



CompTIA

N10-006 Exam

CompTIA Network+ (old) Exam

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Version: 19.0

Question: 1

A technician needs to limit the amount of broadcast traffic on a network and allow different segments to communicate with each other. Which of the following options would satisfy these requirements?

- A. Add a router and enable OSPF.
- B. Add a layer 3 switch and create a VLAN.
- C. Add a bridge between two switches.
- D. Add a firewall and implement proper ACL.

Answer: B

Explanation:

We can limit the amount of broadcast traffic on a switched network by dividing the computers into logical network segments called VLANs.

A virtual local area network (VLAN) is a logical group of computers that appear to be on the same LAN even if they are on separate IP subnets. These logical subnets are configured in the network switches. Each VLAN is a broadcast domain meaning that only computers within the same VLAN will receive broadcast traffic.

To allow different segments (VLAN) to communicate with each other, a router is required to establish a connection between the systems. We can use a network router to route between the VLANs or we can use a 'Layer 3' switch. Unlike layer 2 switches that can only read the contents of the data-link layer protocol header in the packets they process, layer 3 switches can read the (IP) addresses in the network layer protocol header as well.

Question: 2

The network install is failing redundancy testing at the MDF. The traffic being transported is a mixture of multicast and unicast signals. Which of the following would BEST handle the rerouting caused by the disruption of service?

- A. Layer 3 switch
- B. Proxy server
- C. Layer 2 switch
- D. Smart hub

Answer: A

Explanation:

The question states that the traffic being transported is a mixture of multicast and unicast signals. There are three basic types of network transmissions: broadcasts, which are packets transmitted to every node on the network; unicasts, which are packets transmitted to just one node; and multicasts,

which are packets transmitted to a group of nodes. Multicast is a layer 3 feature of IPv4 & IPv6. Therefore, we would need a layer 3 switch (or a router) to reroute the traffic. Unlike layer 2 switches that can only read the contents of the data-link layer protocol header in the packets they process, layer 3 switches can read the (IP) addresses in the network layer protocol header as well.

Question: 3

Which of the following network devices use ACLs to prevent unauthorized access into company systems?

- A. IDS
- B. Firewall
- C. Content filter
- D. Load balancer

Answer: B

Explanation:

A firewall is a system designed to prevent unauthorized access to or from a private network. Firewalls are frequently used to prevent unauthorized Internet users from accessing private networks connected to the Internet, especially intranets. Firewalls use ACLs (access control lists) to determine which traffic is allowed through the firewall. All traffic entering or leaving the intranet passes through the firewall, which examines each message and blocks or allows the message depending on rules specified in the ACL. The rules in the ACL specify which combinations of source IP address, destination address in IP port numbers are allowed.

Question: 4

Which of the following is used to define how much bandwidth can be used by various protocols on the network?

- A. Traffic shaping
- B. High availability
- C. Load balancing
- D. Fault tolerance

Answer: A

Explanation:

If a network connection becomes saturated to the point where there is a significant level of contention, network latency can rise substantially.

Traffic shaping is used to control the bandwidth used by network traffic. In a corporate environment, business-related traffic may be given priority over other traffic. Traffic can be prioritized based on the ports used by the application sending the traffic. Delayed traffic is stored in a buffer until the higher priority traffic has been sent.

Question: 5

Which of the following is used to authenticate remote workers who connect from offsite? (Select TWO).

- A. OSPF
- B. VTP trunking
- C. Virtual PBX
- D. RADIUS
- E. 802.1x

Answer: D,E

Explanation:

D: A RADIUS (Remote Authentication Dial-in User Service) server is a server with a database of user accounts and passwords used as a central authentication database for users requiring network access. RADIUS servers are commonly used by ISP's to authenticate their customer's Internet connections.

Remote users connect to one or more Remote Access Servers. The remote access servers then forward the authentication requests to the central RADIUS server.

E: 802.1X is an IEEE Standard for Port-based Network Access Control (PNAC). It provides an authentication mechanism to devices wishing to attach to a network.

