ATMIC NETWORKS
YOUR GUIDE TO GLOBAL CERTIFIATION

"Please note that these files may not be up to date. However, the questions will help you understand the exam format and typical question patterns."

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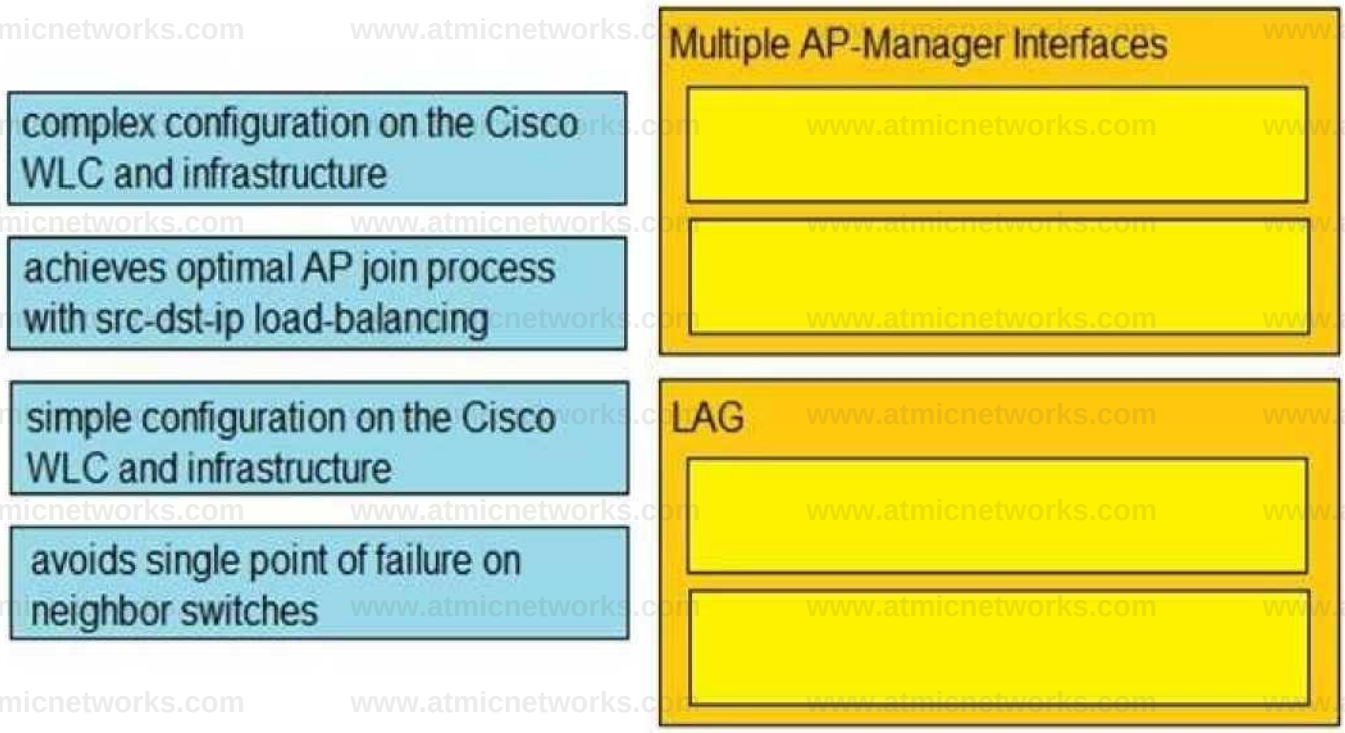
Question: 1

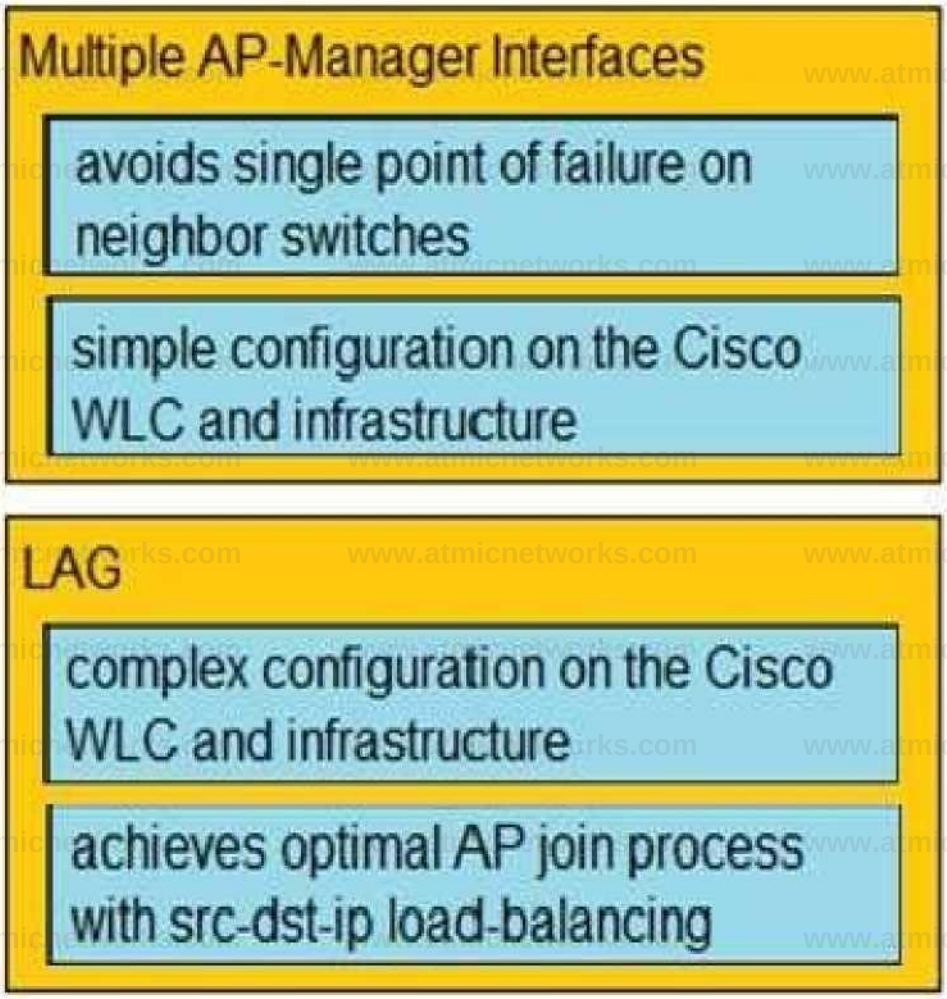
DRAG DROP

Drag and drop the characteristics from the left onto the correct functionalities on the right.



Answer:

Explanation:



https://www.cisco.com/c/en/us/td/docs/wireless/controller/7-4/configuration/guides/consolidated/b_cg74_CONSOLIDATED/b_cg74_CONSOLIDATED_chapter_010100001.html

Question: 2

Which UDP port numbers are used for exchange mobility packets in an AireOS wireless deployment?

A. UDP 16666 for control plane, EoIP (IP protocol 97) for data plane

B. UDP 16668 for control plane, UDP 16667 for data plane

C. UDP 16667 for control plane, UDP 16666 for data plane

D. UDP 16666 for control plane, UDP 16667 for data plane

Answer: A

Explanation:

* Enable these UDP ports for Mobility traffic

• 16666 - Secured Mode

* 16667 - Unsecured Mode

Question: 3

A customer asks an engineer to explain the concept of mobility domains and mobility groups. Which statement does the engineer respond with?

A. A mobility group does not constrain the distribution of security context of a client and also does not constrain AP fail-over between controllers when the WLC are in the same mobility domain.

B. If WLCs are in the same mobility domain, they communicate with each other but, if an anchor WLC is present it must be in the same mobility domain for communication to be possible.

C. If WLCs are in the same mobility domain, they communicate with each other. Mobility groups constrain the distribution of security context of a client and also constrain AP fail-over between controllers.

D. WLCs do not need to be in the same mobility domain to communicate with each other. Mobility groups constrain the distribution of security context of a client and also constrain AP fail-over between controllers.

Answer: C

Explanation:

Mobility domains and mobility groups are concepts used in Cisco wireless networking to manage client roaming and controller interaction. When Wireless LAN Controllers (WLCs) are part of the same mobility domain, they share a common database, allowing them to communicate and facilitate seamless client roaming. A mobility group is a subset of this domain, where specific WLCs work together more closely to share client context and security credentials. This ensures that when a client roams from one access point (AP) to another across different controllers, the authentication and security context are maintained, allowing for a seamless transition without the need to reauthenticate. The mobility group also manages AP fail-over between controllers, ensuring clients can maintain their connections even if their current AP fails or becomes unreachable.

https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-0/configuration-guide/b_cg80/b_cg80_chapter_010011.html

Question: 4

An engineer is designing a wireless deployment for a university auditorium. Which two features can be used to help deal with the issues introduced by high AP count? (Choose two.)

A. TSPEC

B. RXSOP

C. TPC

D. LSS

E. DFS

Answer: B,C

Explanation:

RXSOP (Receive Start of Packet Detection Threshold) and TPC (Transmit Power Control) are two features that can help manage the challenges associated with a high AP (Access Point) count in a dense environment like a university auditorium. RXSOP can be adjusted to refine how APs differentiate between noise and valid packets, which is particularly useful in high-density areas where multiple APs might otherwise respond to the same signal. TPC helps in managing the transmit power of APs, allowing for better coverage and reduced interference among APs that are in close proximity to each other. Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD 300-425)

https://www.cisco.com/c/en/us/support/docs/wireless-mobility/80211/200069-Overview-on-802- 11h-Transmit-Power-Cont.html

Question: 5

A wireless engineer is designing a wireless network to support real-time applications over wireless. Which IEEE protocol must the engineer enables on the WLC so that the number of packets that are exchanged between an access point and client are reduced and fast roaming occurs?

A. 802.11w

B. 802.11r

C. 802.11i

D. 802.11k

Answer: B

Explanation:

The IEEE 802.11r protocol, also known as Fast BSS Transition (FT), is designed to support real-time applications by enabling faster roaming between APs. This protocol reduces the number of packets exchanged during the reauthentication process when a client moves from one AP to another, thus ensuring a more seamless transition and maintaining the quality of service required by real-time applications such as voice and video conferencing. Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD 300-425)

802 11 r reduces the number of packets that are exchanged between the client and an AP. The client preauthenticates to the AP it will roam to before actually roaming This means the roam itself occurs faster because the AP already has the client authentication credentials cached, resulting in fewer packets required between the client and the AP.

Question: 6

A network administrator of a global organization is collapsing all controllers to a single cluster located in central Europe. Which concern must addressed?

A. Some channels may not be available consistently across the organization.

B. Different RF policies per office are not available in this configuration.

C. Syslog must be configured to the time-zone of the NMS platform.

D. Centralized controllers cannot uniformly authenticate global users.

Answer: A

Explanation:

When collapsing all controllers to a single cluster in a central location, one must consider the availability of channels across different regions. Regulatory domains vary globally, and certain channels allowed in Europe may not be available or legal in other parts of the world. This can affect the consistency of wireless coverage and performance.

https://www.cisco.com/c/en/us/td/docs/wireless/controller/technotes/86/b_Cisco_Wireless_LAN_Controller_Configuration_Best_Practices.html

Question: 7

An engineer must ensure that the new wireless LAN deployment can support seamless roaming between access points using a standard based on an amendment to the 802.11 protocol. Which protocol must the engineer selects?

A. 802.11i

B. 802.11ac

C. 802.11r

D. 802.11e

Answer: C

Explanation:

For seamless roaming between access points, the protocol that supports fast transitions is 802.11r.
This amendment to the 802.11 standard allows devices to roam quickly by establishing security credentials before moving to the next access point, reducing the time required for reauthentication.

Question: 8

A high-density wireless network is designed. Which Cisco WLC configuration setting must be incorporated in the design to encourage clients to use the 5 GHz spectrum?

A. Band Select

B. RRM

C. Cisco Centralized Key Management

D. load balancing

Answer: A

Explanation:

: Band Select is a feature on Cisco Wireless LAN Controllers (WLC) that encourages dual-band wireless clients to connect to the less congested 5 GHz band. This helps to balance the client load between 2.4 GHz and 5 GHz and improve overall network performance in high-density environments.

Reference: Look for information on 'Band Select' in the official Cisco ENWLSD 300-425 certification guide.

Question: 9

A network engineer is preparing for an office site survey with a height of 2.5 meters. Which three components are recommended to complete the survey? (Choose three.)

A. Use a battery pack to power APs

B. Use a drawing of the office space to draw AP and client placements.

C. Use DoS attack on APs while measuring the throughput.

D. Use APs with directional antennas.

E. Use APs with external antennas.

F. Use APs with built-in antennas.

Answer: A,B,F

Explanation:

For an effective office site survey, it's recommended to: A. Use a battery pack to power APs - This allows for mobility and testing in various locations without relying on fixed power sources. B. Use a drawing of the office space to mark AP and client placements - This helps in planning the optimal locations for AP installation. F. Use APs with built-in antennas - They are commonly used for site surveys as they represent the typical deployment scenario.

Reference: The official Cisco ENWLSD 300-425 certification guide will have more details on conducting site surveys.

https://www.cisco.com/c/en/us/td/docs/wireless/technology/mesh/8-4/b_mesh_84/Site_Preparation_and_Planning.html#ID3405

Question: 10

A wireless engineer must optimize RF performance for multiple buildings with multiple types of construction and user density. Which two actions must be taken? (Choose two.)

A. Configure Flexconnect groups for each building.

B. Configure WMM profiles for each building.

C. Configure AP groups for each area type.

D. Configure RF profiles for each area type.

E. Enable DTPC on the network.

Answer: C,D

Explanation:

To optimize RF performance across different buildings and user densities: C. Configure AP groups for each area type - This allows for customized settings for APs serving different areas. D. Configure RF profiles for each area type - RF profiles enable the customization of RF parameters to suit the specific needs of each building or area type.

Reference: The official Cisco ENWLSD 300-425 certification guide will provide more information on RF optimization strategies.

https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-10/config-guide/b_cg810/configuring_ap_groups.html

Question: 11

A wireless engineer is hired to design a network for a technology company. The company campus has four buildings and a warehouse with access points that provide full wireless coverage as well as a pair of WLCs located in the core of the network.

Which type of wireless architecture is being used?

A. unified deployment

B. autonomous deployment

C. centralized deployment

D. distributed deployment

Answer: C

Explanation:

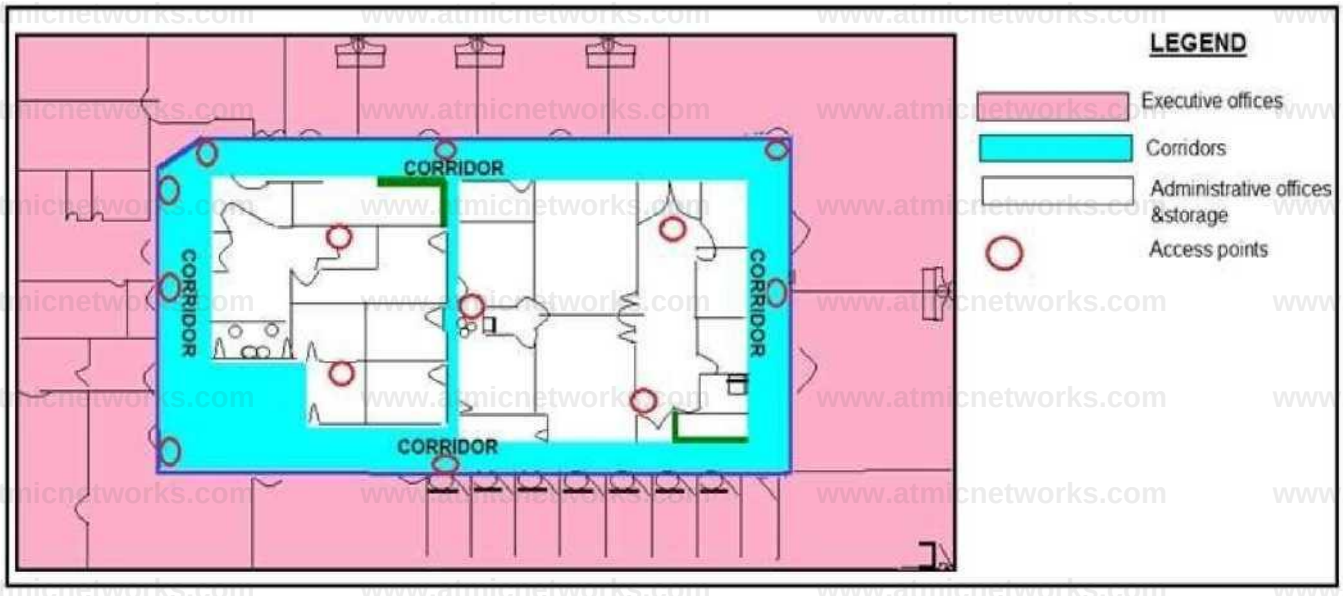
The wireless architecture described is a centralized deployment. This is characterized by access points distributed across multiple buildings and managed centrally by Wireless LAN Controllers (WLCs). Centralized deployments are common in larger environments like a technology company campus because they allow for centralized management, scalability, and advanced features such as load balancing and fault tolerance.

