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Exam : **642-414**

Title : Communications Telephony Design Exam

Version : DEMO

1.This area is intentionally left blank From the following list of customer attributes, choose the correct IP telephony call processing model: -A large campus that spans multiple PSAP areas. -A single group of buildings each with its own computer room.

A.single-site call processing

B.centralized call processing

C.hybrid call processing

D.distributed call processing

Correct:A

2.From the following list, select the information that is relevant to choosing an IP telephony centralized call processing model.

A.a single 6-story building with an IDF on each floor and an MDF in the computer room on the second floor

B.three small regional sales offices located in the three Western time zones

C.Ccentralized order processing, shipping, and billing for all customer products

D.connectivity to a single service provider that hosts the company web site and provides for Internet access

E.multiple PRIs to the PSTN

F.a campus of six buildings connected via an ATM backbone

Correct:B

3.Form the following list, select the information that is relevant to choosing an IP telephony single-site call processing model. (Choose two.)

A.VPN connectivity to contractors and suppliers

B.dual connectivity to service providers for Internet access and multiple PRLs to the PSTN

C.no remote offices or campuses

D.all external calls use the PSTN

E.corporate HQ with multiple regional sales offices

F.a single 6-story building with an IDF on each floor and an MDF in the computer room on the second floor

Correct:C F

4.AMFAB Environmental Consulting (AMFAB), an environmental consulting company, based near Atlanta, Georgia, uses a PBX for its campus phone system. The PBX cannot support all the new features that AMFAB requires, so the company has decided to change its system from traditional TDM to IP telephony. The campus currently has approximately 922 users in three four-story office buildings, a single story R&D facility, and a scale building. It will be your job to determine what information is needed for the proper design of the company's converged network. Which of these pieces of information must be addressed in the design of the IP telephony system for AMFAB? (Choose three)

A.The network is running at 45% of capacity at peak times.

B.They were given a cost estimate of $83,000.00 to upgrade their existing PBX to support IP.

C.They have entered into negotiations to purchase a small, 45 person consulting engineering firm that specializes in designing and installing lined lagoons and ponds.

D.The monthly cost of long distance is $14,000.00

E.Users complain that they receive a fast busy when trying to dial out to the PSTN during the middle of the day.

Correct:A C E

5.You are in a meeting with the AMFAB telephony services manager and the data network manager. What information do you need to obtain to assist you in the design of the IP telephony solution? (Choose four.)

A.bandwidth available to connect to the Internet

B.the number of phones that have DID

C.the number of servers supporting the R&D facility

D.what type of dialing plan is deployed at AMFAB

E.which group of users contributes the most traffic to the network

F.which group of users spends the most time on their phones

G.how the PBX is cabled from each MDF to each IDF and to each desk location

H.the measures AMFAB has implemented to secure the network

Correct:B D F G

6.You are in a meeting with the AMFAB telephony services manager and the data network manager. What four pieces of information will be important for you to capture from this meeting? (Choose four.)

A.the manufacturer, type and number of devices in the network

B.the IP addressing scheme

C.the type of network design currently in place

D.the current integration of voice and data in the AMFAB network

E.the capacity of the link to the Internet

F.the type and size of the power circuits in each MDF and IDF

Correct:A B C F

7.You are doing a physical site survey of the AMFAB campus. You noticed on the site map that the facility is divided by County Line Road. This is actually the boundary between Cobb and Fulton counties. What issue needs to be addressed for the IP telephony design?

A.if calls from the AMFAB buildings in Cobb County will incur a toll change when calling the AMFAB buildings in Fulton County.

B.if the tax rate for telephony is different between Cobb County and Fulton County.

C.if separate call data information needs to be kept for both counties

D.if a PSTN connection in bldg C can route emergency calls to the correct PSAP for the buildings in Cobb County

E.if the phones in each county require overlapping extension numbers

Correct:D

8.You are doing a physical site survey of the AMFAB campus. What four issues are related to the physical placement of network hardware?(chose four.)

A.physical security

B.adequate rack space

C.a dust-free environment

D.access to building distribution cabling

E.sufficient HVAC

F.adequate lighting

Correct:A B D E

9.Which of these pieces of information must be addressed in the design of the IP telephony

system for AMF AB? (Choose three.)

A.AMF AB is using a public IP addressing scheme. They have four contiguous Class C addresses

B.AMF AB has seen a 15% increase in traffic to their website with the announcement of a new methane monitoring solution

C.The active internet gateway is running at 55% of peak capacity

D.The current PBX has a proprietary connection to the current voice-mail system.