802.1X authentication involves three parties: a supplicant, an authenticator, and an authentication server. The supplicant is a client that wishes to attach to the network. The authenticator is a network device, such as an Ethernet switch, wireless access point or in this case, a remote access server and the authentication server is the RADIUS server.

Question: 6

Which of the following provides accounting, authorization, and authentication via a centralized privileged database, as well as, challenge/response and password encryption?

- A. Multifactor authentication
- B. ISAKMP
- C. TACACS+
- D. Network access control

Answer: C

Explanation:

TACACS+ (Terminal Access Controller Access-Control System Plus) is a protocol that handles authentication, authorization, and accounting (AAA) services. Similar to RADIUS, TACACS+ is a centralized authentication solution used to provide access to network resources. TACACS+ separates the authentication, authorization, and accounting services enabling you to host each service on a separate server if required.

Question: 7

A technician needs to set aside addresses in a DHCP pool so that certain servers always receive the same address. Which of the following should be configured?

- A. Leases
- B. Helper addresses
- C. Scopes
- D. Reservations

Answer: D

Explanation:

A reservation is used in DHCP to ensure that a computer always receives the same IP address. To create a reservation, you need to know the hardware MAC address of the network interface card that should receive the IP address.

For example, if Server1 has MAC address of 00:A1:FB:12:45:4C and that computer should always get 192.168.0.7 as its IP address, you can map the MAC address of Server1 with the IP address to configure reservation.

Question: 8

Joe, a network technician, is setting up a DHCP server on a LAN segment. Which of the following options should Joe configure in the DHCP scope, in order to allow hosts on that LAN segment using dynamic IP addresses, to be able to access the Internet and internal company servers? (Select THREE).

- A. Default gateway
- B. Subnet mask
- C. Reservations
- D. TFTP server
- E. Lease expiration time of 1 day
- F. DNS servers
- G. Bootp

Answer: A,B,F

Explanation:

The question states that the client computers need to access the Internet as well as internal company servers. To access the Internet, the client computers need to be configured with an IP address with a subnet mask (answer B) and the address of the router that connects the company network to the Internet. This is known as the 'default gateway' (answer A).

To be able to resolve web page URLs to web server IP addresses, the client computers need to be configured with the address of a DNS server (answer F).

Question: 9

A technician just completed a new external website and setup access rules in the firewall. After some testing, only users outside the internal network can reach the site. The website responds to a ping

from the internal network and resolves the proper public address. Which of the following could the technician do to fix this issue while causing internal users to route to the website using an internal address?

- A. Configure NAT on the firewall
- B. Implement a split horizon DNS
- C. Place the server in the DMZ
- D. Adjust the proper internal ACL

Answer: B

Explanation:

Split horizon DNS (also known as Split Brain DNS) is a mechanism for DNS servers to supply different DNS query results depending on the source of the request. This can be done by hardware-based separation but is most commonly done in software.

In this question, we want external users to be able to access the website by using a public IP address. To do this, we would have an external facing DNS server hosting a DNS zone for the website domain. For the internal users, we would have an internal facing DNS server hosting a DNS zone for the website domain. The external DNS zone will resolve the website URL to an external public IP address. The internal DNS server will resolve the website URL to an internal private IP address.

Question: 10

When configuring a new server, a technician requests that an MX record be created in DNS for the new server, but the record was not entered properly. Which of the following was MOST likely installed that required an MX record to function properly?

- A. Load balancer
- B. FTP server
- C. Firewall DMZ
- D. Mail server

Answer: D

Explanation:

A mail exchanger record (MX record) is a DNS record used by email servers to determine the name of the email server responsible for accepting email for the recipient's domain.

For example a user sends an email to recipient@somedomain.com. The sending user's email server will query the somedomain.com DNS zone for an MX record for the domain. The MX record will specify the hostname of the email server responsible for accepting email for the somedomain.com domain, for example, mailserver.somedomain.com. The sending email server will then perform a second DNS query to resolve mailserver.somedomain.com to an IP address. The sending mailserver will then forward the email to the destination mail server.

Question: 11

Which of the following protocols uses label-switching routers and label-edge routers to forward

traffic?