Reference:

CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice Tests

Question: 12

Refer to the exhibit.



What is the main reason why the Wi-Fi design engineer took a different approach than installing the APs in the offices, even though that installation provides better coverage?

A. aesthetics

B. transmit power considerations

C. antenna gain

D. power supply considerations

Answer: B

Explanation:

The decision to avoid installing APs directly in offices is likely due to transmit power considerations. Placing APs within offices could lead to excessive coverage for small areas, causing interference with other APs and reducing overall network performance. By placing them in common areas like corridors, engineers can ensure more uniform coverage across larger spaces while managing transmit power more effectively for optimal performance.

Reference:

CCNP Enterprise Wireless Design ENWLSD 300-425 Official Cert Guide

https://www.cisco.com/en/US/docs/solutions/Enterprise/Mobility/emob30dg/RFDesign.html#wp10 00551

Question: 13

Where must the APs be mounted when used in a high-density wireless network to provide 6 dB to 20 dB of attenuation to a cell?

A. in the aisle

B. under the seat

C. above the stage

D. under the stage

Answer: B

Explanation:

In high-density environments, such as stadiums or auditoriums, APs are often mounted under the seats to provide a controlled cell size with attenuation. This placement helps to manage the RF environment by providing attenuation of 6 dB to

20 dB, which can reduce co-channel interference and improve the user experience by ensuring a strong signal and minimizing noise from other cells.

Question: 14

A company wants to replace its existing PBX system with a new VoIP System that will include wireless IP phones. The CIO has concerns about whether the company's existing wireless network can support the new system. Which tool in Cisco Prime can help ensure that the current network will support the new phone system?

A. Location Readiness

B. Site Calibration

C. Map Editor

D. Voice Readiness

Answer: D

Explanation:

The Voice Readiness tool within Cisco Prime Infrastructure is designed to assess the wireless network's ability to support voice services, including VoIP. It evaluates various factors such as signal strength, noise levels, and coverage to ensure that the wireless network can handle the quality of service requirements needed for voice communications.

The VoWLAN Readiness (voice readiness) tool allows you to check the RF coverage to determine if it is sufficient for your voice needs

Question: 15

A rapidly expanding company has tasked their network engineer with wirelessly connecting a new cubicle area with Cisco workgroup bridges until the wired network is complete. Each of 42 new users has a computer and VoIP phone. How many APs for workgroup bridging must be ordered to keep cost at a minimum while connecting all devices?

A. 4

B. 5

C. 6

D. 7

Answer: C

Explanation:

Cisco workgroup bridges typically support up to 8 wired clients. With 42 users, each having a computer and a VoIP phone, that's a total of 84 devices. To connect all devices while keeping costs at a minimum, the company would need 6 APs

(as 7 x 12 = 84), with each AP supporting 14 devices (7 computers and 7 VoIP phones).

- **Number of 802.11b devices perAP: Cisco recommends that you have no more than 15 to 25**

So, each AP will have 25 clients. Minimum 4 APs are sufficient.

Question: 16

Which two considerations must a network engineer have when planning for voice over wireless roaming? (Choose two.)

A. Full reauthentication introduces gaps in a voice conversation.

B. Roaming time increases when using 802.1x + Cisco Centralized Key Management.

C. Roaming occurs when the phone has seen at least four APs.

D. Roaming occurs when the phone has reached -80 dBs or below.

E. Roaming with only 802.1x authentication requires full reauthentication.

Answer: A,E

Explanation:

Voice over wireless roaming is sensitive to delays and interruptions. Full reauthentication, as mentioned in option A, can cause noticeable gaps in a voice conversation because it requires time to re-establish security credentials. This process can interrupt the seamless experience expected in voice communications. Option E is also correct because roaming with only 802.1x authentication indeed requires full reauthentication, which can introduce significant delays affecting voice quality. Reference: For more detailed information, refer to the CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide.

https://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Mobility/vowlan/41dg/vowlan41dg-book/vowlan_ch5.html

Question: 17

An engineer is designing a wireless network that will support many different types of wireless clients. When conducting the survey, which client must be used to ensure a consistent experience for all of the wireless clients?

A. the client that has the highest RF properties

B. the client that is used most by the company

C. the client that is used least by the company

D. the client with the worst RF characteristics

Answer: D

Explanation:

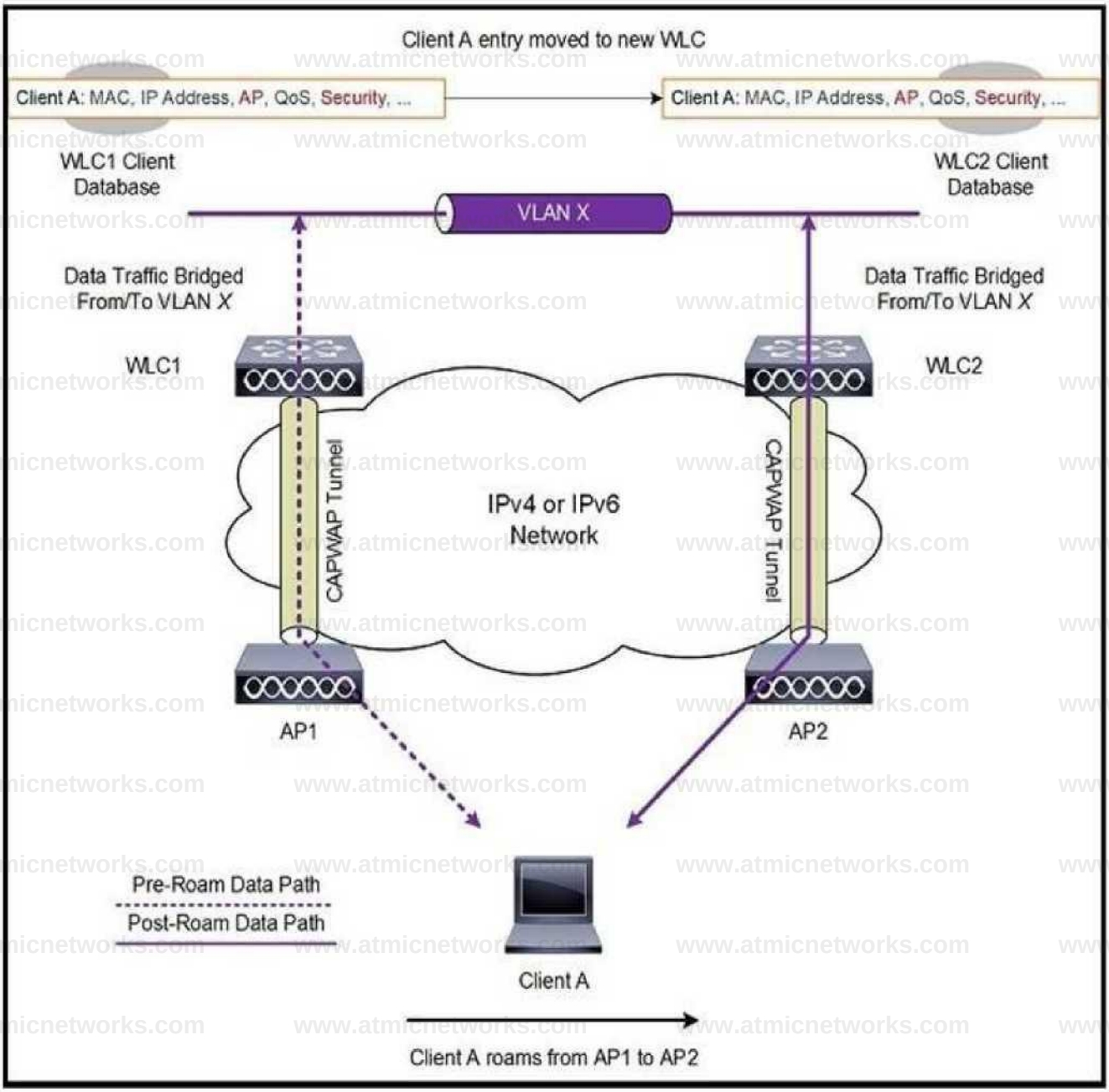
When designing a wireless network for diverse clients, it's crucial to ensure that the network will be reliable for all users. Therefore, surveys should be conducted with the client that has the worst RF

characteristics, as indicated in option D. This approach ensures that the network is designed to support even the weakest client, thereby providing a consistent experience for all users.

https://documentation.meraki.com/MR/WiFi_Basics_and_Best_Practices/Conducting_Site_Surveys with_MR_Access_Points

Question: 18

Refer to the exhibit.



A client roams between two APs that are registered to two different controllers, where

each controller has an interface in the client subnet. Both controllers are running AireOS. Which scenario explains the

client roaming behavior?

A. Controllers exchange mobility control messages (over UDP port 16666) and the client database entry is moved from the original controller to the new controller.

B. Controllers do not exchange mobility control messages (over UDP port 16666) andthe client database, entry is not moved from the original controller to the newcontroller.

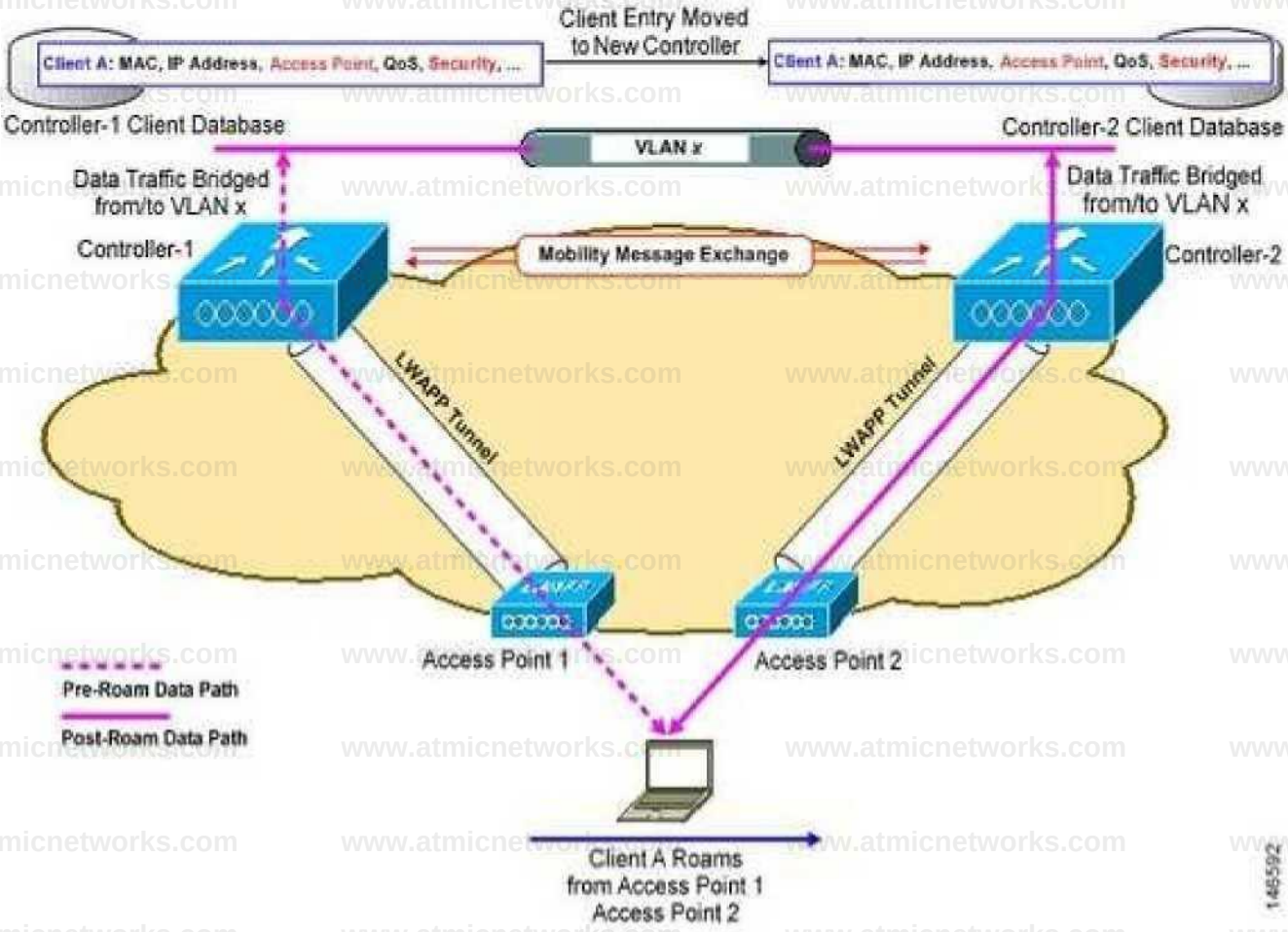
C. Controllers exchange mobility control messages (over UDP port 16666) and a new client session is started with the new controller.

D. Controllers exchange mobility control messages (over UDP port 16666) and the client database entry is tunneled from the original controller to the new controller.

Answer: A

Explanation:

When a client roams between two access points (APs) that are registered to different controllers with interfaces in the same client subnet, the controllers will exchange mobility control messages over UDP port 16666. This is in accordance with the Designing Cisco Enterprise Wireless Networks (ENWLSD) guidelines. The purpose of these messages is to ensure seamless roaming, where the client's session and authentication state are transferred from one controller to another without requiring re-authentication or re-association by the client. The mobility control messages facilitate the coordinated transfer of the client database entry from the original controller to the new one, maintaining a consistent experience for the user.



In this instance controllers exchange mobility control messages (over UDP port 16666) and the client database entry is moved from the original controller to the new controller.

Question: 19

An engineer has performed a predictive site survey for high-speed data and voice in an indoor office.
What is the recommended data rate with -67 dBm signal level for optimal VoWLAN design?

A. 6 Mbps on 802.11 bgn

B. 24 Mbps on 802.11 bgn

C. 12 Mbps on 802.11 an

D. 24 Mbps on 802.11 an

Answer: D

Explanation:

For optimal Voice over WLAN (VoWLAN) design, a higher data rate is preferred to ensure quality of service and reliability. -67

dBm is a commonly recommended signal level for VoWLAN, and 802.11an, which operates in the 5 GHz band, is capable of supporting higher data rates compared to 802.11bgn, which operates in the 2.4 GHz band. The 5 GHz band is less crowded and prone to interference, making it suitable for high-speed data and voice applications.

Question: 20

An engineer has configured guest anchoring for a newly created SSD however, the mobility tunnels are not up, and EPING is failing from the foreign WLC to the anchor WLC. Which traffic flow must be allowed at the firewall to enable the communication?

A. UDP port 16666

B. IP protocol 97

C. UDP port 97

D. TCP port 97

Answer: A

Explanation:

Mobility tunnels between Cisco Wireless LAN Controllers (WLCs) use UDP port 16666 for control messages and UDP port 16667 for data traffic. If EPING is failing, it indicates that the necessary ports are not open. Allowing UDP port 16666 through the firewall would enable the control messages required for establishing the mobility tunnels.