E.The property that houses the AMF AB R&D facility, scale house, and test lagoons has recently been annexed by a neighboring city

Correct:A D E

10.You are in a meeting with the AMF AB telephony services manager and the data network manager. What four of the following are questions you would ask to obtain the information needed for the design of the IP telephony network? (Choose four.)

A.What network access method and topology is deployed?

B.How many cable paths are available to each IDF?

C.Can additional servers or additional domains be added to the existing AMF AB domain?

D.What COR is deployed in the existing network?

E.Who is responsible for moving telephones within AMB AB?

F.What is the current traffic level and distribution of applications on the network?

Correct:A B C F

11.You are in a meeting with the AMF AB telephony services manager and the data network manager. You need information on the PBX and the voice-mail system. What four pieces of information will be of benefit? (Choose four.)

A.the manufacturer, model, and capacity of the PBX and voice mail systems

B.the person who performs the adds, moves, and changes at AMF AB

C.the number of PBX outages in the last year and if that number violated their uptime expectations

D.the current PBX vendors response time for service

E.the connection type between the PBX and the PSTN

F.how the voice mailboxes are deployed in the telephone system

G.the power requirements for the PBX and voice mail systems

Correct:A C E F

12.You are doing a physical site survey of the AMF AB campus. What questions will need to be answered about each network closet to insure that the physical network devices can be deployed successfully? (Choose two.)

A.Is each cable run to the closet within the maximum distance specification?

B.Is enough electrical power available for each network closet?

C.Are the IDF stacked on top each other or are they offset in each building?

D.Are any of the cable runs shared between voice and data two-pairs for voice and two-pairs for data)?

E.Does AMF AB have an office numbering scheme?

F.Are there any extra cable runs pulled to each office that are not terminated?

Correct:A B

13.You are doing a physical site survey of the AMF AB campus. You noticed that the facility is divided by County Line Road, which is the boundary between Cobb and Fulton counties. What issue needs to be addressed for the IP telephony design?

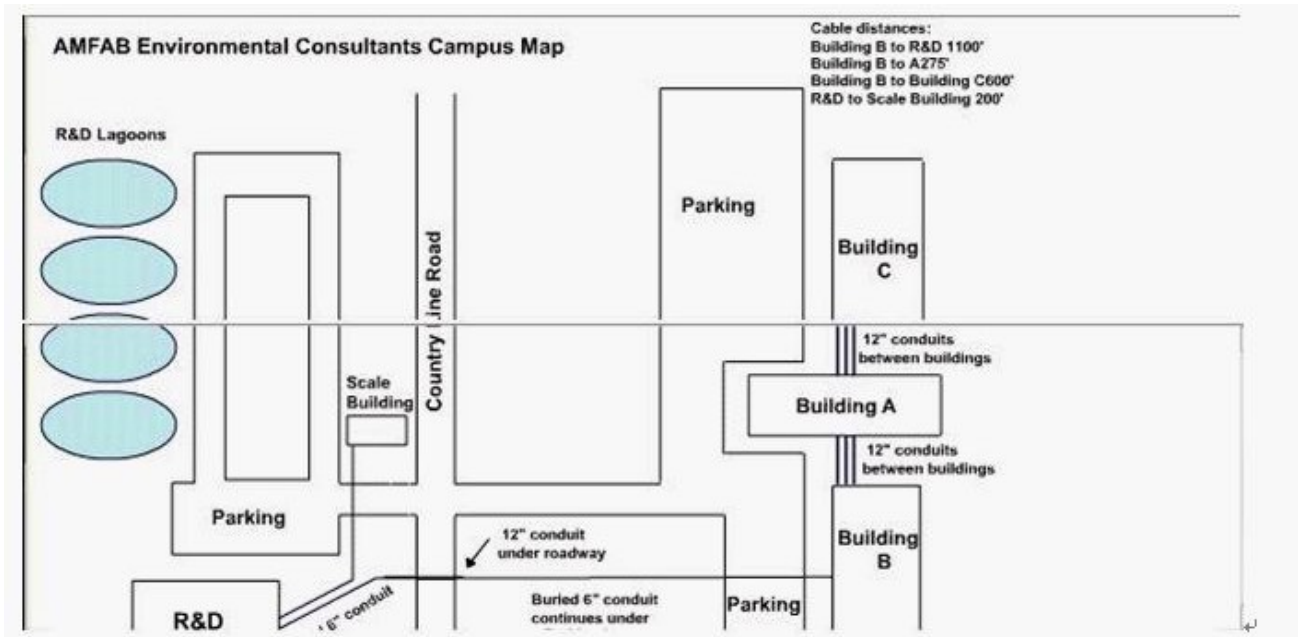A.whether separate call data information will need to be kept for both counties

B.whether the phones in each county require overlapping extension numbers

C.whether calls from the AMF AB buildings in Cobb County incur a toll charge when calling the AMF AB buildings in Fulton County.