- A. BGP
- B. OSPF
- C. IS-IS
- D. MPLS

Answer: D

Explanation:

In an MPLS network, data packets are assigned labels. Packet-forwarding decisions are made solely on the contents of this label, without the need to examine the packet itself.

MPLS works by prefixing packets with an MPLS header, containing one or more labels.

An MPLS router that performs routing based only on the label is called a label switch router (LSR) or transit router. This is a type of router located in the middle of a MPLS network. It is responsible for switching the labels used to route packets. When an LSR receives a packet, it uses the label included in the packet header as an index to determine the next hop on the label-switched path (LSP) and a corresponding label for the packet from a lookup table. The old label is then removed from the header and replaced with the new label before the packet is routed forward.

A label edge router (LER) is a router that operates at the edge of an MPLS network and acts as the entry and exit points for the network. LERs respectively, add an MPLS label onto an incoming packet and remove it off the outgoing packet.

When forwarding IP datagrams into the MPLS domain, an LER uses routing information to determine appropriate labels to be affixed, labels the packet accordingly, and then forwards the labelled packets into the MPLS domain. Likewise, upon receiving a labelled packet which is destined to exit the MPLS domain, the LER strips off the label and forwards the resulting IP packet using normal IP forwarding rules.

Question: 12

Which of the following is MOST likely to use an RJ-11 connector to connect a computer to an ISP using a POTS line?

- A. Multilayer switch
- B. Access point
- C. Analog modem
- D. DOCSIS modem

Answer: C

Explanation:

Before ADSL broadband connections became the standard for Internet connections, computers used analog modems to connect to the Internet. By today's standards, analog modems are very slow typically offering a maximum bandwidth of 56Kbps.

An analog modem (modulator/demodulator) converts (modulates) a digital signal from a computer to an analog signal to be transmitted over a standard (POTS) phone line. The modem then converts (demodulates) the incoming analog signal to digital data to be used by the computer.

An analog modem uses an RJ-11 connector to connect to a phone line (POTS) in the same way a phone does.

Question: 13

An administrator notices an unused cable behind a cabinet that is terminated with a DB-9 connector. Which of the following protocols was MOST likely used on this cable?

- A. RS-232
- B. 802.3
- C. ATM
- D. Tokenring

Answer: A

Explanation:

A DB-9 connector is used on serial cables. Serial cables use the RS-232 protocol which defines the functions of the 9 pins in a DB-9 connector. The RS-232 standard was around long before computers. It's rare to see a new computer nowadays with a serial port but they were commonly used for connecting external analog modems, keyboards and mice to computers.

Question: 14

Which of the following connection types is used to terminate DS3 connections in a telecommunications facility?

- A. 66 block
- B. BNC
- C. F-connector
- D. RJ-11

Answer: B

Explanation:

A DS3 (Digital Signal 3) is also known as a T3 line with a maximum bandwidth of 44.736 Mbit/s. DS3 uses 75 ohm coaxial cable and BNC connectors.

Question: 15

An F-connector is used on which of the following types of cabling?

- A. CAT3
- B. Single mode fiber
- C. CAT5
- D. RG6

Answer: D

Explanation:

An F connector is a coaxial RF connector commonly used for terrestrial television, cable television and universally for satellite television and cable modems, usually with RG-6/U cable or, in older installations, with RG-59/U cable.

Question: 16

A network technician must utilize multimode fiber to uplink a new networking device. Which of the following Ethernet standards could the technician utilize? (Select TWO).

- A. 1000Base-LR
- B. 1000Base-SR
- C. 1000Base-T
- D. 10GBase-LR
- E. 10GBase-SR
- F. 10GBase-T

Answer: B,E

Explanation:

1000BASE-SX is a fiber optic Gigabit Ethernet standard for operation over multi-mode fiber with a distance capability between 220 meters and 550 meters.

10Gbase-SR is a 10 Gigabit Ethernet LAN standard for operation over multi-mode fiber optic cable and short wavelength signaling.

Question: 17

CORRECT TEXT

You have been tasked with testing a CAT5e cable. A summary of the test results can be found on the screen.

Step 1: Select the tool that was used to create the cable test results.


