

**Exam : Cisco 642-415**

**Title : Cisco® Unified Communications  
Architecture and Design**

**Update : Demo**

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1. Consider the following customer attributes and choose the correct IP telephony call processing model:

- a large campus that spans two PSAP areas
- a single group of buildings connected via fiber optics
- data VPNs that support multiple contractors and suppliers
- a fully developed three-tier network hierarchy
- connectivity to two different service providers for Internet access

- A. single-site call processing
- B. centralized call processing
- C. hybrid call processing
- D. distributed call processing

Answer: A

2. What information is relevant to choosing an IP telephony centralized call processing model?

- A. multiple PRIs to the PSTN
- B. a campus of six buildings connected via an ATM backbone
- C. three small regional sales offices located in the three Western time zones
- D. centralized order processing, shipping, and billing for all customer products
- E. connectivity to a single service provider that hosts the company web site and provides for Internet access
- F. a single six-story building with an IDF on each floor and an MDF in the computer room on the second floor

Answer: C

3. In a TDM PBX to Cisco Unified Communications Manager migration, which three things must be verified from the LAN perspective before IP telephony can be deployed? (Choose three.)

- A. the type of wiring in the office
- B. the number of PSTN connections needed
- C. the number of public IP addresses available
- D. the amount of rack space in the equipment rack

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E. the amount of power that is available to support new LAN switches

Answer: ADE

4. Ajax wants to ensure that their employees are safe and that they comply with the law. What are four general E911 responsibilities of an enterprise telephony system? (Choose four.)

- A. Enable PSAP call-back.
- B. Initiate the update of ALI records.
- C. Provide a detailed map of all ERLs.
- D. Allow conferencing with internal security personnel.
- E. Route calls to the appropriate point (on-net or off-net).
- F. Deliver appropriate calling party number digits to LEC.

Answer: ABEF

5. What are two conferencing guidelines for a single-site deployment? (Choose two.)

- A. Use hardware conferencing only for small deployments
- B. If available, configure DSPs for flex-mode when there are multiple codec types in use.
- C. Group any conferencing resources into MRGLs based on their location, to manage Call Admission Control.
- D. Make certain that Meet-Me and Ad-Hoc conference resources each account for a minimum of 5% of the user base.

Answer: BD

6. Ajax needs to provide technical support outside of normal operating hours. They would like to deploy a small test call center to develop the skills necessary to provide phone, chat, and e-mail support. Ajax wants to start with five agents. Which two connection types would be applicable for use with the planned contact center? (Choose two.)

- A. PRI
- B. CAS
- C. E&M

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D. QSIG

E. POTS

Answer: AB

7. You have decided to use the MGCP signaling protocol for the PSTN gateway at Ajax. Which option is true regarding the use of a gatekeeper in their network?

A. One may be used for CAC.

B. One could be used for address resolution.

C. One may be deployed for both CAC and address resolution.

D. A gatekeeper is not applicable in this situation.

Answer: D

8. Ajax has contacted its LEC to obtain an additional range of DIDs. Their current DID range is 555-6000 through 555-6999. The LEC can provide them with an additional range of numbers, 556-6000 through 556-6999. The LEC is currently sending four digits inbound, so the two DID ranges overlap. What two things can be done to resolve this solution? (Choose two.)

A. Ask the LEC to send five digits.

B. Change internal calls to five-digit dialing.

C. Move to a six-digit dial plan to provide more dialing granularity for all extension numbers.

D. Contact an alternative carrier to see if it can provide a DID range that does not overlap with the current range.

Answer: AB

9. Currently, Ajax is considering implementing an IP contact center for the technical support group. As an interim step, calls to the technical support group need to be distributed in a round-robin fashion. Can this be accomplished?

A. Yes, with route groups.

B. Yes, by using call pick-up groups.

C. Yes, by implementing hunt groups.

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- D. Yes, by routing calls via an IVR unit.
- E. No, Cisco Unified Contact Center is needed.

