 12

- ? Define the problem: Identify the symptoms and scope of the problem, and gather relevant information from users, devices, and logs.
- ? Establish a theory: Based on the information collected, hypothesize one or more possible causes of the problem, and rank them in order of probability.
- ? Test the theory: Test the most probable cause first, and if it is not confirmed, eliminate it and test the next one. Repeat this process until the root cause is found or a new theory is needed.
- ? Create a plan of action: Based on the confirmed cause, devise a solution that can resolve the problem with minimal impact and risk. The solution may involve checking through each level of the OSI model to ensure that all layers are functioning properly and that there are no configuration errors, physical damages, or logical inconsistencies³⁴
- ? Implement the solution: Execute the plan of action, and monitor the results. If the problem is not solved, revert to the previous state and create a new plan of action.
- ? Verify functionality: Confirm that the problem is fully resolved and that the network is restored to normal operation. Perform preventive measures if possible to avoid recurrence of the problem.
- ? Document the findings: Record the problem description, the solution, and the outcome. Update any relevant documentation, such as network diagrams, policies, or procedures.

References: 1: Troubleshooting Methods for Cisco IP Networks 2: Troubleshooting Methodologies - CBT IT Certification Training 3: How to use the OSI Model to Troubleshoot Networks 4: How is the OSI model used in troubleshooting? – Sage-Answer

NEW QUESTION 289

- (Topic 3)

A technician uses a badge to enter a security checkpoint on a corporate campus. An unknown individual quickly walks in behind the technician without speaking. Which of the following types of attacks did the technician experience?

- A. Tailgating
- B. Evil twin
- C. On-path
- D. Piggybacking

Answer: A

Explanation:

Tailgating is a type of physical security attack where an unauthorized person follows an authorized person into a restricted area without their consent or knowledge. Tailgating can allow an attacker to bypass security measures and gain access to sensitive information or resources. In this scenario, the technician experienced tailgating when the unknown individual walked in behind the technician without speaking. Piggybacking is similar to tailgating, but it involves the consent or cooperation of the authorized person. Evil twin is a type of wireless network attack where an attacker sets up a rogue access point that mimics a legitimate one. On-path is a type of network attack where an attacker intercepts and modifies traffic between two parties.

References: CompTIA Network+ Certification Exam Objectives Version 7.0 (N10-007), Objective 3.2: Given a scenario, use appropriate network hardening techniques.

NEW QUESTION 293

SIMULATION - (Topic 3)

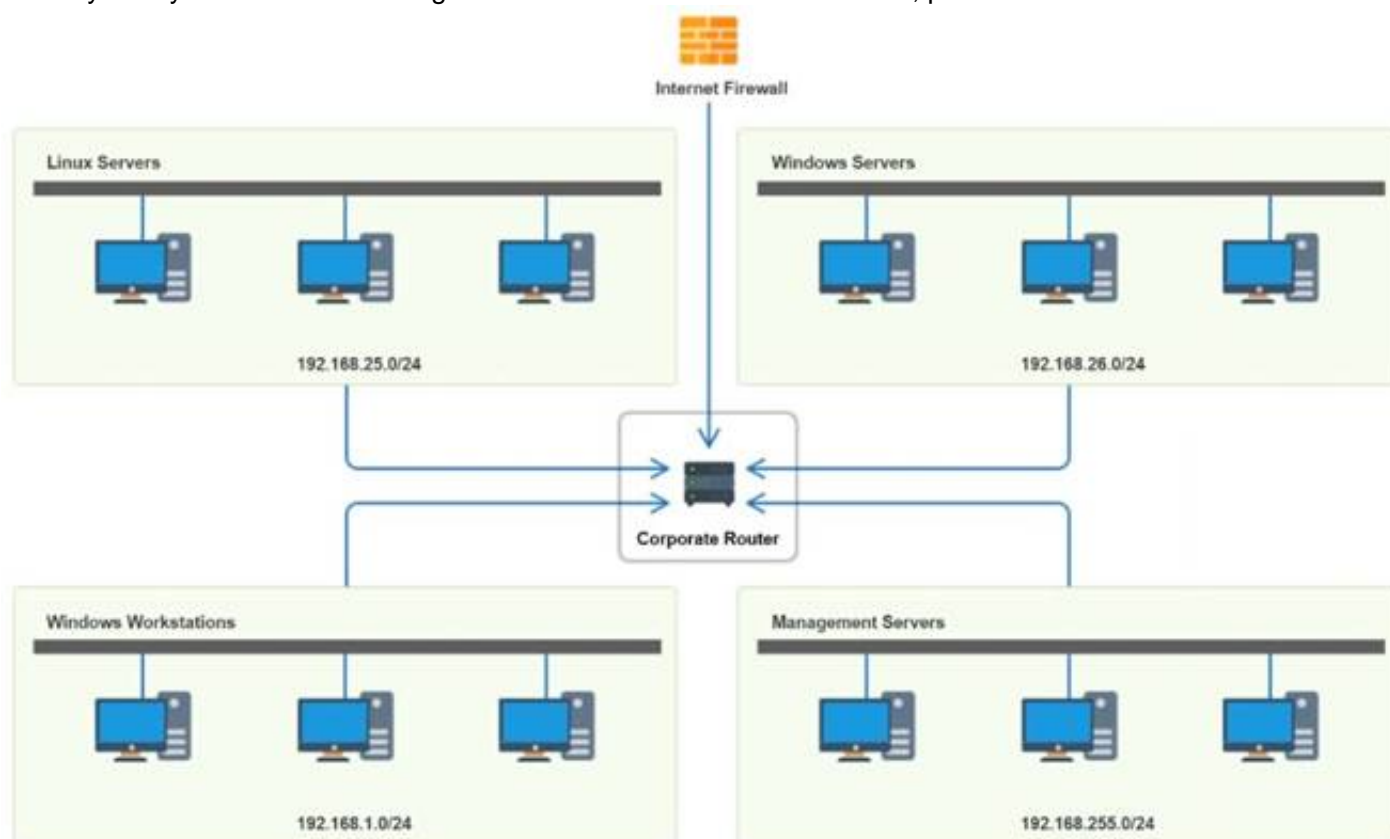
You have been tasked with implementing an ACL on the router that will:

- * 1. Permit the most commonly used secure remote access technologies from the management network to all other local network segments
- * 2. Ensure the user subnet cannot use the most commonly used remote access technologies in the Linux and Windows Server segments.
- * 3. Prohibit any traffic that has not been specifically allowed.

INSTRUCTIONS

Use the drop-downs to complete the ACL

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



Router Access Control List ✕					
Rule	Source	Destination	Protocol	Service	Action
1	192.168.1.0 192.168.25.0 192.168.255.0 192.168.26.0 Any	192.168.1.0 192.168.25.0 192.168.255.0 192.168.26.0 Any	TCP	SSH Telnet HTTP RDP VNC SMB Any	Allow Deny
2	192.168.1.0 192.168.25.0 192.168.255.0 192.168.26.0 Any	192.168.1.0 192.168.25.0 192.168.255.0 192.168.26.0 Any	TCP	SSH Telnet HTTP RDP VNC SMB Any	Allow Deny
3	192.168.1.0 192.168.25.0 192.168.255.0 192.168.26.0 Any	192.168.1.0 192.168.25.0 192.168.255.0 192.168.26.0 Any	TCP	SSH Telnet HTTP RDP VNC SMB Any	Allow Deny
4	192.168.255.0	192.168.26.0	TCP	SMB	Allow
5	192.168.255.0	Any	Any	Any	Deny
6	192.168.1.0 192.168.25.0 192.168.255.0 192.168.26.0 Any	192.168.1.0 192.168.25.0 192.168.255.0 192.168.26.0 Any	TCP	SSH Telnet HTTP RDP VNC SMB Any	Allow Deny
7	192.168.1.0 192.168.25.0 192.168.255.0 192.168.26.0 Any	192.168.1.0 192.168.25.0 192.168.255.0 192.168.26.0 Any	TCP	SSH Telnet HTTP RDP VNC SMB Any	Allow Deny
8	192.168.1.0	Any	Any	Any	Allow
9	192.168.1.0 192.168.25.0 192.168.255.0 192.168.26.0 Any	192.168.1.0 192.168.25.0 192.168.255.0 192.168.26.0 Any	Any	SSH Telnet HTTP RDP VNC SMB Any	Allow Deny

- A. Mastered
 B. Not Mastered

Answer: A

Explanation:

Router Access Control List					
Rule	Source	Destination	Protocol	Service	Action
1	192.168.255.0	192.168.26.0	TCP	SSH	Allow
2	192.168.255.0	192.168.25.0	TCP	SSH	Allow
3	192.168.255.0	192.168.1.0	TCP	SSH	Allow
4	192.168.255.0	192.168.26.0	TCP	SMB	Allow
5	192.168.255.0	Any	Any	Any	Deny
6	192.168.1.0	Any	TCP	RDP	Deny
7	192.168.1.0	Any	TCP	VNC	Deny
8	192.168.1.0	Any	Any	Any	Allow
9	Any	Any	Any	Any	Deny

NEW QUESTION 296

- (Topic 3)

A desktop support department has observed slow wireless speeds for a new line of laptops using the organization's standard image. No other devices have experienced the same issue. Which of the following should the network administrator recommend troubleshooting FIRST to resolve this issue?