Step 2: Interpret the test results and select the option that explains the results. After you are done with your analysis, click the 'Submit Cable Test Analysis' button.

Cable Test

Step 1: Select the tool that was used to create the cable test results.

Cable Test Result			
1, 2	Open	7ft	
3, 6	Short	7ft	
4, 5	Open	7ft	
7, 8	Open	7ft	

→

 Tool Choices

- Crimper
- Cable Certifier
- Multimeter
- Punch Down Tool
- Protocol Analyzer
- OTDR
- Toner Probe

Explanation:

Cable Test

Step 1: Select the tool that was used to create the cable test results.

Cable Test Result			
1, 2	Open	7ft	
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4, 5	Open	7ft	
7, 8	Open	7ft	

→

Tool Choices

Crimper

Cable Certifier

Multimeter

Punch Down Tool

Protocol Analyzer

OTDR

Toner Probe

Step 2: Interpret the test results and select the option that explains the results.

After you are done with your analysis, click the 'Submit Cable Test Analysis' button.

Correctly crimped cable
 Incorrectly crimped cable

A Cable Certifier provides "Pass" or "Fail" information in accordance with industry standards but can also show detailed information when a "Fail" occurs. This includes shorts, the wire pairs involved and the distance to the short. When a short is identified, at the full length of the cable it means the cable has not been crimped correctly.

Question: 18

A network engineer needs to set up a topology that will not fail if there is an outage on a single piece of the topology. However, the computers need to wait to talk on the network to avoid congestions. Which of the following topologies would the engineer implement?

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

Answer: C

Explanation:

Token Ring networks are quite rare today. Token Ring networks use the ring topology. Despite being called a Ring topology, the ring is logical and the physical network structure often forms a 'star'

topology with all computers on the network connecting to a central multistation access unit (MAU). The MAU implements the logical ring by transmitting signals to each node in turn and waiting for the node to send them back before it transmits to the next node. Therefore, although the cables are physically connected in a star, the data path takes the form of a ring. If any computer or network cable fails in a token ring network, the remainder of the network remains functional. The MAU has the intelligence to isolate the failed segment.

To ensure that the computers need to wait to talk on the network to avoid congestions, a Token Ring network uses a 'token'. The token continually passes around the network until a computer needs to send data. The computer then takes the token and transmits the data before releasing the token. Only a computer in possession of the token can transmit data onto the network.

Question: 19

A network topology that utilizes a central device with point-to-point connections to all other devices is which of the following?

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

Answer: A

Explanation:

A Star network is the most common network in use today. Ethernet networks with computers connected to a switch (or a less commonly a hub) form a star network.

The switch forms the central component of the star. All network devices connect to the switch. A network switch has a MAC address table which it populates with the MAC address of every device connected to the switch. When the switch receives data on one of its ports from a computer, it looks in the MAC address table to discover which port the destination computer is connected to. The switch then unicasts the data out through the port that the destination computer is connected to.

Question: 20

Which of the following network topologies has a central, single point of failure?

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

Answer: B

Explanation:

A Star network is the most common network in use today. Ethernet networks with computers connected to a switch (or a less commonly a hub) form a star network.

The switch forms the central component of the star. All network devices connect to the switch. A

network switch has a MAC address table which it populates with the MAC address of every device connected to the switch. When the switch receives data on one of its ports from a computer, it looks in the MAC address table to discover which port the destination computer is connected to. The switch then unicasts the data out through the port that the destination computer is connected to. The switch that forms the central component of a star network is a single point of failure. If the switch fails, no computers will be able to communicate with each other.

Question: 21

Which of the following refers to a network that spans several buildings that are within walking distance of each other?

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

Answer: A

Explanation:

CAN stands for Campus Area Network or Corporate Area Network. Universities or colleges often implement CANs to link the buildings in a network. The range of CAN is 1KM to 5KM. If multiple buildings have the same domain and they are connected with a network, then it will be considered as a CAN.

Question: 22

Which of the following network infrastructure implementations would be used to support files being transferred between Bluetooth-enabled smartphones?