Answer: C

10. The Ajax network coordinator is concerned that the IP phones can be targeted for malicious attack. When the security is designed for the IP telephony solution, which two methods can be used to help prevent malicious phone attacks? (Choose two.)

- A. Ensure the PC port is disabled if a PC is not attached.
- B. Isolate the IP phone VLANs from the PC data VLANs.
- C. Ensure the IP phone firmware is validated with the Cisco Unified Communications Manager.
- D. Ensure the Cisco Unified Communications Manager is configured to disable acceptance of GARP on IP phones.

Answer: BD

11. The Ajax server administrator is interested in determining how the Cisco Unified Communications Manager servers can be monitored and if the system has been compromised. Which two methods can be used to support these requirements and still maintain a high degree of security? (Choose two.)

- A. Provide a uniform level of access to all operators, technicians, and system administrators.
- B. Turn on event logging in all the Cisco Unified Communications Manager servers and regularly review event logs for the cluster.
- C. Enable SNMP on all Cisco Unified Communications Manager servers and change the default community strings.
- D. Enable SNMP for all the devices that support IP telephony in the Ajax network and change the default community strings.
- E. Send all audit logs to a dedicated log server and filter the reports to view only critical and fatal events.

Answer: BC

12. Which four attributes must be considered when designing a secure IP telephony solution? (Choose four.)

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- A. protection of voice at Layer 2
  - B. placement of application layer gateways
  - C. number and sizing of output queue thresholds
  - D. stateful inspection of all packets on the corporate intranet
  - E. creation and assignment of VLANs and broadcast domains
  - F. implementation of packet filters and the establishment of firewalls

Answer: ABEF

13. Which three technologies will allow you to design a solution for protecting voice at Layer 2? (Choose three.)

- A. internal VPNs
- B. IP source guard
- C. DHCP snooping
- D. RFC 1918 addressing
- E. secure ARP detection
- F. locally administered MAC addresses

Answer: BCE

14. Which four methods can be used to protect IP phones? (Choose four.)

- A. Use a firewall with the Cisco Unified Communications Manager cluster to prevent attacks from inside and outside the organization.
- B. Dedicate a TFTP server for each voice network segment.
- C. Prevent/Restrict/Disable GARP.
- D. Disable the Settings button.
- E. Disable the PC port.
- F. Use signed loads.

Answer: CDEF

15. The Network and Telecom managers are concerned about voice and critical data traffic overwhelming

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the IP WAN circuit and causing unacceptable delays and poor call quality. Which Call Admission Control mechanism should you plan to deploy for this deployment?

- A. RSVP
- B. Locations
- C. Regions
- D. Gatekeeper-based trunks
- E. MPLS with RSVP

Answer: B

16. With the integration of Best into Ajax, the traffic patterns in both of the companies have changed, including the traffic over the WAN. The new traffic patterns dictate that a T1 circuit is needed. You calculate that data will consume 60% of the available L3 bandwidth on the T1 circuit. Using best practices, what is the maximum number of voice calls that should be placed between Redmond and the HQ campus without using header compression?

- A. 9
- B. 17
- C. 19
- D. 23
- E. 26
- F. 32
- G. 35

Answer: C

17. Which problem occurs if a user from the remote facility located in Redmond is temporarily assigned to the Ajax Headquarters site, the user takes their IP phone and uses it there, and device mobility is not enabled?

- A. Every internal call placed by the user will cross the WAN to the Redmond gateway to be routed correctly.
- B. Every call received by the user will first traverse the WAN link and be rerouted by the Redmond

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gateway.

C. Every on-net call placed by the user will reduce the available WAN voice bandwidth, except calls to Redmond.

D. There is no problem. The phone will register with the same Cisco Unified Communications Manager subscriber as before and operate correctly.

Answer: C

18. There may be times when the IP WAN is out of capacity. What Cisco Unified Communications Manager technology should be deployed so that calls will not cross the WAN when the WAN is at full capacity?