Question: 21

Which statement about creating a mobility group is true, excluding mobility anchors?

A. Each WLC must use the same mobility name and be defined as a peer in each other's static mobility members list.

B. If WLCs with HA SSO are deployed, each WLC in the WLC HA pair considered separately as a mobility peer.

C. The WLCs do not have to be of the same model or type to be a member of a mobility group, however each member should be running different software versions.

D. A mobility groups does not require all WLCs in the group to use the same virtual IP address.

Answer: A

Explanation:

Creating a mobility group requires that all Wireless LAN Controllers (WLCs) share the same mobility group name. This allows them to recognize each other as peers and participate in client mobility events. The WLCs must be defined as peers in each other's static mobility members list to facilitate inter-controller communication and roaming.

Question: 22

A wireless network consultant must assess an existing wireless LAN controller. Which section must the consultant check before replacing the old APs with APs that are IEEE 802.11ac-capable?

A. number of AP licenses

B. controller PSU

C. throughput capacity

D. software version

Answer: D

Explanation:

Before replacing old APs with IEEE 802.11ac-capable APs, it is crucial to check the software version of the wireless LAN controller. The controller's firmware must support the newer standards and capabilities of 802.11ac APs. An outdated software version may not support the advanced features and performance enhancements offered by 802.11ac technology, leading to compatibility issues and suboptimal network performance.

Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice.

Question: 23

A customer is concerned about mesh backhaul link security. Which level of encryption does the backhaul link use?

A. hash

B. AES

C. WEP

D. 3DES

Answer: B

Explanation:

The mesh backhaul link uses Advanced Encryption Standard (AES) for encryption. AES is a robust encryption standard that is widely used in various security protocols, including WPA2 and WPA3, to provide a high level of security for wireless communications. It ensures that the data transmitted over the mesh backhaul link is protected against unauthorized access and eavesdropping.

Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice.

In a Cisco wireless backhaul network, traffic can be bridged between MAPs and RAPs. This traffic can be from wired devices that are being bridged by the wireless mesh or CAPWAP traffic from the mesh access points. This traffic is always AES encrypted when it crosses a wireless mesh link such as a wireless backhaul

Question: 24

Clustering Cisco WLCs into a single RF group enables the RRM algorithms to scale beyond the capabilities of a single Cisco WLC. How many WLC and APs in an RF group can the controller software scale up to in WLC release 8.9 depending on the platform?

A. up to 20 WLCs and 1000 APs

B. up to 20 WLCs and 3000 APs

C. up to 20 WLCs and 4000 APs

D. up to 20 WLCs and 6000 APs

Answer: B

Explanation:

In Cisco WLC release 8.9, the controller software can scale up to 20 WLCs and 3000 APs within a single RF group. This capability allows the Radio Resource Management (RRM) algorithms to function effectively across a larger network, optimizing the wireless experience by managing the RF environment and resources across multiple controllers and access points.

Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice.

Question: 25

An engineer must create data link redundancy for the company's Cisco Wireless LAN controller. The engineer has decided to configure LAG-based redundancy instead of port-based redundancy. Which three features of LAG-based redundancy influenced this decision? (Choose three.)

A. Packets are always sent out on the same port they are received on.

B. All interface traffic passes as long as one port is up.

C. The same port has multiple untagged dynamic interfaces.

D. Interface connection to two separate nonstacked switches is available.

E. Full bandwidth of all links is available.

F. Ports are grouped into multiple LAGs.

Answer: B, D E

Explanation:

The decision to configure LAG-based redundancy is influenced by the following features:

B . All interface traffic passes as long as one port is up: This ensures that the wireless LAN controller can continue to operate and manage traffic as long as at least one port in the LAG is functioning, providing a robust failover solution1.

D . Interface connection to two separate nonstacked switches is available: LAG allows for connections to multiple switches, which can provide redundancy and higher availability compared to single switch connections1.

E . Full bandwidth of all links is available: With LAG, the combined bandwidth of all active ports is available, enhancing the throughput capabilities of the wireless LAN controller1.

Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice.

Question: 26

An engineer must speed up the reauthentication delays that are being experienced on the wireless infrastructure by deploying a key-caching mechanism. Which mechanism must be configured?

A. PEAP

B. FT

C. PMF

D. GTK-randomization

Answer: B

Explanation:

Fast Transition (FT), also known as IEEE 802.11r, is the key-caching mechanism that must be configured to speed up the reauthentication delays on the wireless infrastructure. FT allows for rapid re-authentication when roaming between access points, reducing the time required for reestablishing security keys and thus speeding up the overall process2.

Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice.

Question: 27

A customer is running a guest WLAN with a foreign/export-anchor setup. There is one anchor WLC in the US and two in Europe. Anchor WLC priorities are used to prefer local anchors. During a routine network audit, it is discovered that a large number of guest client sessions in the US are anchored to the WLCs in Europe. Which reason explains this behavior?

A. The foreign WLC failed and recovered.

B. The US anchor WLC failed and recovered.

C. The US anchor WLC is anchored to itself with a priority value of zero.

D. The anchor WLC is in the same mobility group.

Answer: B

Explanation:

The behavior of guest client sessions in the US being anchored to the WLCs in Europe despite the presence of a local anchor WLC can be explained by the failure and subsequent recovery of the US anchor WLC. During the failure, the guest sessions would have been transferred to the European WLCs. After recovery, if the priority settings were not correctly restored or if the system did not automatically revert back to the local anchor, the sessions would remain anchored to the European WLCs3.

Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice.

Question: 28

Which non-Wi-Fi interferer can be identified by Metageek Chanalyzer?

A. PDAs

B. jammers

C. smartphones

D. printers

Answer: B

Explanation:

Jammers are non-Wi-Fi interferers that can be identified by Metageek Chanalyzer. They intentionally disrupt wireless communications by emitting radio frequencies that interfere with Wi-Fi signals.

Chanalyzer is designed to detect such patterns of interference.

https://www.metageek.com/training/resources/wifi-and-non-wifi-interference

Question: 29

Which statement about the 9800 Series Wireless Controller mobility tunnel on a Cisco Catalyst 9800 controller is true?

A. It is an IPsec tunnel with control path only.

B. It is a CAPWAP tunnel with data path only.

C. It is a CAPWAP tunnel with control path and data path.

D. It is an IPsec tunnel with control path and data path.

Answer: C

Explanation:

The 9800 Series Wireless Controller uses CAPWAP tunnels to encapsulate and transport both control and data traffic between access points and the controller. This allows for centralized management
and control while also enabling efficient data forwarding.

https://www.cisco.com/c/en/us/td/docs/wireless/controller/9800/config-guide/b_wl_16_10_cg/mobility.html

Question: 30

An engineer has successfully configured high availability and SSO using two Cisco 5508 Wireless LAN Controllers. The engineer can access the Active Primary WLC, but the Secondary Standby WLC is not accessible. Which two methods allow access to the standby unit? (Choose two.)

A. via the console connection

B. SSH to the redundancy management interface of the primary WLC

C. SSH to the service port interface

D. SSH to the virtual interface of the secondary WLC

E. SSH to the management interface of the primary WLC

Answer: A,C

Explanation:

In a high availability setup with Cisco 5508 Wireless LAN Controllers, the standby controller can be accessed via the console connection and the service port interface. The console provides direct access, while the service port interface allows for network-based access to the standby unit for management purposes.

Once SSO is enabled, the Standby WLC can be accessed via console connection or via S3? on the service port and on the redundant management interface

Question: 31

As part of a wireless site survey in a hospital, an engineer needs to identify potential Layer 1 interferers. In which two areas is the engineer most likely to find sources of 2.4 GHz and 5 GHz RF noise? (Choose two.)

A. magnetic resonance imaging

B. kitchen

C. Gamma Knife radiation treatment

D. X-ray radiography

E. patient room

Answer: B, D

Explanation:

In a hospital setting, the kitchen is a common source of 2.4 GHz RF noise due to the use of microwave ovens which operate on the same frequency. X-ray radiography equipment, while primarily using higher frequency ranges, can also contribute to RF noise in both the 2.4 GHz and 5 GHz bands due to electronic components and shielding inefficiencies.
Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide.

https://www.ciscopress.com/articles/article.asp?p=2351131&seqNum=2

Question: 32

What is the recommended cell overlap when designing a wireless network for Cisco Hyperlocation?

A. 20%

B. 30%

C. 40%

D. 50%

Answer: D

Explanation:

Cisco Hyperlocation requires a high degree of accuracy in client location tracking. A recommended cell overlap of 50% ensures that client devices are consistently within the range of multiple access points, which improves location accuracy and reliability. Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide.

Question: 33

An engineer must create data-link redundancy for the company's Cisco Wireless LAN Controller. The engineer has decided to configure LAG-based redundancy instead of port-based redundancy. Which three features of LAG-based redundancy influenced this decision? (Choose three.)

A. Packets are always sent out on the same port they are received on.

B. All interface traffic passes as long as one port is up.

C. The same port has multiple untagged dynamics interfaces.

D. Interface connection to two separate nonstacked switches is available.

E. Full bandwidth of all links is available.

F. Ports are grouped into multiple LAGs.

Answer: B, E, F

Explanation:

LAG-based redundancy is chosen for its ability to provide continuous connectivity as long as one port in the LAG is operational (B), utilize the full bandwidth capacity of all the links in the LAG (E), and allow for the grouping of ports into multiple LAGs for increased redundancy and bandwidth (F). Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300430 Official Cert Guide.

Question: 34

An engineer is performing a predictive wireless design for a medical treatment environment, which requires data and voice services. What is the minimum requirement for the design?

A. overlapping -72 dBm coverage from two access points

B. continuous -67 dBm coverage from one access point

C. continuous -72 dBm coverage from one access point

D. overlapping -67 dBm coverage from two access points

Answer: B

Explanation:

In a medical treatment environment where both data and voice services are required, continuous coverage of -67 dBm from one access point is the minimum requirement. This ensures that there is sufficient signal strength for reliable voice communication, which is critical in medical settings. The - 67 dBm threshold is commonly recommended for voice applications to ensure call quality and reliability.

ST The TX power of 17 dBi is 50mW. What you see on your laptop of a -20 dBm is a good signal. Cisco's recomendation for data is a max of -72 dBm and for voice it is -65dBm. You will notice this when you start walking away from your AR So if you are planning on adding another ap, you would want your coverage to be bordering eithe -72 dBm or -65 dBm.

So -67dBm covers both Data & Voice with a single AP

Question: 35

A wireless engineer is designing a wireless network for a warehouse using access points with internal antennas. Which two elements have a negative effect on the wireless users? (Choose two.)

A. wireless channels

B. access point height

C. client authentication

D. client authorization

E. absorption

Answer: B,E

Explanation:

In a warehouse setting, the height at which access points are installed can significantly impact the wireless signal. If the access points are placed too high, the signal may not adequately reach the users. Additionally, absorption by materials commonly found in warehouses, such as metal racks and goods, can weaken the wireless signal, negatively affecting the users.

https://www.cisco.com/c/en/us/products/collateral/wireless/aironet-1250-series/design_guide_c07-693245.html#_Toc309331086

Question: 36

Which statement about AP failover priority for access points when configured with priority 1 or 4 is true?

A. When configured with priority 1, the access point is assigned with the highest priority level and it is marked as critical.

This access point fails over before other access points with the lower priority when there is primary controller failure.

B. When configured with priority 4, the access point is assigned with the highest priority level and it is marked as critical. This access point fails over before other access points with the lower priority when there is primary controller failure.

C. When configured with priority 4, the access point is assigned with the lowest priority level and it is marked as low. This access point fails over after other access points with the higher priority when there is primary controller failure.

D. When configured with priority 1, the access point is assigned with the medium priority level and it is marked as medium. This access point fails over after other access points with the higher priority when there is primary controller failure.

Answer: A

Explanation:

Access points can be assigned different failover priorities to determine the order in which they will failover in the event of a primary controller failure. An access point with priority 1 is given the highest priority level and is considered critical. This means it will failover before other access points with lower priorities, ensuring that the most critical areas remain covered.

Question: 37

An engineer must ensure that the wireless network can accomplish fast secure roaming by way of caching keys on the access points. Which key caching mechanism is enabled by default on a Cisco AireOS WLC?

A. SKC

B. OKC

C. 802.11r

D. CCKM

Answer: B

Explanation:

Step 2 Enab|e sticky ^y caching by entering this command

config wlan security wpa wpa2 cache sticky enable *wlanjd*

By default, SKC is disabled and opportunistic key caching (OKC) is enabled.

An extension of this technique is known as OKC (Opportunistic Key Caching), a method not defined in 802.11i but necessary to enable optimized roaming at layer 2 for client devices moving between APs. Using OKC, all APs on the same layer 2 network will receive a copy of a client's PMK ID, enabling client devices authenticated via 8O2.1X to authenticate with decreased latency whilst roaming. In this fashion, even if a client has not been

Question: 38

A technician connects a Cisco Aironet 3700 Series access point to a switch and realizes that the AP is coming up with 3x3 MIMO. Which reason explains this behavior?

A. A redundant power supply is unavailable on the switch.

B. The switch is 802.3af capable.

C. The AP is getting power from a power injector.

D. The switch is PoE+ capable.

Answer: D

Explanation:

The AP 3700 with integrated 802.11 ac wave-1 radio is designed to run from Power over Ethernet (PoE) sources, local power, or via mid-span or power injector. If the AP 3700 is powered by PoE and the source is 802 3af (15.4 Watts) the AP will come up and fully function in a 3x3:3 mode, for enhanced performance additional power sources such as 802.3at, enhanced PoE, Cisco PoE Injector-4, or local power may be used. With additional power (greater than 15.4W) supplied, the 3700 will shift into the 4x4:3 mode.

The big difference between 802.3af (PoE) and 802.3at (PoE+) is the amount of power delivered over each standard.

Question: 39

A network engineer is working on a design for a wireless network that must support data, voice, and location services. To support these services, which access point placement must the engineer use?