D.whether the tax rate for telephony in Cobb County is different from what it is in Fulton County

E.whether a PSTN connection in bldg C can route emergency calls to the correct PSAP for the buildings in Cobb County

Correct:E

14.AMFAB Environmental Consulting (AMFAB), an environmental consulting company, based near Atlanta, Georgia, uses a PBX for its campus phone system. The PBX cannot support all the new features that AMFAB requires, so the company has decided to change its system from traditional TDM to IP telephony. The campus currently has approximately 922 users in three four-story office buildings, a single story R&D facility, and a scale building. It will be your job to determine what information is needed for the proper design of the company's converged network. --

--- During preliminary investigation, here is what there is to be found: 922 employees, of which 868 have phones that are DID. The rest are lobby and break room phones, departmental phones, etc. for a total of 895 phones. Each employee with DID has a personal mailbox, as does every department with a group phone, for a total of 881 voice mail boxes. There are 12 people in marketing, each of whom uses the phone considerably more than the average user does. Most of these calls are external calls. There are 7 people in technical support, each of whom uses the phone considerably more than the average user does. Most of these calls are internal calls. The current dial plan uses four-digit dialing for extension-to-extension calls,and dialing 9 for outside calls(local and long distance). AMFAB doesn't have a current traffic analysis of their network. They believe they have enough bandwidth for anything they might want to run, including IP telephony, but have no concrete documentation to back that up. Each of buildings A, B, and C has a combination MDF/IDF on the ground floor, with an IDF on each upper floor. The IDFs are connected to the MDFs via multiple 25-pair cable bundles for phones and two pairs each multimode fiber optic cable for data. Each of the 895 phones is cabled using Category 3 UTP cable out from the IDFs. Each station in the R&D building has two Category 5 UTP cable drops, plus phone. All buildings on the campus are data-connected via an FDDI ring with the exception of the scale building, which is connected to the R&D building via Category 5 UTP cable. The AMFAB facility spans two counties, so the R&D building and the scale building are serviced by a different PSAP than are buildings A through C. Building C houses the main computer room that contains all the company servers. The main computer room in Building C also contains the PBX with PSTN connectivity, and the Internet connection(s). There is a pair of Cisco 2514 routers providing connectivity to the Internet; they are set up with HSRP. The data network was built using token ring LANs connected via the FDDI ring. AMFAB is interested in migrating its phone system to IP telephony, vs. a massive weekend cutover. On the basis of information discovered during the investigation phase of the design, it has been decided that the single-site call processing model is the proper deployment model for AMFAB. The access layer devices will be placed in the IDFs, the distribution layer devices will be placed in the MDFs, and the core will be deployed in the computer room. Each IDF services approximately 70 to 75 users. AMFAB is using Token Ring with an FDDI backbone. The network is to be migrated to an Ethernet network. AMFAB has had many network outages in their current

network, and is concerned with network availability, especially as the phone system will now be residing on the same network.

A.L2 access layer with per-VLAN spanning tree (PVST) with an L2 distribution layer, with common spanning tree (CST) running with an L3 core, with OSPF in the core

B.L3 at the access and distributions layers running OSPF across a loop-free L2 core with no spanning tree.

C.L3 at the access distribution, and core layers, with OSPF as the routing protocol running on all devices

D.L3 at the access layer running OSPF with the L3 core over the L2 distribution layer

E.L2 at the access layer with per-VLAN spanning tree (PVST) with an L3 distribution layer, with runs OSPF with an L3 core

Correct:E

15.During migration from Token Ring to Ethernet, routers will be deployed to allow access between the existing Token Ring and the new Ethernet networks. Where in the network should these routers be deployed?

A.at the core of the network so that each IDF can continue to use the FDDI backbone.

B.in the individual IDFs so that individual users can be migrated from the Token Ring to the Ethernet network to minimize each individuals down time.

C.at each MDF so that each IDF can be migrated separately and possible wide-spread network outages

D.in the computer room so that the Token Ring and Ethernet networks are only connected at one location to minimize risk

Correct:C

16.Each IDF currently supports a single ring per floor no matter how many different departments are on that floor. Which VLAN deployment scheme would provide each department with load balancing, high availability, and security on a per-floor basis?