A. AAR

B. ARC

C. CAC

D. NEHO

E. TEHO

Answer: C

19. There may be times when the IP WAN is out of capacity. What Cisco Unified Communications Manager technology should be deployed so that calls can be completed when the WAN is at full capacity?

A. AAR

B. ARC

C. CAC

D. NEHO

E. TEHO

Answer: A

20. In the centralized call processing model, what is a disadvantage of using the traditional approach for building classes of service (as compared to the line/device approach)?

A. The minimum number of partitions = (number of classes of service) + (number of sites) + (1 partition for

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all IP phone DNs)

B. The maximum number of calling search spaces = (number of classes of service) + (number of sites)

C. The minimum number of partitions = (number of classes of service) \* (number of sites) + (1 partition for all IP phone DNs)

D. The maximum number of calling search spaces = (number of classes of service) \* (number of sites)

Answer: C

21. A route pattern exists in partition "Site1\_Local" and an identical route pattern exists in partition "HQ\_Local". A calling search space containing "Site1\_Local" is assigned to an IP phone, and a calling search space containing "HQ\_Local" is assigned to a line on that phone. How does Cisco Unified Communications Manager determine which route pattern to use?

A. It uses only the CSS associated with the line.

B. It uses only the CSS associated with the device.

C. It does a logical OR of the partitions in the two CSSs and searches for the longest match.

D. It concatenates the two CSSs and gives priority to partitions in the CSS assigned to the line.

E. It concatenates the two CSSs and gives priority to partitions in the CSS assigned to the device.

Answer: D

22. Ajax Auto Components and Jake's Brakes have merged. Their two Cisco Unified Communications Manager systems have been connected by a gatekeeper-controlled intercluster trunk. To dial internally they both use an access code with a two-digit site code followed by a four-digit extension. How should the dial plan be designed for calls dialed from Ajax to a DN at Jake's?

A. Use a fully qualified E.164 address and send it to the gateway for resolution.

B. Send the two-digit site code and four-digit extension to the gatekeeper for resolution.

C. Use a different access code than used for on-net dialing and create a translation pattern to reach the DN at Jake's.

D. Deploy a new route group that use E.164 addresses and the IP WAN as the primary path and the PSTN if the IP WAN is busy.

Answer: B

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23. Jake's Brakes is using an H.225 gatekeeper-controlled trunk between a Cisco Unified Communications Manager cluster and a gateway. When designing the security component for the Cisco Unified Communications Manager clusters, what two things can happen if you use a firewall between a Cisco Unified Communications Manager cluster and the voice and data VLANs? (Choose two.)

- A. clipping of the voice stream
- B. call setup failure
- C. one-way audio
- D. choppy audio
- E. echo

Answer: BC

24. Ajax has deployed a firewall between their internal network and the Internet. All traffic to the Internet will pass through the firewall. For a single-site, centralized or distributed call processing model, what needs to be done to the Unified Communications infrastructure to ensure that the Cisco Unified Communications solution is in compliance with the Ajax security policy?

- A. Deploy stateful inspection of all RTP packets in the firewall.
- B. Design a VPN tunnel solution through the firewall to the ISP.
- C. Design a dynamic VPN solution between the firewall and the ISP.
- D. Deploy the firewall fixup so that RTP streams will pass through the firewall properly.
- E. Nothing needs to be done; no voice traffic will go out to the Internet.

Answer: E

25. The Ajax security policy states that all endpoint devices should minimize the chance of traffic interception. To cover this point, which three things should be done in the design of the Cisco Unified Communication solution for Ajax? (Choose three.)

- A. Deploy SRTP.
- B. Have each IP phone authenticate with the Cisco Unified Communications Manager cluster.
- C. Encrypt all voice control traffic.

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D. Disable the settings button on all phones that are in lobbies, break areas, or where there is no user assigned.