A. corner only

B. perimeter and corner

C. perimeter only

D. indoor and outdoor

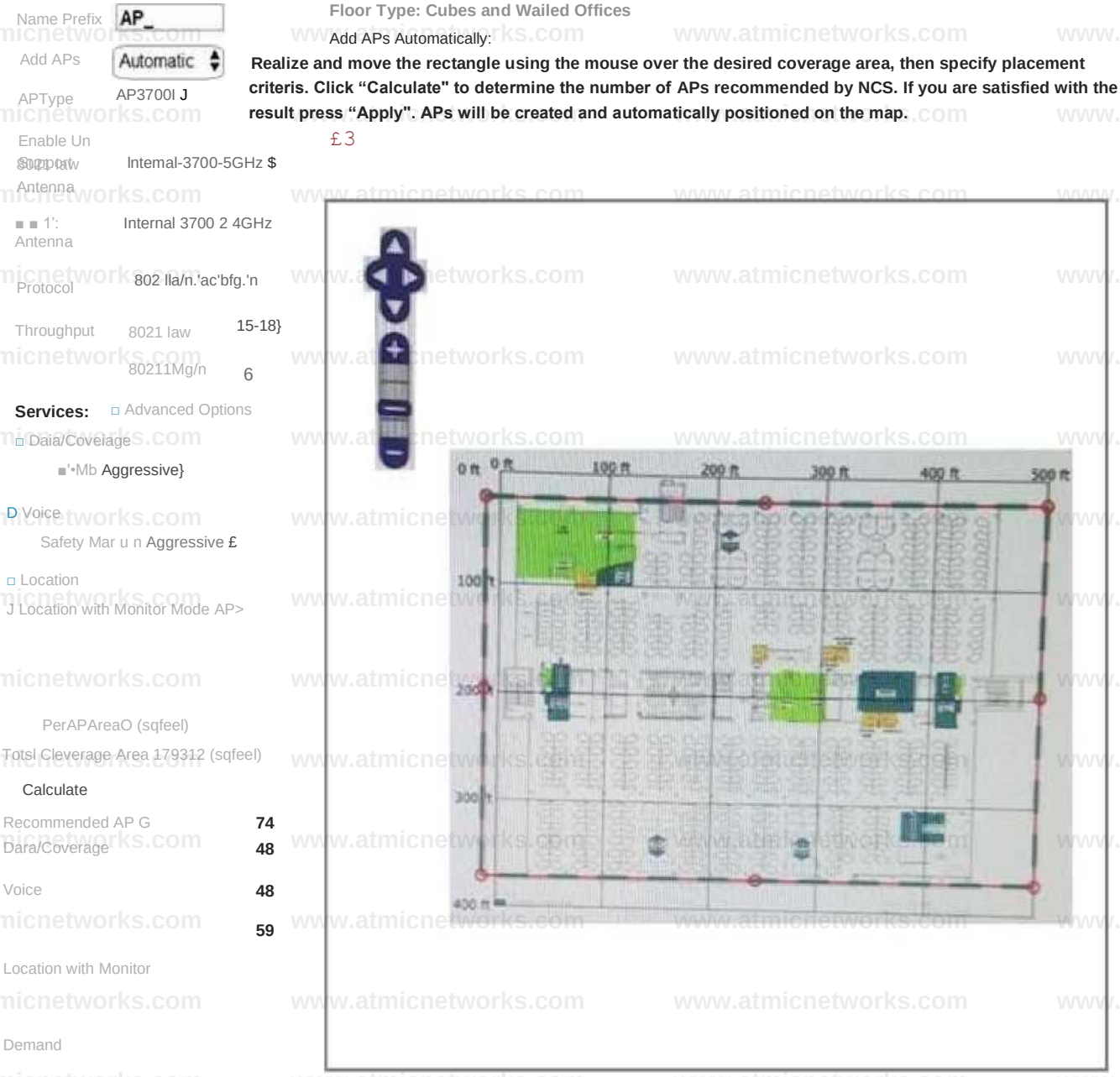
Answer: B

Explanation:

In a location-ready design, it is important to ensure that access points are not solely clustered in the interior and toward the center of floors. Rather, perimeter access points should complement access points located within floor interior areas. In addition, access points should be placed in each of the four comers of the floor, and at any other corners that are encountered along the floor perimeter. These perimeter access points play a vital rote in ensuring good location fidelity within the areas they encircle, and in some cases may participate in the provisioning of general voice or data coverage as well

Question: 40

Refer to the exhibit.



Which two statements about Cisco Prime Infrastructure are true? (Choose two.)

A. It presents the recommended number of APs for the selected coverage area based on the selections made.

B. Planning mode requires a special license in Cisco Prime Infrastructure.

C. It shows the map editor feature in Cisco Prime Infrastructure.

D. Controllers must be synchronized with Cisco Prime Infrastructure for planning mode to work.

E. It shows the planning mode feature in Cisco Prime Infrastructure.

Answer: C, E

Explanation:

The exhibit refers to the Cisco Prime Infrastructure's planning mode feature, which is a tool used for designing and planning wireless networks. The planning mode allows network administrators to input floor plans and simulate access point placement for optimal coverage. It does not require a special license; it is part of the Cisco Prime Infrastructure's base functionalities. Planning mode does not necessarily present the recommended number of APs; instead, it allows users to manually place potential APs on a map to predict coverage areas. While synchronization with controllers may enhance functionality, it is not strictly necessary for planning mode to operate.

Reference := (CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300430 Official Cert Guide Premium Edition and Practice)

Question: 41

A customer has noticed that Client Band Select is enabled and no clients are utilizing the 5 GHz band. Which three parameters must be met to ensure that wireless clients use the 5 GHz band? (Choose three.)

A. Ensure that channel bonding is enabled on the WLAN.

B. Ensure that the co-channel interference has not exceeded -85 dBm.

C. Ensure that the UNII-2 extended channels are enabled on the 802.11a radios.

D. Ensure that the client is receiving RSSI above the minimum band select RSSIthreshold.

E. Ensure that the client is dual-band capable.

F. Ensure that the WLAN has 802.11a enabled.

Answer: A, D, E,

Explanation:

For wireless clients to use the 5 GHz band when Client Band Select is enabled, certain conditions must be met. Channel bonding should be enabled on the WLAN to allow for wider channels, providing higher throughput available in the 5 GHz band. The client must receive an RSSI above the minimum threshold set for Band Select to steer them towards the 5 GHz

band. Additionally, the client device must be dual-band capable to connect to both 2.4 GHz and 5 GHz bands. Co-channel interference levels and UNII-2 extended channels being enabled offer additional benefits but are not requirements for Band Select functionality. Having 802.11a enabled on WLAN is necessary for any operation on the 5 GHz band but does not specifically relate to ensuring clients use this band under Band Select policies.

Reference := (CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300430 Official Cert Guide Premium Edition and Practice)

Question: 42

A wireless engineer is performing a post verification of a wireless network. Which two metrics does the engineer verify to ensure that the wireless network can support voice services? (Choose two.)

A. The coverage area must have a noise floor that does not exceed -87 dBm.

B. The client device must have at least an -67 dBm RSSI.

C. The rate of retransmitted packets must be 15 percent or below.

D. The rate of retransmitted packets must be 20 percent or below.

E. The client device must have at least an -65 dBm RSSI.

Answer: B,E

Explanation:

Voice services on a wireless network require a strong and stable signal, as well as low interference and retransmission rates. An RSSI (Received Signal Strength Indicator) of at least -67 dBm is considered the minimum for acceptable voice quality, and -65 dBm is even better, providing a buffer for signal fluctuation. A noise floor of -87 dBm would be too high and could interfere with signal clarity. Retransmission rates should be kept as low as possible; 15% or below is a good target to ensure efficient communication.

Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide

Question: 43

Which three pieces of equipment are needed to conduct a fully measured wireless survey? (Choose three.)

A. PoE battery

B. spirit level

C. access point

D. tall tripod

E. goggles

F. ladder

Answer: A, C, F

Explanation:

A fully measured wireless survey requires tools that support the active functioning of the network and allow for physical access to install and measure equipment. A PoE (Power over Ethernet) battery is necessary to power the access point during the survey. The access point itself is essential for broadcasting the signal. A ladder is needed to reach high places for proper access point placement and to measure coverage areas effectively.

Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide

https://www.cisco.com/c/en/us/td/docs/wireless/technology/mesh/81/design/guide/b_mesh_81/Site_Preparation_and_Planning.html

Question: 44

A company has 10 access point licenses available on their backup Cisco WLC and their primary Cisco WLC is at full capacity, 5 access points are set to high failover priority and 7 access points are set to critical failover priority. During a failure, not all critical access points failed over to the backup Cisco WLC. Which configuration is the cause of this issue?

A. The high priority access point is oversubscribed.

B. network ap-priority is set to enable.

C. The critical priority access point count is oversubscribed.

D. network ap-priority is set to disable.

Answer: C

Explanation:

The issue described indicates that there are more critical priority access points than the backup Cisco WLC can handle with its available licenses. Since there are only 10 licenses available and 7 access points are set to critical priority, not all of them can failover when the primary Cisco WLC is at full capacity. This oversubscription of critical priority access points prevents all of them from failing over as expected.

Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide

Question: 45

Which CLI command does an engineer use to validate that the redundancy peer of a Stateful Switchover pair of controllers is up and connected?

A. rping

B. ping

C. eping

D. mping

Answer: C

Explanation:

The 'eping' command is used on Cisco Wireless LAN Controllers to verify that the redundancy peer in a Stateful Switchover (SSO) pair of controllers is up and connected. This command sends ECHO packets to the peer controller to ensure connectivity.

Question: 46

An engineer must decide the cell overlap for a wireless voice deployment. Which Cisco measurement recommendation should be considered?

A. The edge of the cell should be -67 dBm.

B. The edge of the cell should be below 35 RSSI.

C. The measurement should be done on the 2.4-GHz band.

D. One AP should be deployed per 3000 square feet.

Answer: A

Explanation:

For a wireless voice deployment, Cisco recommends that the edge of the cell should have a signal strength of -67 dBm to ensure reliable voice quality and seamless roaming capabilities.

Question: 47

A network engineer is configuring high availability on an access point. What is the maximum number of controllers that

can be configured?

A. 1

B. 2

C. 3

D. 4

Answer: B

Explanation:

When configuring high availability on an access point, a network engineer can configure a maximum of two controllers. One serves as the primary controller, and the other serves as the secondary controller.

Question: 48

An engineer must configure the virtual IP address on multiple controllers in a mobility group. Which rule must the engineer follows to ensure proper roaming?

A. Ensure that the DNS entry is tied to the virtual IP address of the WLC.

B. Use a unique IP address for each WLC.

C. Ensure that the DNS Host Name field is defined.

D. Use the same IP address for each WLC.

Answer: D

Explanation:

In a mobility group, multiple controllers should be configured with the same virtual IP address to ensure proper roaming. This virtual IP address is used by wireless clients during the roaming process to facilitate seamless mobility between controllers.

Question: 49

A wireless engineer is utilizing the voice readiness tool in Cisco Prime for a customer that wants to deploy Cisco IP phones. Which dBm range is the network inspected against?

A. -78 to -65 dBm

B. -72 to -67 dBm

C. -85 to -65 dBm

D. -85 to -67 dBm

Answer: B

Explanation:

The voice readiness tool in Cisco Prime inspects the network against a dBm range that is suitable for voice over Wi-Fi. The range of -72 to -67 dBm is considered optimal for voice applications, ensuring clear audio quality and minimal packet loss.

https://www.cisco.com/c/en/us/td/docs/net_mgmt/prime/infrastructure/34/user/guide/bk_CiscoPrimeInfrastructure_3_4_0_UserGuide/bk_CiscoPrimeInfrastructure_3_4_0_UserGuide_chapter_01010.html

Question: 50

An engineer is reducing the subnet size of the corporate WLAN by segmenting the VLAN into smaller subnets. Clients will be assigned a subnet by location. Which type of groups can the engineer use to map the smaller subnets to the corporate WLAN?

A. WLC port groups

B. RF groups

C. AP groups

D. interface groups

Answer: D

Explanation:

By segmenting the VLAN into smaller subnets and assigning them by location, an engineer can use interface groups. This allows for efficient management of network resources and ensures that clients are connected to the closest subnet, reducing latency and improving performance.

Question: 51

When conducting a site survey for real-time traffic over wireless, which two design capabilities of smartphones and tablets must be considered? (Choose two.)

A. no support for 802.11ac

B. higher data rates than laptops

C. fewer antennas than laptops

D. no support for 802.11r

E. lower data rates than laptops

Answer: C,E

Explanation:

Smartphones and tablets typically have fewer antennas than laptops, which can affect their signal reception and transmission capabilities. Additionally, they often support lower data rates compared to laptops due to their smaller size and power constraints.

Question: 52

A customer has determined that aesthetics is a primary concern for their upcoming guest deployment. Which design consideration can be leveraged to address this concern?

A. Paint the access point to cover the LED from being noticeable.

B. Use enclosures to hide the wireless infrastructure in the surrounding environment.

C. Use AIR-AP-BRACKET-1 to allow for greater mounting locations

D. Deploy environmentally friendly cabling components to blend into the environment.

Answer: B

Explanation:

To address aesthetic concerns, using enclosures can effectively conceal wireless infrastructure, such as access points, within the environment. This helps maintain the visual appeal of the area while still providing the necessary wireless coverage.

Question: 53

An engineer has deployed a group of APs in an auditorium and notices that the APs are showing high cochannel interference. Which profile can be used to adjust the parameters for these high-density APs?

A. QoS profile

B. AVC profile

C. RF profile

D. ISE profile

Answer: C

Explanation:

In a high-density environment like an auditorium, where APs are in close proximity and a large number of devices are connected, the RF profile is used to adjust the radio frequencies of the APs to minimize co-channel interference. The RF profile allows for the configuration of power levels, channel width, and channel assignment to optimize wireless performance and reduce interference. Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice

Question: 54

Guest anchoring is configured for a newly created SSID for your company. It has been noticed that the mobility tunnels are not up, and that MPING fails from your foreign WLC to the anchor WLC. What is the reason that it is failing?

A. A rule is needed at the firewall to allow UDP port 16666 for communication to work.

B. A rule is needed at the firewall to allow UDP port 97 for communication to work.

C. A rule is needed at the firewall to allow TCP port 97 for communication to work.

D. A rule is needed at the firewall to allow TCP port 16666 for communication to work.

Answer: A

Explanation:

Guest anchoring requires mobility tunnels to be established between the foreign and anchor WLCs. For these tunnels to function, the firewall must allow specific ports for communication. UDP port 16666 is the port used for mobility traffic in Cisco wireless networks, and if it is not allowed through the firewall, MPING and mobility tunnels will fail. Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice

- UDP 16666 for tunnel control traffic
- IP Protocol 97 for user data traffic
- UDP 161 and 162 for SNMP

Question: 55

A wireless deployment in a high-density environment is being used by vendors to process credit card payment transactions via handheld mobile scanners. The scanners are having problems roaming between access points in the environment. Which feature on the wireless controller should have been incorporated in the design?

A. RX SOP

B. 802.11w

C. AP Heartbeat Timeout

D. Application Visibility Control

Answer: B

Explanation:

For handheld mobile scanners processing credit card payments, security and seamless roaming are critical. The 802.11w standard, also known as Protected Management Frames (PMF), provides enhanced security that helps prevent disconnections and issues when roaming between access points. Incorporating 802.11w in the design ensures that the scanners maintain a secure and consistent connection while moving throughout the environment. Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice

Question: 56

A university is in the process of designing a wireless network in an auditorium that seats 500 students and supports student laptops. Which design methodology should the university implement in the auditorium?

A. roaming design model

B. voice design model

C. location design model

D. high-density design model

Answer: D

Explanation:

In an auditorium seating 500 students with laptops, a high-density design model is appropriate. This model focuses on supporting a large number of devices in a concentrated area with sufficient coverage and bandwidth. It involves strategic AP placement, proper channel planning, and capacity planning to ensure all students have reliable wireless access.
Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice

https://www.cisco.com/c/dam/en_us/solutions/industries/docs/education/cisco_wlan_design_guid e.pdf

Question: 57

What causes the most signal attenuation, based on the wireless design tools?

A. cinder block wall

B. metal door

C. glass wall

D. office window

Answer: B

Explanation:

Metal doors cause the most signal attenuation in wireless design due to the properties of metal reflecting and absorbing radio waves, which can significantly reduce signal strength. Unlike materials such as cinder block or glass, metal can create a complete barrier for the signal, leading to a phenomenon known as "Faraday Cage" effect, where the metallic enclosure blocks electromagnetic fields. Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD 300-425)

It is important to note that metal chair legs and desk components will interact with the antenna of the AP and change the pattern of the radiation. Surveying the results of placement decisions with a good tool is necessary

Question: 58

During a client roaming event, which device is responsible for communicating the new Layer 2 EID mapping of a wireless supplicant to the fabric domain?

A. WLC

B. BN

C. CP2

D. CP1

Answer: A

Explanation:

During a client roaming event, the Wireless LAN Controller (WLC) is responsible for communicating the new Layer 2 Endpoint ID (EID) mapping of a wireless supplicant to the fabric domain. The WLC acts as a mobility orchestrator within the Cisco Digital Network Architecture (DNA) to ensure seamless roaming and connectivity. Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD 300-425)

https://www.cisco.com/c/dam/en/us/td/docs/cloud-systems-management/network-automation- and-management/dna-center/deploy-guide/cisco-dna-center-sd-access-wl-dg.pdf

Question: 59

Multiple WLCs are implemented in a high-availability configuration in a mobility group. APs are deployed with only a primary controller assigned. By default, which mobility group member controller do the orphaned APs join in the event of a failed controller?

A. controller with the most available AP free license capacity

B. controller with the lowest percent of associated APs per license capacity

C. controller with the least CPU utilization over the last reporting period

D. controller with the least number of associated APs

Answer: B

Explanation:

In a high-availability configuration, orphaned APs will join the controller with the lowest percentage of associated Access Points (APs) per license capacity by default. This ensures a balanced distribution of APs across the controllers in the mobility group, optimizing resource utilization and network performance. Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD 300-425)

Question: 60

Which two criteria must be considered when conducting an outdoor bridge site survey? (Choose two.)