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

Answer: A

Explanation:

PAN stands for Personal Area Network. It is a network of devices in the area of a person typically within a range of 10 meters and commonly using a wireless technology such as Bluetooth or IR (Infra-Red).

Question: 23

Which of the following describes an IPv6 address of ::1?

- A. Broadcast

- B. Loopback
- C. Classless
- D. Multicast

Answer: B

Explanation:

The loopback address is a special IP address that is designated for the software loopback interface of a computer. The loopback interface has no hardware associated with it, and it is not physically connected to a network. The loopback address causes any messages sent to it to be returned to the sending system. The loopback address allows client software to communicate with server software on the same computer. Users specify the loopback address which will point back to the computer's TCP/IP network configuration.

In IPv4, the loopback address is 127.0.0.1.

In IPv6, the loopback address is 0:0:0:0:0:0:0:1, which can be shortened to ::1

Question: 24

Which of the following is an example of an IPv4 address?

- A. 192:168:1:55
- B. 192.168.1.254
- C. 00:AB:FA:B1:07:34
- D. ::1

Answer: B

Explanation:

An IPv4 address is notated as four decimal numbers each between 0 and 255 separated by dots (xxx.xxx.xxx.xxx). Each number is known as an octet as it represents eight binary bits. All four octets make up a 32-bit binary IPv4 address.

In this question, 192.168.1.254 is a valid IPv4 address.

Question: 25

A technician, Joe, needs to troubleshoot a recently installed NIC. He decides to ping the local loopback address. Which of the following is a valid IPv4 loopback address?

- A. 10.0.0.1
- B. 127.0.0.1
- C. 172.16.1.1
- D. 192.168.1.1

Answer: B

Explanation:

The loopback address is a special IP address that is designated for the software loopback interface of

a computer. The loopback interface has no hardware associated with it, and it is not physically connected to a network. The loopback address causes any messages sent to it to be returned to the sending system. The loopback address allows client software to communicate with server software on the same computer. Users specify the loopback address which will point back to the computer's TCP/IP network configuration.

In IPv4, the loopback address is 127.0.0.1.

In IPv6, the loopback address is 0:0:0:0:0:0:0:1, more commonly notated as follows. ::1

Question: 26

A technician, Joe, has been tasked with assigning two IP addresses to WAN interfaces on connected routers. In order to conserve address space, which of the following subnet masks should Joe use for this subnet?

- A. /24
- B. /32
- C. /28
- D. /29
- E. /30

Answer: E

Explanation:

An IPv4 address consists of 32 bits. The first x number of bits in the address is the network address and the remaining bits are used for the host addresses. The subnet mask defines how many bits form the network address and from that, we can calculate how many bits are used for the host addresses. In this question, the /30 subnet mask dictates that the first 30 bits of the IP address are used for network addressing and the remaining 2 bits are used for host addressing. The formula to calculate the number of hosts in a subnet is $2^n - 2$. The "n" in the host's formula represents the number of bits used for host addressing. If we apply the formula ($2^2 - 2$), a /30 subnet mask will provide 2 IP addresses.

Question: 27

HOTSPOT

Corporate headquarters provided your office a portion of their class B subnet to use at a new office location. Allocate the minimum number of addresses (using CIDR notation) needed to accommodate each department.

Range Given: 172.30.232.0/24

- Sales 57 devices
- HR 23 devices
- IT 12 devices
- Finance 32 devices
- Marketing 9 devices

After accommodating each department, identify the unused portion of the subnet by responding to the question on the graphic. All drop downs must be filled.

Instructions: When the simulation is complete, please select the Done button to submit.

CIDR Notation

Instructions: When the simulation is complete, please select the Done button to submit.

Which of the following would represent the LARGEST possible contiguous block of remaining addresses?

CIDR Notation

Instructions: When the simulation is complete, please select the Done button to submit.

Layer 3 Switch

Sales Network

HR Network

Finance Network

Marketing Network

IT Network

Which of the following would represent the **LARGEST** possible contiguous block of remaining addresses?