E. Disable web access to all IP phones.

F. Use SSH for communication to all Cisco Unified Communications Manager servers.

Answer: ABC

26. Ajax Auto Components manufactures automobile parts for the service and retail markets. The Ajax corporate campus is located north of Atlanta, Georgia. Ajax is presently using an Avaya PBX for its campus phone system that uses DCS signaling. The PBX cannot support all the new features that Ajax requires, so the company has decided to change its system from traditional TDM to IP telephony. The campus currently has 942 employees in three two-story office buildings, a single story R&D facility, and a manufacturing building. The five buildings are all connected via an FDDI ring. The campus is divided by County Line Road, which is the actual division between Fulton and Cobb counties. The office buildings are located on the east side of County Line Road, in Fulton County; the R&D building and manufacturing plant are located on the west side County Line Road in Cobb County.

It will be your job to help the company migrate from the traditional PBX system to a Cisco Unified Communications Manager system on a converged voice and data network.

You are investigating the network at Ajax as the first step in designing a converged network. In a meeting with the telephony services manager and the data network manager, which two questions would you ask to obtain the information needed for the design of the IP telephony network? (Choose two.)

A. Who is responsible for moving telephones within Ajax?

B. What network access method and topology is deployed?

C. What Class of Service is deployed in the existing network?

D. How many ports are available on QoS-enabled access layer switches?

E. Can additional servers or additional domains be added to the existing Ajax domain?

Answer: BD

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Which three other pieces of information would you need to obtain from Ajax to assist you in the design of an IP telephony solution? (Choose three.)

- A. if RFC 1918 addressing is in use
- B. the number of phones that have DID
- C. what type of dialing plan is deployed at Ajax
- D. the bandwidth available to connect to the Internet
- E. the number of servers supporting the R&D facility
- F. the measures Ajax has implemented to secure the network
- G. which group of users contributes the most data traffic to the network
- H. if there are any high use groups or high bandwidth applications, such as CTI

Answer: BCH

28. Ajax Auto Components manufactures automobile parts for the service and retail markets. The Ajax corporate campus is located north of Atlanta, Georgia. Ajax is presently using an Avaya PBX for its campus phone system that uses DCS signaling. The PBX cannot support all the new features that Ajax requires, so the company has decided to change its system from traditional TDM to IP telephony. The campus currently has 942 employees in three two-story office buildings, a single story R&D facility, and a manufacturing building. The five buildings are all connected via an FDDI ring. The campus is divided by County Line Road, which is the actual division between Fulton and Cobb counties. The office buildings are located on the east side of County Line Road, in Fulton County; the R&D building and manufacturing

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Which four issues are related to the physical placement of network hardware? (Choose four.)

- A. physical security
- B. adequate lighting
- C. adequate rack space
- D. a dust-free environment
- E. sufficient equipment cooling
- F. access to building distribution cabling

Answer: ACEF

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Which two questions need to be answered about each network closet to insure that physical network devices can be deployed successfully? (Choose two.)

- A. Does Ajax have an office numbering scheme?
- B. Is enough electrical power available for each network closet?
- C. Is each cable run to the closet within the maximum distance specification?
- D. Are there any extra cable runs pulled to each office that are not terminated?

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E. Are the IDF's stacked on top of each other or are they offset in each building?

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

Answer: BC

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Due to business considerations, Ajax has chosen to do a phased implementation. While the migration is taking place, the existing PBX needs to coexist with the new Cisco Unified Communications Manager.

Which three statements are true regarding a phased migration? (Choose three.)

A. You must consider maintaining the integrity of call pick-up groups, hunt groups, and shared lines.

B. There are no number-plan overlap considerations between the PBX and the Cisco Unified Communications solution.

C. A phased migration provides a parallel system that allows the users to revert to the PBX if something unexpected occurs.

D. The level of feature transparency between the existing PBX and the Cisco Unified Communications Manager is determined by the signaling protocol used.

E. The phased cut-over allows for the verification of the IP telephony database configuration before the system carries live PSTN traffic.

F. The additional time added to the project plan to deploy using the phased approach is offset by the user's ability to explore and learn the new system prior to the cut-over.

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Answer: ABD