A. near-far effect

B. weather

C. traffic lights

D. power lines

E. Fresnel zone

Answer: B, E

Explanation:

When conducting an outdoor bridge site survey, weather and the Fresnel zone are critical criteria to consider. Weather can affect signal propagation and the reliability of the wireless link, while the Fresnel zone relates to the elliptical area around the line-of-sight path between transceivers, which must be clear of obstacles to ensure a strong signal. Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD 300-425)

Question: 61

A customer has two Cisco 550B WLCs that manage all the access points in their network and provide N+1 redundancy and load balancing. The primary Cisco WLC has 60 licenses and the secondary Cisco WLC has 40. The customer wants to convert the N+1 model to an HA model and provide SSO. Configuration must be performed during a maintenance window. After performing all the configurations on both controllers, the config redundancy unit secondary command is issued on the secondary Cisco WLC and it fails. Which parameter needs to be in place to complete the configuration?

A. A cable in the RP port

B. The secondary Cisco WLC needs a minimum of 50 base licenses

C. The primary Cisco WLC is already set as the secondary unit.

D. SSO needs to be enabled

Answer: A

Explanation:

For Cisco Wireless LAN Controllers (WLCs) to operate in High Availability (HA) with Stateful Switch Over (SSO), they must be connected through a Redundancy Port (RP). This dedicated port is used for synchronization of stateful information and ensuring seamless failover without service interruption.

Question: 62

An engineer at a global enterprise organization must ensure that a mesh deployment has the highest number of channels available to the backhaul, regardless of region deployed, which design meets this requirement?

A. one controller per continent

B. one controller per country code

C. redundant controllers in the most restrictive regulatory domain

D. redundant controllers in the least restrictive regulatory domain

Answer: D

Explanation:

In a global mesh deployment, using redundant controllers in the least restrictive regulatory domain ensures the highest number of channels available for backhaul. This design accommodates the varying regulatory constraints of different regions by adhering to the domain with the most lenient channel availability.

Question: 63

A customer celled with a requirement that internal clients must be on different subnets depending on the building they are in, AH access points are operating in local mode and will not be modified, and this is a single controller solution. Which design approach creates the desired result?

A. Create an SSID, place it to the desired VLAN under WLANs, and configure 802 lx in ISE to assign the correct VLAN based on the SSID from which the client is authenticating.

B. Create FlexConnecI groups, place the access points in. and sat the correct VLAN to SSID mapping based on location.

C. Create AP groups for each desired location, map the correct VLANs to the internal SSID, and add the access points for that location.

D. Create mobility anchors for the SSID, and on the controller under the internal SSID. create a foreign map to the desired VLAN based on location.

Answer: C

Explanation:

AP groups allow the mapping of specific WLANs (SSIDs) to distinct VLANs for different locations. This design enables clients to be on different subnets based on their building location without modifying the access points' mode of operation.

Question: 64

A high-density wireless network is designed. Which Cisco WLC configuration setting must be incorporated in the design to encourage clients to use the 5 GHz spectrum?

A. RRM

B. Cisco centralized key management

C. Band select

D. Load balancing

Answer: C

Explanation:

Band Select is a feature on Cisco WLCs that encourages dual-band capable clients to connect to the less congested 5 GHz spectrum. It works by delaying the response to clients' probes on the 2.4 GHz band, making the 5 GHz band more attractive to the client devices.

Question: 65

An engineer changed the TPC Power Threshold for a wireless deployment from the default value to - 65 dBm. The engineer conducts a new post-deployment Survey to validate the results. What is the expected outcome?

A. Increase cell size

B. Decreased client signal strength

C. Increased received sensitivity

D. Decreased channel overlap

Answer: B

Explanation:

Changing the TPC Power Threshold to -65 dBm would generally result in a decrease in the transmit power of APs to maintain a smaller cell size. This helps in reducing interference and improving overall network performance. A lower threshold means the APs reduce their power to ensure the signal does not exceed -65 dBm, leading to decreased signal strength at the client side.

Question: 66

A network engineer is working on a predictive WLAN design, the new wireless network must support access to Internet, email, voice, and the inventory database, to successfully support these services, which configuration must the engineer use for the signal strength levels and SNR on the planning tool?

A. signal strength of -67 dBm, 25-dB SNR, and maximum 1 percent packet loss.

B. signal strength of -67 dBm, 20-dB SNR, and maximum 5 percent, packet loss.

C. signal strength of 67 dBm, 20-dB SNR, and maximum 1 percent packet loss.

D. signal strength of-70 dBm,30-dB SNR. and maximum 10 percent packet loss.

Answer: A

Explanation:

For a WLAN design that supports services like internet, email, voice, and database access, a signal strength of -67 dBm is considered good for voice and streaming services. A 25-dB SNR (Signal-to- Noise Ratio) is also desirable for high-quality voice and video applications, and a maximum of 1 percent packet loss is acceptable to ensure reliable connectivity and service quality.

https://www.cisco.com/c/en/us/support/docs/wireless/5500-series-wireless-controllers/116057site- survey-guidelines-wlan-00.html

Question: 67

A customer requires that two wireless APs be installed in a reception area, in a historic building, the impact of the APs on the appearance of the reception area must be minimized. Which two AP antennas should be used? (Choose two.)

A. AP with a Yagi antenna

B. AP with a patch antenna

C. AP with a monopole antenna

D. AP with an integrated antenna

E. AP with a dipole antenna

Answer: B, D

Explanation:

In a historic building where aesthetics are important, using APs with integrated antennas can minimize visual impact as they are often designed to be compact and less conspicuous. Patch antennas are also a good choice as they can be mounted flat against surfaces, blending in with the environment while providing directional coverage.

Question: 68

An engineer must perform an assessment of a customer LAN for a future IEEE 802.11ac Wave 2 wireless deployment All access switches are Fast Ethernet-Capable only, and the wired infrastructure

between existing APs and access switches is based on the CAT 6A standard. Which two actions provide maximum support of Cisco 3800 Series access points? (Choose two.)

A. Replace the existing switches with mGig switches.

B. Replace the existing switches with gigabit switches with 10G uplinks.

C. Ensure that cable distances between access switches and APs are not longer than 100 meters.

D. Replace the existing wiring infrastructure with the CAT-7E wiring standard,

E. Ensure that cable distances between access switches and APs are not longer than 55 meters.

Answer: A, B

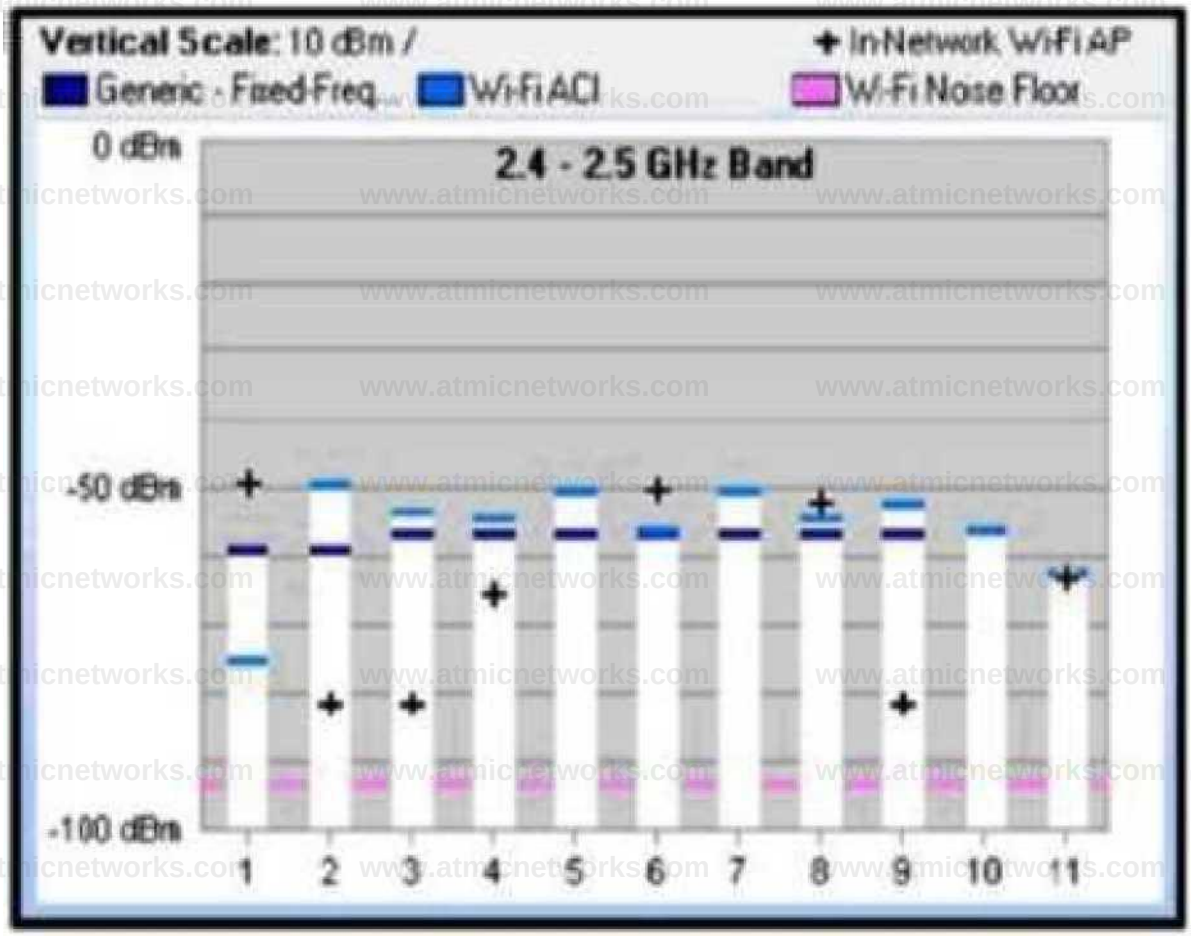
Explanation:

Cisco 3800 Series APs support higher speeds provided by IEEE 802.11ac Wave 2, which Fast Ethernet switches cannot fully support. Replacing them with mGig or gigabit switches with 10G uplinks will ensure the infrastructure can handle the increased data rates. The CAT 6A standard supports these speeds, so there's no need to replace the wiring if it's already CAT 6A.

Question: 69

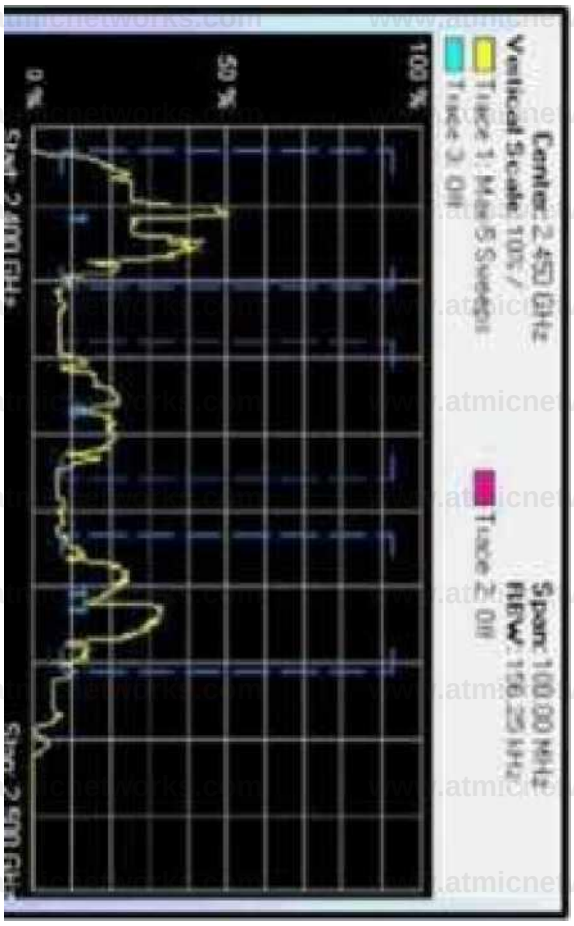
An engineer as performing a Layer 1 passive wireless site survey utilizing a channel analyzer software in the 2.4 GHz spectrum. Which chart indicates the ratio of interference present during the duration of the capture?

A)



B)

C)



A. Option A

B. Option B

C. Option C

D. Option D

Answer: C

Explanation:

In a Layer 1 passive wireless site survey, the chart that indicates the ratio of interference present during the duration of the capture in the 2.4 GHz spectrum is typically a Duty Cycle chart or an Interference chart. These charts display the percentage of time that energy, possibly from interfering sources, is present on a channel. The correct answer would show fluctuations in signal levels over time, highlighting periods where interference might be affecting the channel's clarity.

Question: 70

During a post-deployment site Survey, issues are found with non wi-Fi interference. What should the engineer use to identify the source of the Interference?

A. Network analysis module

B. Wireless intrusion prevention

C. Wireshark

D. Cisco spectrum expert

Answer: D

Explanation:

Cisco Spectrum Expert is a tool designed to identify and analyze non-Wi-Fi interference sources. During a post-deployment site survey, it can be used to detect interference from various devices such as cordless phones, Bluetooth devices, microwave ovens, and more. This tool provides a visual representation of the RF environment, allowing engineers to pinpoint the exact source of interference and take appropriate measures to mitigate its impact on the wireless network.

Reference := Designing Cisco Enterprise Wireless Networks (ENWLSD)

Question: 71

A wireless engineer is using Ekahau site survey to validate that an existing wireless network is operating as expected, which type of survey should be using to identify the end-to-end network performance?

A. GPS assisted

B. Spectrum analysis

C. Passive

D. Active ping

Answer: D

Explanation:

An active ping survey is used to validate network performance by sending and receiving data packets to measure the end-to-end network performance, including latency, packet loss, and throughput. Ekahau site survey tools can perform active ping surveys to test the connectivity and

performance of the wireless network, ensuring that it operates as expected and meets the required service

levels.

Reference := Configuring Active Surveys – Ekahau Customer Support

Question: 72

A customer is looking for a network design with Cisco Hyperloctation using AP4800 for location tracking via a custom mobile app Issues appeared in the past with refresh rates for location updates. What needs to be implemented to meet these requirements?

A. Cisco CMX SDK in the location app

B. redundant CMX and fetch location in round-robin fashion.

C. device Bluetooth via the app

D. Cisco FastLocate technology

Answer: D

Explanation:

Cisco FastLocate technology is part of the Cisco Hyperlocation solution, which enhances location tracking accuracy and refresh rates. Implementing Cisco FastLocate technology can address issues with refresh rates for location updates in a custom mobile app by increasing the number of location data points captured, thus providing more frequent and accurate location updates.

Reference := AP4800 Hyperlocation Deployment Guide - Cisco

Question: 73

How are mobility groups created, excluding mobility anchors?

A. The WLGs do not have to be of the same model or type to be a member of a mobility group, however each member should be running different software versions.

B. A mobility group does not require ell WLCs in the group lo use the same virtual IP address.

C. Each WLC must use the same mobility domain name and be defined as a peer in each other' s static mobility members list.

D. If WLCs with HA SSO are deployed, each WLC in the WLC HA pair is considered separately as a mobility peer.

Answer: C

Explanation:

Mobility groups are created by configuring each Wireless LAN Controller (WLC) to use the same mobility domain name and defining each WLC as a peer in the static mobility members list of every other WLC in the group. This configuration allows WLCs to share information and support seamless roaming for wireless clients across different controllers within the same mobility group.

Reference := Chapter: Chapter 14 - Configuring Mobility Groups - Cisco

Question: 74

How should the concept of mobility domains and mobility groups be explained to a customer?

A. WLCs do not need to be in the same mobility domain to communicate with each other Mobility groups constrain the distribution of security context of a client and also constrain AP fail-over between controllers.

B. A mobility group does not constrain the distribution of security context of a client and also does not constrain AP fail-over between controllers when the WLCs are in the same mobility domain.

C. if WLCs are in same mobility domain, they communicate with each other. Mobility groups constrain the distribution of security context of a client and also constrain AP fail-over between controllers.