/0
/1
/2
/3
/4
/5
/6
/7
/8
/9
/10
/11
/12
/13
/14
/15
/16
/17
/18
/19
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/24
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/26
/27
/28
/29
/30
/31
/32

CIDR Notation
 Instructions: When the simulation is complete, please select the Done button to submit.

Which of the following would represent the LARGEST possible contiguous block of remaining addresses?

0/0
/1
/2
/3
/4
/5
/6
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/12
/13
/14
/15
/16
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/32

All Networks have the range from /0 to /32

Answer:

An IPv4 address consists of 32 bits. The first x number of bits in the address is the network address and the remaining bits are used for the host addresses. The subnet mask defines how many bits form the network address and from that, we can calculate how many bits are used for the host addresses. The formula to calculate the number of hosts in a subnet is $2^n - 2$. The "n" in the host's formula represents the number of bits used for host addressing. If we apply the formula $(22 - 2)$, we can determine that the following subnets should be configured:

Sales network - /26 - This will provide up to 62 usable IP addresses (64-2 for subnet and broadcast IP)

HR network - /27 - This will provide for up to 30 usable IP's (32-2)

IT - /28 - This will provide for up to 14 usable IP's (16-2)

Finance - /26 - Note that a /27 is 32 IP addresses but 2 of those are reserved for the network and broadcast IP's and can't be used for hosts.

Marketing - /28

If we add up howmany IP blocks are used that is $64+32+16+64+16=192$.

A /24 contains 256 IP addresses, so $256-192=64$.

So the last unused box should be a /26, which equates to 64 addresses

Question: 28

A host has been assigned the address 169.254.0.1. This is an example of which of the following address types?

- A. APIPA
- B. MAC
- C. Static
- D. Public

Answer: A

Explanation:

APIPA stands for Automatic Private IP Addressing and is a feature of Windows operating systems. When a client computer is configured to use automatic addressing (DHCP), APIPA assigns a class B IP address from 169.254.0.0 to 169.254.255.255 to the client when a DHCP server is unavailable.

When a client computer configured to use DHCP boots up, it first looks for a DHCP server to provide the client with IP address and subnet mask. If the client is unable to contact a DHCP server, it uses APIPA to automatically configure itself with an IP address from a range that has been reserved especially for Microsoft. The client also configures itself with a default class B subnet mask of 255.255.0.0. The client will use the self-configured IP address until a DHCP server becomes available.

Question: 29

A company wants to create highly available datacenters. Which of the following will allow the company to continue to maintain an Internet presence at all sites in the event that a WAN circuit at one site goes down?

- A. Load balancer
- B. VRRP
- C. OSPF
- D. BGP

Answer: D

Explanation:

A collection of networks that fall within the same administrative domain is called an autonomous system (AS). In this question, each datacenter will be an autonomous system.

The routers within an AS use an interior gateway protocol, such as the Routing Information Protocol (RIP) or the Open Shortest Path First (OSPF) protocol, to exchange routing information among themselves. At the edges of an AS are routers that communicate with the other AS's on the Internet, using an exterior gateway protocol such as the Border Gateway Protocol (BGP).

If a WAN link goes down, BGP will route data through another WAN link if redundant WAN links are

available.

Question: 30

An organization requires a second technician to verify changes before applying them to network devices. When checking the configuration of a network device, a technician determines that a coworker has improperly configured the AS number on the device. This would result in which of the following?

- A. The OSPF not-so-stubby area is misconfigured
- B. Reduced wireless network coverage
- C. Spanning tree ports in flooding mode
- D. BGP routing issues

Answer: D

Explanation:

BGP (Border Gateway Protocol) is used to route data between autonomous systems (AS's)

A collection of networks that fall within the same administrative domain is called an autonomous system (AS).

The routers within an AS use an interior gateway protocol, such as the Routing Information Protocol (RIP) or the Open Shortest Path First (OSPF) protocol, to exchange routing information among themselves. At the edges of an AS are routers that communicate with the other AS's on the Internet, using an exterior gateway protocol such as the Border Gateway Protocol (BGP).

Question: 31

When convergence on a routed network occurs, which of the following is true?