A.Each department would have a separate data and voice VLAN. Both departmental VLANs would be trunked over a single path from the IDF to the MDF.

B.Since most departments are small, each department would use a single VLAN for data and voice. Each

departmental VLAN would be trunked from the IDF to the MDF over two paths, a primary and a backup.

C.Each department would use two VLANs, one for data and one for voice. These VLANs would be trunked over redundant uplinks from the IDF to the MDF.

D.Each floor would use two VIANs no matter how many departments are located there. The two VLANs would have a primary and backup path on each up link from the IDF to the MDF.

Correct:C

17.Each IDF will function at Layer 2. Which deployment solution will provide the highest availability and still provide for in-line power to the IP phones? (Choose two.)

A.Using the current data cable drop, deploy a dual VLAN solution where FLP would make the determination of providing in-line power.

B.Deploy a single chassis-based switch with dual Layer 3 supervisors and a single connection to the MDF.

C.Use the present dual-cable drop to each desktop, providing in-line power on both drops and use FLP to make the determination of providing in-line power.

D.Deploy a stackable switch solution with dual connections from each switch to the MDF.

E.Use the present dual-cable drop to each desktop, providing in-line power on the cable the current data device is connected to.

F.Deploy a chassis solution with dual connections to the MDF.

Correct:A F

18.How can high availability be accomplished with a Fast Ethernet or Gigabit Ethernet network?

A.Deploy dual-connected core switches, each with a single connection to each MDF.

B.Deploy dual MDF switches, each with dual connections to the IDF switches.

C.Deploy stacked IDF switches that are dual connected to each core switch in the computer room.

D.Deploy dual MDF switches that each connect to two core switches in the computer room.

Correct:D

19.AMF AB is currently using four contiguous registered Class C addresses for their network. AMF AB's service provider said it could give AMF AB more address space, but at quite a high cost, and the new addresses would not be in a contiguous block with the ones AMF AB currently uses. Which option would make the most business sense for AMF AB?

A.Maintain their current registered address space, obtain one more registered Class C address range for growth, and deploy RFC 1918 addresses for the new IP telephony solution.

B.Keep the current registered address ranges and migrate internal addresses to RFC 1918 addresses as the company moves off Token Ring network to the Ethernet network.

C.Readdress the network with new registered addresses now so that all the IP address issues can be worked out prior to the IP telephony deployment.

D.Keep one the two registered address ranges and migrate the entire network over to an RFC 1918 address range prior to the IP telephony deployment.

Correct:B

20.AMFAB Environmental Consulting (AMFAB), an environmental consulting company, based near Atlanta, Georgia, uses a PBX for its campus phone system. The PBX cannot support all the new features that AMFAB requires, so the company has decided to change its system from traditional TDM to IP telephony. The campus currently has approximately 922 users in three four-story office buildings, a single story R&D facility, and a scale building. It will be your job to determine what information is needed for the proper design of the company's converged network.