D. If WLCs are in the same mobility domain, they communicate with each other but. if an anchor WLC ® present, it must: be in the same mobility domain for communication to be possible.

Answer: C

Explanation:

Mobility domains and mobility groups are concepts used in wireless networking to manage client roaming and security contexts. When Wireless LAN Controllers (WLCs) are in the same mobility domain, they can communicate with each other, allowing clients to roam seamlessly between APs managed by different controllers. Mobility groups further refine this by constraining the distribution of a client's security context, which includes authentication and encryption keys, and by managing AP failover between controllers. This ensures that a client can maintain a secure and stable connection as they move throughout the network.

Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD) 300-425 Official Cert Guide

Question: 75

A medium-sized hospitality company with 50 hotels needs to upgrade the existing WLAN in each hotel to 802.11n. During the site surveys for each hotel, what needs to be taken into consideration when determining the locations for each AP?

A. Selecting locations that are easily accessed so maintenance and upgrades can be performed quickly.

B. Selecting AP locations where power is already available.

C. Selecting APs that can be hidden in ceiling panels to provide a secure and clean aesthetic look.

D. Selecting locations that make visual assessment of the AP operation easy.

Answer: A

Explanation:

When conducting site surveys for WLAN upgrades to 802.11n, it's important to consider AP locations that allow for easy access. This facilitates quick maintenance and upgrades, ensuring minimal downtime and disruption to the network. While aesthetics and power availability are also considerations, the primary focus should be on maintaining the network's performance and reliability.

Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD) 300-425 Official Cert Guide

Question: 76

An engineer is using a Cisco AIR-2702i AP to conduct a Layer 1 site Survey, which mode is selected for the AP to discover non-Wi-Fi interference with metageek chanalyzer?

A. FlexConnect

B. Sniffer

C. Monitor

D. SE-connect

Answer: C

Explanation:

The Cisco AIR-2702i AP can be set to various modes for different purposes. For conducting a Layer 1 site survey to discover non-Wi-Fi interference, the AP should be set to Monitor mode. In this mode, the AP can scan the radio environment for interference sources without serving any clients, making it ideal for use with tools like Metageek Chanalyzer.

Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD) 300-425 Official Cert Guide

Question: 77

A network engineer needs to create a wireless design to bridge wired IP surveillance cameras in the parking lot through a mesh AP. To which operate mode of the AP should the cameras connect?

A. Flexconnect

B. MAP

C. RAP

D. Local

Answer: B

Explanation:

In a wireless design that requires bridging wired IP surveillance cameras through a mesh AP, the cameras should connect to the AP operating in Mesh AP mode (MAP). This mode allows the AP to function as part of a wireless mesh network, providing connectivity to wired devices like IP cameras in areas where it's difficult to run Ethernet cables.

Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD) 300-425 Official Cert Guide

Question: 78

Why is 802.11a connectivity reduced in an X-ray room?

A. X-rays create significant non-Wi-Fi interference on the 802.11a band.

B. X-rays impact the 802,11a UNll-2 channels that cause access points to dynamically change channels.

C. X -rays within these rooms cause multipath issues.

D. X-ray rooms exhibit increased signal attenuation.

Answer: D

Explanation:

The connectivity of 802.11a, which operates in the 5 GHz band, is reduced in X-ray rooms primarily due to the increased signal attenuation caused by the lead and other dense materials used in the construction of these rooms to shield against X-ray radiation. These materials effectively block or weaken the radio signals used for wireless communication

portable X-ray machines, sending high-resolution images, sometimes in real time, echography machines, and

electrocardiography [ECG] machines). These devices may also use the same spectrum as Wi-Fi but with other protocols and, therefore, become sources of interference for your system.

Question: 79

How does AP failover priority for access points function when configured with priority 1 or 4?

A. When configured with priority 1, the access point is assigned with the highest priority level and it is marked as critical. This access point fails over before other access points with the lower priority when there is primary controller failure.

B. When configured with priority 4, the access point is assigned with the highest priority level and it is marked as critical. This access point fails over before other access points with the lower priority when there is primary controller failure.

C. When configured with priority 4, the access point is assigned with the lowest priority level and it is marked as low. This access point fails over after other access points with the higher priority when there is primary controller failure.

D. When configured with priority 1, the access point is assigned with the medium priority level and it is marked as medium. This access point fails over after other access points with the higher priority when there is primary controller failure.

Answer: A

Explanation:

In Cisco wireless networks, access points can be configured with failover priorities ranging from 1 to 4, with 1 being the highest priority and 4 being the lowest. An access point with priority 1 is considered critical and will be given preferential treatment in failover situations, ensuring that it reconnects to a backup controller before access points with lower priorities

Question: 80

An engineer Is trying to determine the most cost-effective way to deploy high availability for a campus enterprise wireless network that currently leverages three wireless LAN controllers. Which architecture should the engineer deploy?

A. N+1 solution without SS0

B. N+1 with SSO

C. N+N solution without SSO

D. N+N with SSO

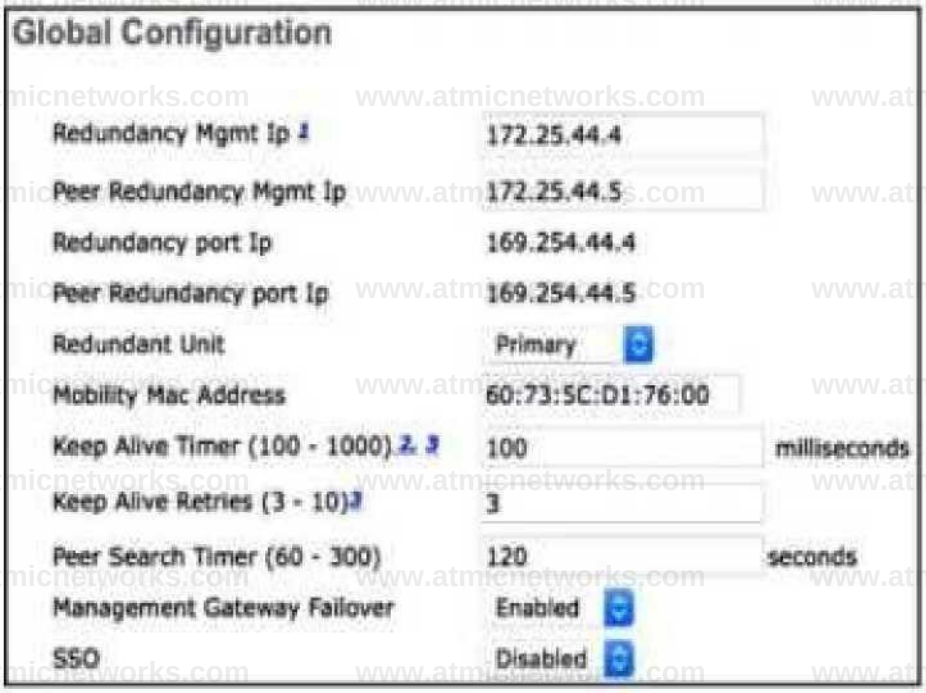
Answer: B

Explanation:

For a cost-effective high availability deployment in a campus enterprise wireless network with three controllers, the N+1 architecture with Stateful Switch Over (SSO) is recommended. This architecture provides redundancy and allows for seamless failover without service interruption, ensuring that the network remains highly available without the need for a one-to-one controller redundancy, which would be less cost-effective

https://www.cisco.com/c/en/us/td/docs/wireless/technology/hi_avail/N1_High_Availability_Deployment_Guide/N1_HA_Overview.html?

Question: 81



Refer to the exhibit. An enterprise is using wireless as the main network connectivity for clients. To ensure service continuity. a pair of controllers will be installed in a datacentre. An engineer is designing SSO on the pair of controllers. What needs to be included in the design to avoid having the secondary controller go into maintenance mode?

A. The Keep alive timer is too low. which causes synchronization problems.

B. The connection between the redundancy ports is missing.

C. The redundancy port must be the same subnet as the redundancy mgmt.

D. The Global Configuration of SSO is set to Disabled on the controller.

Answer: B

Explanation:

For Stateful Switchover (SSO) to function correctly, the redundancy ports on both the primary and secondary controllers must be directly connected. This allows for the necessary state and configuration information to be synchronized between the two controllers, preventing the secondary controller from entering maintenance mode in the event of a failover.

Question: 82

Campus users report a poor wireless experience. An engineer investigating the issue notices that in high-density areas, the wireless clients fail to switch the AP to which are automatically connected. This sticky client behavior is causing roaming issues. Which feature must the engineer configure?

A. Load balancing and band select

B. optimized roaming

C. Layer 3 roaming

D. Layer 2 roaming

Answer: B

Explanation:

Optimized roaming is a feature that helps mitigate sticky client behavior by assessing the client's signal strength and proactively disconnecting clients with a signal below a predefined threshold. This encourages clients to connect to a closer AP with a stronger signal, improving the overall wireless experience in high-density areas.

https://www.cisco.com/c/en/us/td/docs/wireless/controller/technotes/80/hdx_final/b_hdx_dg_final/high_density_experience_features_added_in_release_8_0.html

Question: 83

What is the attenuation value of a human body on a wireless signal?

A. 3 dB

B. 4 dB

C. 6 dB

D. 12 dB

Answer: C

Explanation:

The human body can attenuate a wireless signal by approximately 6 dB. This is due to the water content in the human body, which absorbs and reflects radio frequency signals, leading to a reduction in signal strength as it passes through or around a person. This factor is important to consider in wireless network design, especially in environments with high user density.

Question: 84

An enterprise is using two wireless controllers to support the wireless network. The data centre is located in the head office Each controller has a corporate WLAN configured with the nameCopr- NET390595865WLC-1 and Copr-NET6837l638WLC-2. The APs are installed using a round-robin approach to load balance the traffic. What should be changed on the configuration to optimize roaming?

A. Move all access points to one controller and use the other as N+1 HA.

B. Use the same WLAN name for the corporate network on both controllers.

C. Use the same WLAN name for the corporate network on both controllers.

D. Place the access points per floor on the same controller.

Answer: B

Explanation:

To optimize roaming in a wireless network with multiple controllers, it is essential to use the same WLAN name (SSID) across all controllers. This allows clients to roam seamlessly between access points managed by different controllers without having to re-authenticate or experience disconnections1.

Question: 85

An engineer is conducting a Layer 2 site survey. Which type of client must the engineer match to the survey?

A. best client available

B. phone client

C. normal client

D. worst client available

Answer: D

Explanation:

When conducting a Layer 2 site survey, it is recommended to match the survey to the worst client available. This ensures that the wireless network is designed to provide adequate coverage and performance even for the clients with the poorest capabilities, thereby ensuring a consistent user experience for all devices2.

https://www.cisco.com/c/en/us/support/docs/wireless/5500-series-wireless-controllers/116057-site-survey-guidelines-wlan-00.html

Question: 86

The wireless team must configure a new voice SSID for optimized roaming across multiple WLCs with Cisco 8821 phones. Which two settings accomplish this goal? (Choose two.)

A. Configure mobility groups between WLCs.

B. Use Cisco Centralized Key Management for authentication.

C. Configure AP groups between WLCs.

D. Configure AVC profile on new SSID.

E. Use AVC to tag traffic voice traffic as best effort.

Answer: A,B

Explanation:

For optimized roaming across multiple Wireless LAN Controllers (WLCs) with Cisco 8821 phones, configuring mobility groups between WLCs allows for seamless roaming and sharing of security contexts. Additionally, using Cisco Centralized Key Management (CCKM) for authentication reduces the time required for re-authentication during roaming, providing a more efficient transition between access points3

Question: 87

An engineer is designing an outdoor mesh network to cover several sports fields. The core of the network is located in a building at the entrance of a sports complex. Which type of antenna should be used with the RAP for backhaul connectivity?

A. 5 GHz. 8-dBi omnidirectional antenna

B. 2.4 GHz. 8-dBi patch antenna

C. 2.4 GHz. 14-dBi omnidirectional antenna

D. 5 GHz. 14-DBi patch antenna

Answer: D

Explanation:

In an outdoor mesh network designed to cover sports fields, a 5 GHz, 14-dBi patch antenna is suitable for the RAP for backhaul connectivity. The higher gain and directional nature of a patch antenna help in focusing the signal over longer distances and in specific directions, which is ideal for connecting various points in a large outdoor area5.

https://www.cisco.com/c/en/us/products/collateral/wireless/aironet-antennas-accessories/product_data_sheet09186a008008883b.html

Question: 88

A customer has restricted the AP and antenna combinations for a design to be limited to one model integrated antenna AP for carpeted spaces and one model external antenna AP with high gain antennas for industrial, maintenance, or storage areas. When moving between a carpeted area to an industrial area, the engineer forgets to change survey devices and surveys several APs. Which strategy will reduce the negative impact of the design?

A. Resurvey and adjust the design.

B. Deploy unsurveyed access points to the design.

C. Deploy the specified access points per area type.

D. Increase the Tx power on incorrectly surveyed access points.

Answer: A

Explanation:

The most effective way to address the issue is to resurvey the areas with the correct survey devices. This ensures that the design accurately reflects the performance characteristics of the specified access points for each area type, leading to a more reliable and efficient wireless network design tailored to each environment's specific needs.

Question: 89

An engineer is designing a wireless network to support high availability. The network will need to support the

total number of APs and client SSO. Live services should continue to work without interruption during the failover Which two requirements need to be incorporated into the design to meet these needs? (Choose two.)

A. redundant WLC

B. controller high availability pair with one of the WLCs having a valid AP count license

C. 10 sec RTT

D. back-to-back direct connection between WLCs

E. WLC 7.5 code or more recent

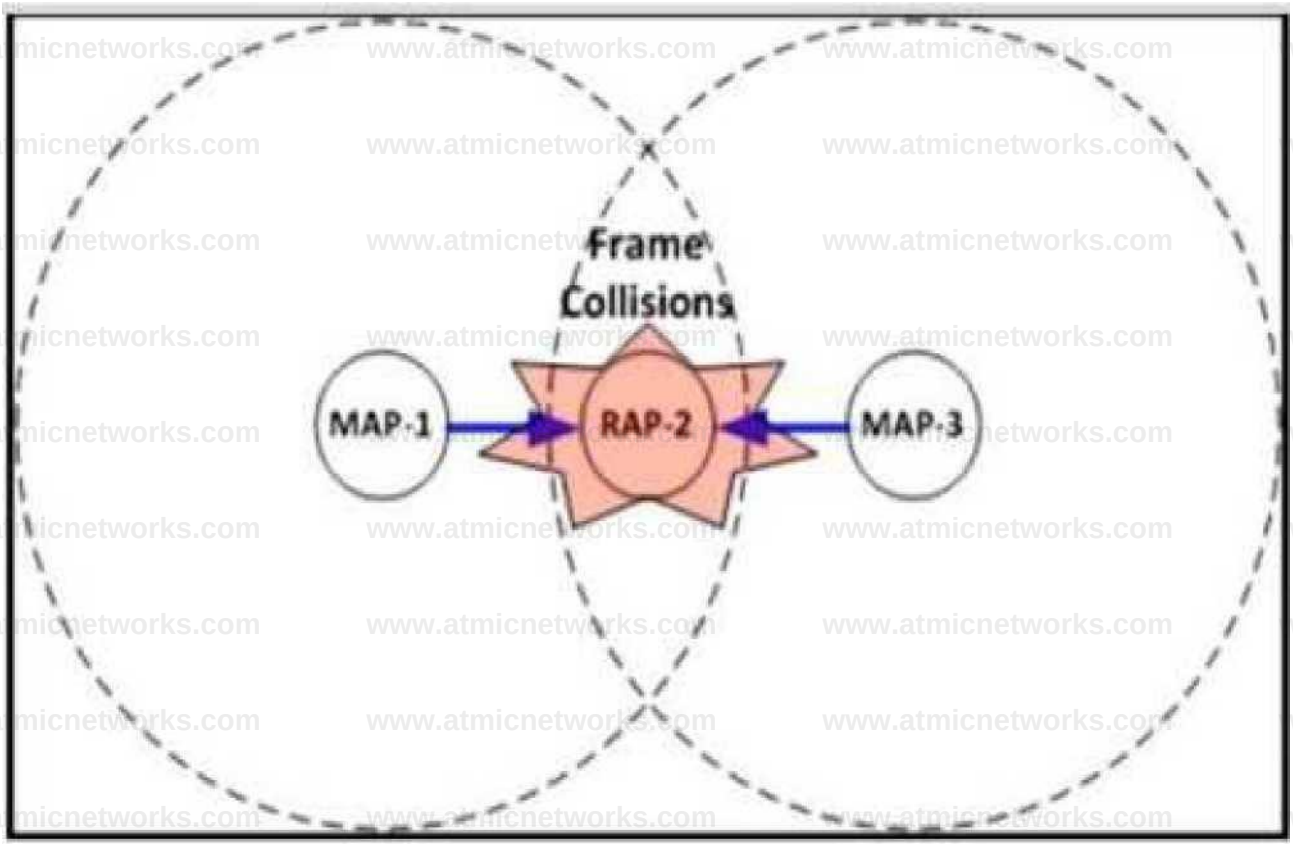
Answer: A, B

Explanation:

To support high availability, the design must include redundant Wireless LAN Controllers (WLCs) to ensure service continuity in case of a failure. Additionally, having a high availability pair with one WLC holding a valid AP count license ensures that all APs can remain connected and services continue without interruption during failover.

https://www.cisco.com/c/en/us/td/docs/wireless/controller/technotes/7-5/High_Availability_DG.html#pgfId-44074

Question: 90



Refer to the exhibit. During a post Mesh deployment survey, an engineer notices that frame collisions occur when MAP-1 and MAP-3 talk to RAP-2 Which type of issue does the engineer need to address in the design?