- A. All routers are using hop count as the metric
- B. All routers have the same routing table
- C. All routers learn the route to all connected networks
- D. All routers use route summarization

Answer: C

Explanation:

Routers exchange routing topology information with each other by using a routing protocol. When all routers have exchanged routing information with all other routers within a network, the routers are said to have converged. In other words: In a converged network all routers "agree" on what the network topology looks like.

Question: 32

An administrator has a virtualization environment that includes a vSAN and iSCSI switching. Which of the following actions could the administrator take to improve the performance of data transfers over iSCSI switches?

- A. The administrator should configure the switch ports to auto-negotiate the proper Ethernet settings.
- B. The administrator should configure each vSAN participant to have its own VLAN.
- C. The administrator should connect the iSCSI switches to each other over inter-switch links (ISL).
- D. The administrator should set the MTU to 9000 on the each of the participants in the vSAN.

Answer: D

Explanation:

When using an iSCSI SAN (with iSCSI switching), we can improve network performance by enabling 'jumbo frames'. A jumbo frame is a frame with an MTU of more than 1500. By setting the MTU to 9000, there will be fewer but larger frames going over the network. Enabling jumbo frames can improve network performance by making data transmissions more efficient. The CPUs on switches and routers can only process one frame at a time. By putting a larger payload into each frame, the CPUs have fewer frames to process.

Question: 33

Which of the following would be used in an IP-based video conferencing deployment? (Select TWO).

- A. RS-232
- B. 56k modem
- C. Bluetooth
- D. Codec
- E. SIP

Answer: D,E

Explanation:

The term "codec" is a concatenation of "encoder" and "decoder". In video conferencing, a codec is software (or can be hardware) that compresses (encodes) raw video data before it is transmitted over the network. A codec on the receiving video conferencing device will then decompress (decode) the video signal for display on the conferencing display.

The Session Initiation Protocol (SIP) is a protocol for initiating an interactive user session that involves multimedia elements such as voice, chat, gaming, or in this case video.

Question: 34

Which of the following network elements enables unified communication devices to connect to and traverse traffic onto the PSTN?

- A. Access switch
- B. UC gateway
- C. UC server
- D. Edge router

Answer: B

Explanation:

People use many methods of communication nowadays such as voice, email, video and instant messaging. People also use many different devices to communicate such as smart phones, PDAs, computers etc. Unified Communications (UC) enables people using different modes of communication, different media, and different devices to communicate with anyone, anywhere, at any time.

Many communication methods use digital signals. To send a digital signal over the analog PSTN, you need a gateway (in this case a UC Gateway) to convert the digital signals into an analog format that can be sent over the PSTN.

Question: 35

A technician is connecting a NAS device to an Ethernet network. Which of the following technologies will be used to encapsulate the frames?

- A. HTTPS
- B. Fibre channel
- C. iSCSI
- D. MS-CHAP

Answer: C

Explanation:

A NAS or a SAN will use either iSCSI or Fiber Channel. In this question, the NAS is connected to an Ethernet network. Therefore, iSCSI will most likely be used (Fiber Channel over Ethernet (FCoE) can be used but is less common). iSCSI means Internet SCSI. iSCSI uses TCP (Transmission Control Protocol) which enables it to be used over TCP/IP networks such as Ethernet.

For Fiber channel, a separate Fiber Channel network would be required unless FCoE is used.

Question: 36

A VLAN with a gateway offers no security without the addition of:

- A. An ACL.
- B. 802.1w.
- C. A RADIUS server.
- D. 802.1d.

Answer: A

Explanation:

A gateway in a VLAN connects to another network. The other network can be the Internet, another subnet on the network or another VLAN. The gateway will be a router and for security, it should also be a firewall.

A firewall is a system designed to prevent unauthorized access to or from a private network. Firewalls are frequently used to prevent unauthorized Internet users from accessing private networks

connected to the Internet, especially intranets. Firewalls use ACLs (access control lists) to determine which traffic is allowed through the firewall. All traffic entering or leaving the intranet passes through the firewall, which examines each message and blocks or allows the message depending on rules specified in the ACL. The rules in the ACL specify which combinations of source IP address, destination address in IP port numbers are allowed.

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