- A. Increasing wireless signal power
- B. Installing a new WAP
- C. Changing the protocol associated to the SSID
- D. Updating the device wireless drivers

Answer: D

Explanation:

Wireless drivers can affect the performance and compatibility of your wireless connection. If only a new line of laptops using the organization's standard image has experienced slow wireless speeds, it could be that their wireless drivers are outdated or incompatible with the network. Updating the device wireless drivers could resolve this issue.

Wireless drivers play an important role in the performance of a wireless connection, as they control how the device interacts with the wireless network. If the laptops in question are using an outdated version of the wireless driver, it could be causing the slow speeds. The network administrator should recommend updating the device wireless drivers first to see if this resolves the issue.

NEW QUESTION 300

- (Topic 3)

Which of the following is MOST appropriate for enforcing bandwidth limits when the performance of an application is not affected by the use of buffering but is heavily impacted by packet drops?

- A. Traffic shaping
- B. Traffic policing
- C. Traffic marking
- D. Traffic classification

Answer: B

Explanation:

Traffic policing is a mechanism that monitors the traffic in any network and enforces a bandwidth limit by discarding packets that exceed a certain rate. This can reduce congestion and ensure fair allocation of bandwidth among different applications or users. However, discarding packets can also affect the performance and quality of some applications, especially those that are sensitive to packet loss, such as voice or video. Traffic shaping is a congestion control mechanism that delays packets that exceed a certain rate instead of discarding them. This can smooth out traffic bursts and avoid packet loss, but it also introduces latency and jitter. Traffic shaping can be beneficial for applications that can tolerate some delay but not packet loss, such as file transfers or streaming.

Traffic marking is a mechanism that assigns different priority levels to packets based on their type, source, destination, or other criteria. This can help to differentiate between different classes of service and apply different policies or treatments to them. However, traffic marking does not enforce bandwidth limits by itself; it only provides information for other mechanisms to act upon.

Traffic classification is a process that identifies and categorizes packets based on their characteristics, such as protocol, port number, payload, or behavior. This can help to distinguish between different types of traffic and apply appropriate policies or actions to them. However, traffic classification does not enforce bandwidth limits by itself; it only provides input for other mechanisms to use.

NEW QUESTION 302

- (Topic 3)

A network security engineer is responding to a security incident. The engineer suspects that an attacker used an authorized administrator account to make configuration changes to the boundary firewall. Which of the following should the network security engineer review?

- A. Network traffic logs
- B. Audit logs
- C. Syslogs

D. Event logs

Answer: B

Explanation:

Audit logs are records of the actions performed by users or processes on a system or network device. They can provide information about who made what changes, when, and why. Audit logs are essential for detecting and investigating security incidents, as well as for ensuring compliance with policies and regulations. Audit logs can help the network security engineer to identify the source of the unauthorized configuration changes to the boundary firewall, as well as the scope and impact of the changes.

References1 - Changes to Cyber Essentials requirements – April 2021 update2 - 8 Firewall Best Practices for Securing the Network3 - How to secure your network boundaries with a firewall

NEW QUESTION 306

- (Topic 3)

Which of the following is most likely responsible for the security and handling of personal data in Europe?

- A. GDPR
- B. SCADA
- C. SAML
- D. PCI DSS

Answer: A

Explanation:

GDPR stands for General Data Protection Regulation, which is a European Union regulation on information privacy and security. It applies to any organization that collects or processes personal data of individuals in the EU, and it sets out rules and requirements for data protection, consent, breach notification, and enforcement1

References1: https://en.wikipedia.org/wiki/General_Data_Protection_Regulation

NEW QUESTION 307

- (Topic 3)

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

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

Answer: B

Explanation:

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

NEW QUESTION 312

- (Topic 3)

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

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

Answer: D

Explanation:

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

NEW QUESTION 316

- (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 318

- (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 323

- (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 324

- (Topic 3)

A customer has an attached USB printer that needs to be shared with other users. The desktop team set up printer sharing. Now, the network technician needs to obtain the necessary information about the PC and share it with other users so they can connect to the printer. Which of the following commands should the technician use to get the required information? (Select TWO).