A. co-channel interference

B. backhaul latency

C. hidden node

D. exposed node

Answer: C

Explanation:

The issue described is indicative of a hidden node problem, where MAP-1 and MAP-3 cannot hear each other's transmissions but can both communicate with RAP-2. This leads to frame collisions as both MAPs may attempt to transmit at the same time, unaware of the other's actions. The design needs to address this by implementing mechanisms such as RTS/CTS or adjusting the placement of the APs to avoid this issue.

https://www.cisco.com/en/US/docs/solutions/Enterprise/Mobility/emob30dg/WiMesh.pdf

Question: 91

An enterprise is using the wireless network as the main network connection for corporate users and guests. To wireless network availability. Two Standalone controllers are installed in the head office. APs are connected to the controllers using a round-robin approach to load balance the traffic. After a power cut, the wireless clients disconnect while roaming. An engineer tried eping from the controller but faits. Which protocol needs to be allowed between the networks that the controllers are installed?

A. IP Protocol 67

B. IP Protocol 77

C. IP Protocol 87

D. IP Protocol 97

Answer: D

Explanation:

The protocol that needs to be allowed between the networks where the controllers are installed is IP Protocol 97, which is used for encapsulating IP within IP, often used in network mobility and IP tunneling.

Question: 92

An engineer must perform a pre-deployment site survey for a new building in a high-security area. The design must provide a primary signal RSSI of -65 dBm for the clients. Which two requirements complete This design? (Choose two)

A. Site access

B. AP model

C. WLC model

D. HAVC access

E. Number of clients

Answer: B,E

Explanation:

For a pre-deployment site survey, it's important to know the AP model to understand the capabilities and coverage pattern of the APs. Additionally, knowing the number of clients helps to design a network that can handle the expected client density.

https://www.cisco.com/c/en/us/support/docs/wireless/5500-series-wireless-controllers/116057-site-survey-guidelines-wlan-00.html

Question: 93

An engineer performs a Layer 1 survey by using Metegeek chanalyzer only on the current operating channel. Which operating mode is configured for a Cisco CleanAIR AP?

A. Local

B. Sniffer

C. Monitor

D. SE-connect

Answer: C

Explanation:

When performing a Layer 1 survey using Metageek Chanalyzer, the Cisco CleanAIR AP should be configured in Monitor mode. This mode allows the AP to scan the environment for interference without serving clients.

Question: 94

During a wireless network design, a customer requires wireless coverage on the perimeter of a building but also wants to minimize signal leakage from the wireless network. Which antenna should be used to accomplish this design?

A. Patch

B. Dipole

C. Monopole

D. Omnidirectional

Answer: A

Explanation:

A Patch antenna should be used to provide wireless coverage on the perimeter of a building while minimizing signal leakage. Patch antennas have a directional radiation pattern that can be focused along the

perimeter.

https://www.cisco.com/c/en/us/td/docs/routers/connectedgrid/antennas/installing-combined/industrial-routers-and-industrial-wireless-antenna-guide/ANT-MP-INT-OUT-M.html

Question: 95

An engineer is designing a new wireless network. The network needs to meet these requirements:

*** supped a high wireless client cwicenlratKNi**

*** support data over wireless**

*** suppan voice over wlreten**

• avoid jntcrferencfl

Which design approach should be taken?

A. 5 GHz frequency band with channel bonding, to support 40 MHz channels

B. 5 GHz frequency band without channel bonding, to support 20 MHz channels

C. 5 GHz frequency band with channel bonding, to support 80 MHz channels.

D. 2.4 GHz frequency band without channel bonding, to support 20 MHz channels

Answer: B

Explanation:

The design approach should use the 5 GHz frequency band without channel bonding to support 20 MHz channels. This provides a balance between network capacity and interference mitigation.

https://www.cisco.com/c/en/us/support/docs/wireless/4400-series-wireless-lan-controllers/108184-config-802-11n-wlc.html

Question: 96

A network engineer is designing a new wireless network. The network needs to have these characteristics:

• suppon high cl-oni concentration

*** optima (Sent performance**

' avoid interference

Which approach should be taken?

A. Deploy APs near each other for 5 GHz coverage, and disable the 2A GHz radios for some Aps.

B. Deploy APs near each other for 2.4 GHz coverage, and disable the 5 GHz radios for all APs.

C. Deploy APs near each other for 5 GHz coverage, and enable the 2.4 GHz radios for all Aps.

D. Deploy APs near each other for 2.4 GHz coverage, and disable the 5 GHz radios for some APs.

Answer: A

Explanation:

In environments with high client density, deploying APs for 5 GHz coverage is recommended due to the larger number of non-overlapping channels available, which can support higher data rates and client capacity. Disabling the 2.4 GHz radios on some APs can reduce interference and improve overall network performance.

https://www.cisco.com/c/en/us/td/docs/wireless/controller/technotes/86/b_Cisco_Wireless_LAN_Controller_Configuration_Best_Practices.html

Question: 97

An enterprise has moved most services to the cloud, including email applications and real-time communication. Which feature must be enabled on the wireless network to improve the user experience?

A. QoS

B. Radio management

C. Interference mitigation

D. Fast secure roaming

Answer: A

Explanation:

Quality of Service (QoS) is essential for prioritizing cloud services like email and real-time communication. It helps in managing bandwidth allocation and ensuring that critical applications receive the necessary resources for optimal performance.

https://community.cisco.com/t5/wireless-mobility-documents/what-is-cckm-and-how-does-it- affect-fast-and-secure-roaming/ta-p/3130421

Question: 98

An engineer is designing a network deployment for a college with six buildings Each building must have a WLC located in the IDF to support the APs. The wireless clients should be able to roam between the APs and the controllers. Which type of wireless architecture should be used?

A. Distributed

B. Centralized

C. Cloud

D. Autonomous

Answer: B

Explanation:

A centralized wireless architecture is suitable for a college with multiple buildings. It allows for centralized management of WLCs and supports seamless roaming for wireless clients across different APs and controllers.

https://www.cisco.com/c/en/us/td/docs/solutions/Enterprise/Mobility/emob41dg/emob41dg-wrapper/ch2_Arch.html

Question: 99

A customer called with a requirement that internal clients must be on different subnets depending on the building they are in. All access points are operating in local mode and will not be modified, and this is a single controller solution. Which design approach creates the desired result?

A. Create AP groups for each desired location, map the correct VLANs to the internal SSID, and add the access points for that location.

B. Create an SSID place it to the desired VLAN under WLANs and configure 802.1x in ISE to assign the correct VLAN based on the SSID from which the client is authenticating

C. Create FlexConnect groups, place the access points in, and set the correct VLAN to SSID mapping based on location.

D. Create mobility anchors for the SSID and on the controller under the internal SSID create a foreign map to the desired VLAN based on location.

Answer: A

Explanation:

Creating AP groups for each location allows for the mapping of specific VLANs to an internal SSID tailored for that area. This approach enables clients to be on different subnets based on their building location within a single controller environment.

https://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-vlan/71477-ap-group- vlans-wlc.html

Question: 100

Two cisco 5520 wireless LAN controllers are managing all access points throughout the network. The WLCs are in different locations to provide geographical redundancy a mobility group has been configured on both WLCs and has a UP status on both controllers. The Aps in location A are statically configured to use controller A as the primary and controller B as the secondary. If the WLC in location A goes ofline. The Aps successfully join the WLC in location, but they do not fail over to their primary configured controller. Which configuration task fixes the issue?

A. Configure the WLC in location A as primary using the CAPWAP AP Controller IP Address command on all the location A Access points.

B. Use DHCP Option 43 and specify WLC in location A as primary.

C. Enable AP fallback globally on the WLC

D. Change the AP Failover Priority to critical.

Answer: C

Explanation:

Enabling AP fallback globally on the WLC allows access points to reconnect to their primary controller after they have connected to a secondary controller due to the primary being ofline. This ensures that once the primary WLC is back online, APs will revert to it, maintaining the intended primary/secondary controller hierarchy.

Question: 101

An AP is receiving 802.11 packets on its 802.11a radio with an RSSI value of -77 dBm. The current AP is part of an AP group that has been assigned an RF profile with RX-SOP set to Medium for 802.11a. Which action does the AP take with the packets?

A. All frames are classified as non-Wi-Fi frames and are not decoded by the 5 GHz radio.

B. Frames are decoded by the 2.4 GHz radio.

C. All frames are classified as non-Wi-Fi frames and are not decoded by the 2.4 GHz radio.

D. Frames are decoded by the 5 GHz radio.

Answer: D

Explanation:

An RSSI value of -77 dBm is within the range that a 5 GHz radio can receive and decode, provided it's not below the RX-SOP threshold set for the RF profile. Since the RF profile is set to Medium for 802.11a, which operates in the 5 GHz band, the AP's 5 GHz radio will decode the frames.

Question: 102

An engineer must repurpose a lab WLC appliance for use in the production environment of the enterprise. After the new WLC is configured with the information of the other WLC, the mobility tunnels are still not coming up. What is the reason?

A. A firewall is blocking UDP port 16667 between the WLCs.

B. The WLC management interfaces are in the same VLAN.

C. The hardware platform is incompatible.

D. The mobility groups are different.

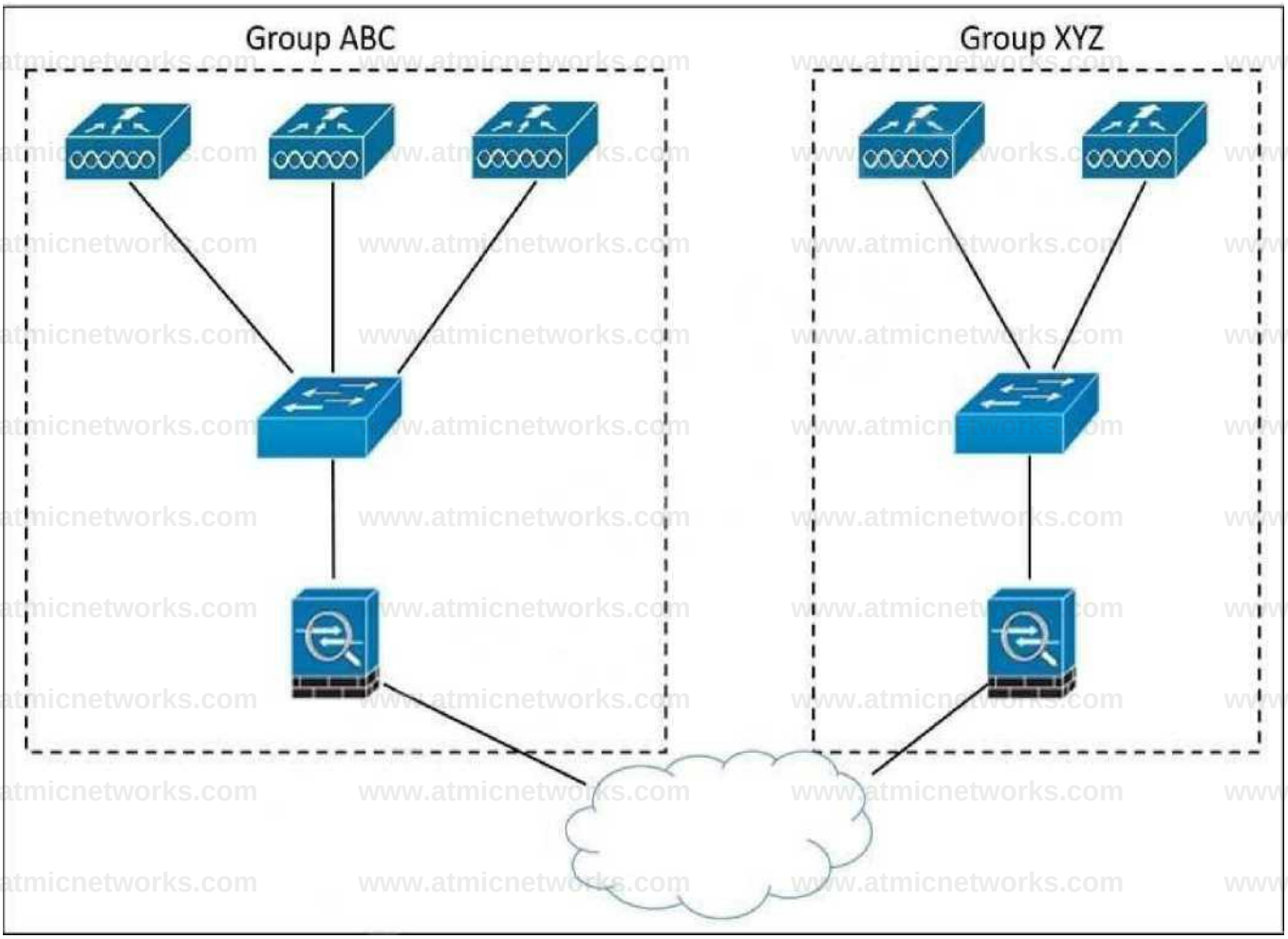
Answer: D

Explanation:

For mobility tunnels to come up between WLCs, they need to be part of the same mobility group. If they are configured with different mobility groups, the mobility tunnels will not establish, preventing the WLCs from sharing client, AP, and security information.

Question: 103

Refer to the exhibit.



An enterprise has offices spread around the globe. The APs are connected to different controllers installed in separate datacenters. The IT team wants to allow clients to roam from controllers in group ABC to controllers in group XYZ. Which feature must be incorporated in the design to accomplish this task?

A. switch peer group

B. workgroup bridge

C. mDNS gateway

D. mobility lists

Answer: D

Explanation:

In a Cisco wireless network, when designing for client roaming between access points (APs) that are connected to different controllers, especially in a global enterprise with multiple data centers, it is essential to ensure seamless client mobility. Mobility lists are used in such scenarios to define which

controllers are allowed to participate in client roaming. This feature allows the APs connected to controllers within one group (e.g., Group ABC) to recognize and facilitate roaming clients from another group (e.g., Group XYZ). The mobility list is

configured on each controller and includes the IP addresses of other controllers that should be considered part of the same mobility domain. When a client roams from an AP on one controller to an AP on another controller, if both controllers are in each other's mobility list, they will establish a mobility tunnel through which they exchange the client's context and security credentials. This ensures that the client can roam without reauthentication and maintains session continuity.

Reference:

CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice Test.

Designing Cisco Enterprise Wireless Networks (ENWLSD) course and training videos available on Cisco Learning Network and Cisco official website.

Question: 104

Refer to the exhibit.