-- During preliminary investigation, here is what there is to be found: 922 employees, of which 868 have phones that are DID. The rest are lobby and break room phones, departmental phones, etc. for a total of 895 phones. Each employee with DID has a personal mailbox, as does every department with a group phone, for a total of 881 voice mail boxes. There are 12 people in marketing, each of whom uses the phone considerably more than the average user does. Most of these calls are external calls. There are 7 people in technical support, each of whom uses the phone considerably more than the average user does. Most of these calls are internal calls. The current dial plan uses four-digit dialing for extension-to-extension calls,and dialing 9 for outside calls(local and long distance). AMFAB doesn't have a current traffic analysis of their network. They believe they have enough bandwidth for anything they might want to run, including IP telephony, but have no concrete documentation to back that up. Each of buildings A, B, and C has a combination MDF/IDF on the ground floor, with an IDF on each upper floor. The IDFs are connected to the MDFs via multiple 25-pair cable bundles for phones and two pairs each multimode fiber optic cable for data. Each of the 895 phones is cabled using Category 3 UTP cable out from the IDFs. Each station in the R&D building has two Category 5 UTP cable drops, plus phone. All buildings on the campus are data-connected via an FDDI ring with the exception of the scale building, which is connected to the R&D building via Category 5 UTP cable. The AMFAB facility spans two counties, so the R&D building and the scale building are serviced by a different PSAP than are buildings A through C. Building C houses the main computer room that contains all the company servers. The main computer room in Building C also contains the PBX with PSTN connectivity, and the Internet connection(s). There is a pair of Cisco 2514 routers providing connectivity to the Internet; they are set up with HSRP. The data network was built using token ring LANs connected via the FDDI ring. AMFAB is interested in migrating its phone system to IP telephony, vs. a massive weekend cutover. On the basis of information discovered during the investigation phase of the design, it has been decided that the single-site call processing model is the proper deployment model for AMFAB. The access layer devices will be placed in the IDFs, the distribution layer devices will be placed in the MDFs, and the core will be deployed in the computer room. Each IDF services approximately 70 to 75 users. AMFAB is using Token Ring with an FDDI backbone. The network is to be migrated to an Ethernet network. AMFAB has had many network outages in their current network, and is concerned with network availability, especially as the phone system will now be residing on the same network. 4-1 AMFAB's traffic distribution is as follows: Oracle - 27% Internal HTTP 11% external HTTP 9% UNIX RPC 33% Microsoft Office traffic 6% Enterprise resource planning (ERP) 12% Overhead (routing updates, SNMP, etc.) 2%
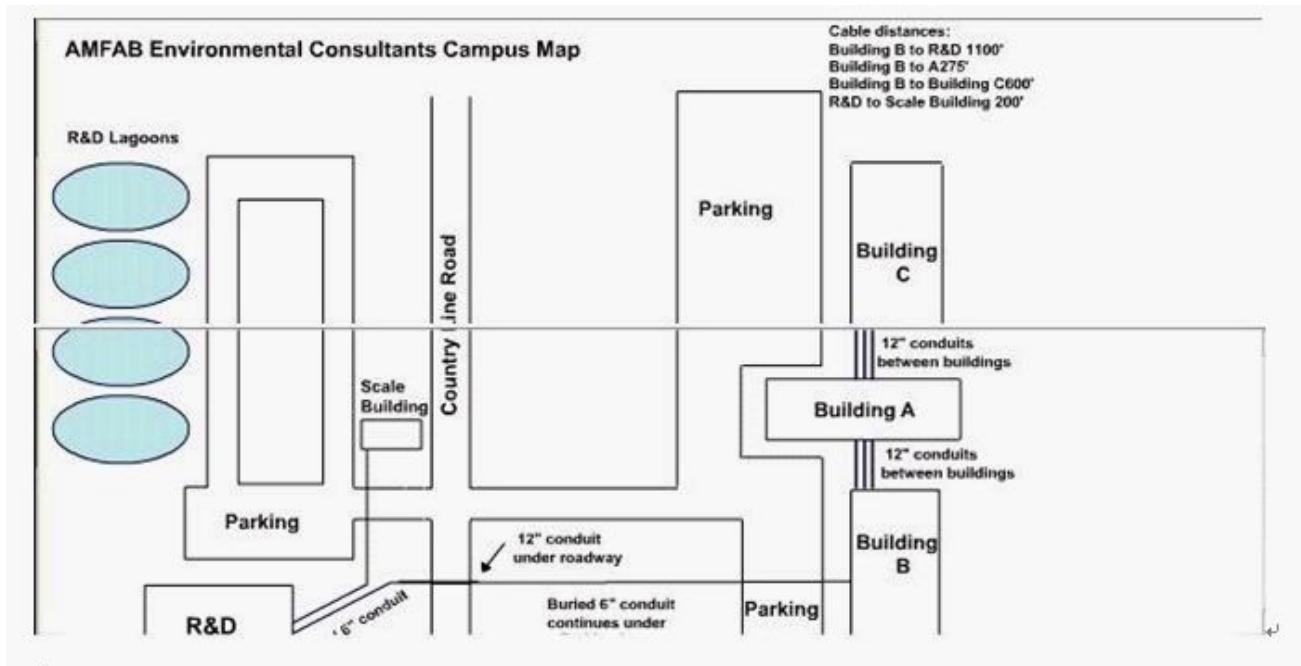
A.Queue 1-Microsoft Office, external HTTP Queue 2-UNIX RPC, internal HTTP Queue 3-voice signaling traffic, Oracle, ERP, overhead Queue 4-voice bearer traffic

B.Queue 1- voice bearer traffic Queue 2- voice signaling traffic, Oracle, ERP, overhead Queue 3- UNIX RPC, internal HTTP Queue 4- Microsoft Office, external HTTP

C.Queue 1- Microsoft Office, external HTTP Queue 2-UNIX RPC, internal HTTP Queue 3- voice bearer traffic Queue 4- voice signaling traffic, Oracle, ERP, overhead

D.Queue 1- Oracle, ERP, overhead Queue 2- Microsoft Office, external HTTP Queue 3- UNIX RPC, internal HTTP Queue 4- voice signaling traffic, voice bearer traffic

Correct:A