- A. arp
- B. route
- C. netstat
- D. tcpdump
- E. hostname
- F. ipconfig

Answer: EF

Explanation:

The hostname and ipconfig commands should be used to get the required information about the PC and share it with other users so they can connect to the printer. The hostname command displays the name of the computer on a network. The ipconfig command displays the IP configuration of the computer, including its IP address, subnet mask, default gateway, and DNS servers. These information are necessary for other users to locate and connect to the shared printer on the network. For example, other users can use the UNC path \\hostname\printername or \\ipaddress\printername to access the shared printer. References: [CompTIA Network+ Certification Exam Objectives], How to Share a Printer in Windows 10

NEW QUESTION 327

- (Topic 3)

An engineer is troubleshooting poor performance on the network that occurs during work hours. Which of the following should the engineer do to improve performance?

- A. Replace the patch cables.
- B. Create link aggregation.
- C. Create separation rules on the firewall.
- D. Create subinterfaces on the existing port.

Answer: B

Explanation:

Link aggregation is a technique that allows multiple network interfaces to act as a single logical interface, increasing the bandwidth and redundancy of the network connection. Link aggregation can improve the performance of the network by balancing the traffic load across multiple links and providing failover in case one link fails. Link aggregation is also known as port trunking, port channeling, or NIC teaming.
References: CompTIA Network+ N10-008 Cert Guide, Chapter 3, Section 3.3

NEW QUESTION 328

- (Topic 3)

A network architect needs to create a wireless field network to provide reliable service to public safety vehicles. Which of the following types of networks is the best solution?

- A. Mesh
- B. Ad hoc
- C. Point-to-point
- D. Infrastructure

Answer: A

Explanation:

A mesh network is the best solution for creating a wireless field network to provide reliable service to public safety vehicles. A mesh network is a type of wireless network that consists of multiple nodes that communicate with each other directly or through intermediate nodes, forming a web-like topology. A mesh network does not rely on a central access point or router, but rather on the cooperation and coordination of the nodes themselves. A mesh network has several advantages for public safety applications, such as12:

? High availability and resilience: A mesh network can automatically route around failures or congestion, ensuring that the network remains operational even if some nodes are damaged or disconnected. A mesh network can also self-heal and self-configure, adapting to changes in the network topology or environment.

? Extended coverage and scalability: A mesh network can extend the wireless signal beyond the range of a single node, by using other nodes as relays or repeaters. A mesh network can also accommodate more nodes and devices, by adding more links and paths between them.

? Low cost and easy deployment: A mesh network can reduce the cost and complexity of installing and maintaining a wireless infrastructure, by eliminating the need for expensive cabling, towers, or antennas. A mesh network can also be deployed quickly and flexibly, by simply adding or removing nodes as needed.

A mesh network is especially suitable for public safety vehicles, because it can provide reliable wireless communication in challenging scenarios, such as12:

? Disaster response: A mesh network can be deployed rapidly in areas where the existing wireless infrastructure is damaged or unavailable, such as after an earthquake, flood, or fire. A mesh network can also support emergency services, such as fire fighting, search and rescue, or medical assistance, by enabling data, voice, and video transmission among the responders and command centers.

? Mobile surveillance: A mesh network can enable real-time monitoring and control of public safety vehicles, such as police cars, ambulances, or drones, by providing high-bandwidth and low-latency wireless connectivity. A mesh network can also support video streaming, location tracking, remote sensing, or analytics applications for public safety purposes.

? Event management: A mesh network can enhance the security and efficiency of large-scale events, such as concerts, festivals, or parades, by providing wireless coverage and capacity for the event organizers and participants. A mesh network can also support crowd management, traffic control, or public announcement applications for event management.

The other options are not the best solutions for creating a wireless field network to provide reliable service to public safety vehicles. An ad hoc network is a type of wireless network that consists of devices that communicate with each other directly without any central coordination or infrastructure. An ad hoc network is simple and flexible, but it has limited scalability and performance3. A point-to-point network is a type of wireless network that consists of two devices that communicate with each other over a single link. A point-to-point network is fast and secure, but it has limited coverage and functionality. An infrastructure network is a type of wireless network that consists of devices that communicate with each other through an access point or router. An infrastructure network is stable and robust, but it has high cost and complexity.

NEW QUESTION 329

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