An engineer determined that during a recent controller failure, some APs did not failover to their secondary controller based on the network design, which has sufficient licenses for all APs. The controllers are not in a mobility group but have A records for their hostnames in DNS. Which setting needs to be addressed?

A. The controllers must be in the same mobility group.

B. The secondary controller IP address is incorrect.

C. DNS hostnames are required to be FQDN.

D. The AP failover priority was not set high enough.

Answer: B

Explanation:

In the scenario described, where some APs did not failover to their secondary controller despite having sufficient licenses, the issue likely lies with the configuration of the APs to recognize the secondary controller. Since the controllers are not in a mobility group but have A records for their hostnames in DNS, this suggests that they rely on DNS for AP discovery and failover. If APs are not failing over as expected, it could be due to an incorrect IP address configured for the secondary

controller on the AP or within DNS. The exhibit shows that the "Secondary Controller" field has an IP address of "10.42.89.11", which should be verified against DNS records and actual controller settings to ensure accuracy. Reference := (CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice)

Question: 105

A wireless engineer must design mobility between two buildings at a campus site. The engineer has one controller at each site. The engineer is investigating inter-controller CAPWAP data and control traffic. Which two ports must be open? (Choose two.)

A. 5246

B. 5247

C. 8443

D. 16666

E. 16667

Answer: A, B

Explanation:

For mobility between two buildings with one controller at each site, CAPWAP data and control traffic must be able to pass between controllers. CAPWAP control messages use UDP port 5246 while CAPWAP data messages use UDP port 5247; therefore, these ports must be open to allow intercontroller communication for seamless mobility. Reference := (CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice)

Question: 106

An engineer has designed an anchor redundancy for guest clients connecting to SSID with auto-anchor configured. After adding a second Anchor WLC under the SSID mobility anchor list, clients are load-balanced between existing and new anchors instead of having one anchor as active and the other one as standby. Which feature should be included in the design that will be configured on the WLC running 8.1 or above to ensure anchor redundancy?

A. Auto-Anchor Foreign Mapping

B. AP groups

C. Guest Anchor Priority

D. 802.11r

Answer: C

Explanation:

When designing anchor redundancy for guest clients with auto-anchor configured on a WLC running version 8.1 or above, setting up Guest Anchor Priority ensures that one anchor is treated as active while another acts as standby rather than load-balancing clients between anchors which is not desired in this case. Reference := (CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice)

Question: 107

An engineer is configuring a centralized set of controllers for separate facilities. Which two Cisco wireless architectures must be used to ensure flexible sizing of WLAN to VLAN mappings? (Choose two.)

A. interface group

B. mobility group

C. AP group

D. controller group

E. RF group

Answer: A, C

Explanation:

Interface groups allow for flexible WLAN to VLAN mappings by grouping multiple interfaces into a single entity. This enables a single WLAN to be mapped to multiple VLANs, providing scalability and flexibility in network design. AP groups are used to manage the configuration of multiple APs collectively, allowing for consistent WLAN to VLAN mappings across different APs in separate facilities.

Question: 108

APs in a remote office recently have been converted from local mode to FlexConnect to take advantage of the local switching. After the change, remote wireless users report voice quality issues and bad quality on wireless IP phones while roaming. A debug is performed, and it is noticed that the 802.11r Fast Transition is not working as expected, like on local mode AP, though the same WLAN configuration is in place. What is the cause of the issue regarding the FlexConnect APs?

A. They do not support 802.11r FT.

B. They must be added into AP groups along with a common RF profile.

C. They must be in a FlexConnect group to support 802.11r FT.

D. They must be added to AP groups to support fast roaming methods.

Answer: C

Explanation:

FlexConnect APs must be in a FlexConnect group to support 802.11r Fast Transition (FT). This grouping allows for local authentication and key management, which are necessary for fast roaming methods that improve voice quality and wireless IP phone performance during roaming.

Reference: The official Cisco FlexConnect configuration guide

Reference: https://www.cisco.com/c/dam/en/us/td/docs/wireless/controller/technotes/80211r- ft/b-80211r-dg.html

Question: 109

An enterprise is using a Cisco AireOS controller and Wi-Fi 6 APs. The controller is installed in the head office, and the employees primarily use Apple OS devices. The APs broadcast WLAN ENT- WLAN406558520-1 for the employees and a guest WLAN with similar naming. What needs to be

enabled on the controller to optimize roaming?

A. Aggregated Probe Response Optimization

B. Fast SSID Changing

C. Load Balancing Window

D. Client Timers

Answer: A

Explanation:

Aggregated Probe Response Optimization should be enabled on the controller to optimize roaming, especially for environments with a high density of Apple OS devices. This feature reduces airtime consumption and overhead by aggregating probe responses, which can improve the roaming experience for the employees.

Question: 110

During a wireless design all APs are mapped to designated controllers in case of a failure. The controllers are located in the same data center but in different racks. An AP failed over to a controller that was not defined on its High Availability tab. The customer does not want the AP to move back to its defined Cisco WLCs until they manually intervene. What needs to be addressed in the design?

A. Set AP fallback to enabled.

B. Set AP fallback to disabled.

C. Change the HA SKU secondary unit option.

D. Change the default mobility domain.

Answer: B

Explanation:

Setting AP fallback to disabled will prevent the AP from moving back to its defined Cisco WLCs automatically after failing over to an undefined controller. This allows manual intervention to determine when the AP should revert to its primary controller.

Question: 111

A network engineer is troubleshooting connectivity issues between two WLCs running 8.x code in SSO mode and finds that the redundancy management heartbeat is failing. Which packet type must be filtered for heartbeats when taking a capture to verify communication?

A. RSTP

B. UDP

C. TCP

D. ICMP

Answer: B

Explanation:

The redundancy management heartbeat in Cisco Wireless LAN Controllers (WLCs) running 8.x code in Stateful Switch Over (SSO) mode uses UDP packets for communication. When troubleshooting connectivity issues between two WLCs, it is essential to filter for UDP packets in a packet capture to verify the heartbeat communication. The heartbeat packets are sent on a specific UDP port, and filtering for this port can help isolate the heartbeat traffic from other types of traffic in the

capture.

Question: 112

A customer has multiple WLCs running N+1 redundancy with APs equally distributed. Only one WLC is a designated backup for all other WLCs so the customer must ensure that the most critical APs remain registered or get priority over other APs in case of a WLC failure. However, the customer notices on WLC failure that some critical APs remain unregistered What needs to be addressed in the design?

A. AP fallback is not enabled on the backup WLC.

B. AP failover priority is not enabled globally on the backup WLC.

C. AP failover priority is not enabled globally on the failed WLC.

D. AP fallback is not enabled on the failed WLC.

Answer: B

Explanation:

In a scenario where a customer has multiple Wireless LAN Controllers (WLCs) running N+1 redundancy with Access Points (APs) equally distributed, the critical APs must have priority in case of a WLC failure. If critical APs remain unregistered during a WLC failure, it indicates that the AP failover

priority is not enabled globally on the backup WLC. Enabling AP failover priority ensures that critical APs are given precedence over other APs, allowing them to register with the backup WLC first.

Question: 113

WLC SSO is set up between two WLCs in a service provider network serving public spaces. On WLC failover, it is noticed that only about half of the original client count is now showing on the secondary WLC, although it is currently showing the role as active. Which design side case explains the issue?

A. The secondary WLC platform does not support the required client count.

B. The WLCs had not completed database sync before the primary failure.

C. SSO is not configured correctly.

D. Some client sessions were in WebAuth-Req state before failover.

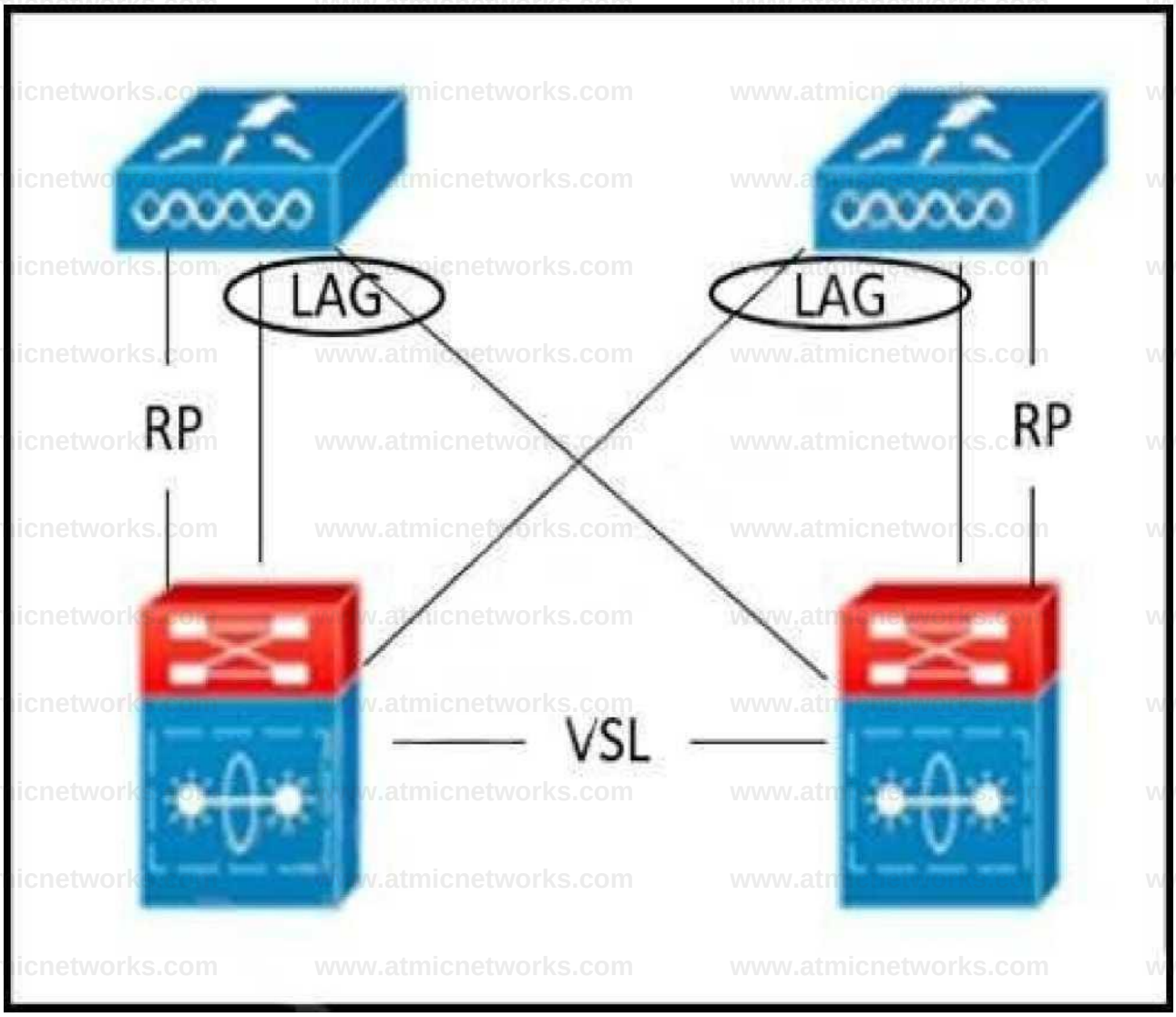
Answer: B

Explanation:

When a Wireless LAN Controller (WLC) SSO is set up between two WLCs in a service provider network, and there is a failover, the secondary WLC should ideally support the same client count as the primary. If only about half of the original client count is showing on the secondary WLC postfailover, it suggests that the WLCs had not completed the database synchronization before the primary WLC failed. This incomplete sync would result in a loss of client information, leading to a reduced client count on the secondary WLC.

Question: 114

Refer to the exhibit.



A WLC SSO pair is set up. Which failure scenario causes a split-brain scenario?

A. RP is down.

B. Two distribution ports on the active WLC are down.

C. VSL is down.

D. One distribution port on the active WLC is down.

Answer: C

Explanation:

The Virtual Switching Link (VSL) is essential for communication between the active and standby Wireless LAN Controllers (WLCs) in a Stateful Switch Over (SSO) setup. If the VSL goes down, it can lead to a split-brain scenario where both WLCs assume they are active, causing network disruptions and inconsistencies in client handling. Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD 300-425) Official Cert Guide.

Question: 115

A wireless engineer is getting ready to perform a predictive site survey. The new network needs to support data and voice over wireless. Which two Cisco recommendations should be considered for the design? (Choose two.)

A. Set -19 dBm of separation between APs on the same channel.

B. Use the 5 GHz radio band due to 40 MHz bandwidth capability.

C. Use the 5 GHz radio band due to the 24 non-overlapping channels.

D. Set the cell boundary to -67 dBm.

E. Set the cell overlap to 15%

Answer: B, D

Explanation:

The 5 GHz band is recommended for voice over wireless due to its wider channel bandwidths, allowing for higher data rates. Setting the cell boundary at -67 dBm ensures sufficient signal strength for reliable voice communication. Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 Official Cert Guide.

Question: 116

An engineer is designing a wireless network to support Cisco Hyperlocation. The customer indicated some How is the design adjusted?

A. Add additional APs to all the comers of the site.

B. Add more APs than indicated from the site survey spread across all areas.

C. Add an additional AP in the middle of the dense area.

D. Run the site survey using -57d Bm as a threshold.

Answer: B

Explanation:

Cisco Hyperlocation requires a dense deployment of access points for accurate location tracking. Adding more APs than a standard site survey suggests can meet the granular location requirements needed for Hyperlocation services. Reference: ENWLSD official certification guide.

Question: 117

An engineer is designing a new wireless network. The network needs to fulfill the following requirements: ˆ support multimedia applications

ˆ support a high concentration of wireless clients

^ support data over wireless

^ support roaming

Which approach should be used?

A. use of micro cells with reduced power levels

B. use of macro cells with reduced power levels

C. coverage for cells at maximum power levels

D. use of macro cells with maximum power levels

Answer: A

Explanation:

Micro cells with reduced power levels are suitable for environments with a high concentration of wireless clients and multimedia applications, as they help manage interference and allow for better roaming capabilities. Reference: ENWLSD 300-425 Official Cert Guide.

Question: 118

An engineer is designing a high-density WLAN for a 10,000-seat auditorium. The solution must take advantage of human attenuation, as well as the aesthetics of the room. Where must the APs be placed?

A. on the walls

B. under the seats

C. on the ceiling

D. above the seating areas

Answer: B

Explanation:

For a high-density WLAN environment like a 10,000-seat auditorium, placing APs under the seats can take advantage of human attenuation and maintain the aesthetics of the room. Human bodies absorb Wi-Fi signals, and placing APs under the seats helps in mitigating this effect by having the signals emanate from among the audience, rather than from above where the signals would have to pass through the audience, resulting in signal degradation1.

Question: 119

A wireless engineer is designing a wireless network to support real time applications over wireless. Which IEEE protocol must the engineer enable on the WLC so that neighbor list radio management packets are sent to the wireless

devices?

A. 802.11w

B. 802.11r

C. 802.11i

D. 802.11k

Answer: D

Explanation:

The IEEE 802.11k protocol is designed to enable radio resource measurement and neighbor list radio management packets. This protocol allows wireless devices to better understand their radio environment, which in turn supports real-time applications over wireless by enabling devices to make quicker and more informed decisions about roaming

Question: 120

An enterprise network administrator is asked to set up an experimental WLAN for a collaboration project with a local service provider. The WLAN must be anchored to a WLC in the service provider data center using legacy mobility mode. After the configurations are completed on the WLCs and the firewalls in the path, the data path mobility tunnel is failing to come up.

What should be performed by the administrator to debug the issue?

A. Establish a Telnet connection from a local PC to the firewall on port 97.

B. Use the mapping command on the WLC.

C. Establish a Telnet connection from a local PC to the firewall on port 16666.

D. Use the mapping command on the WLC.

Answer: C

Explanation:

When a data path mobility tunnel fails to come up, one of the troubleshooting steps is to check if the necessary ports are open and not being blocked by any firewalls in the path. Since the mobility tunnel uses CAPWAP, which operates on UDP ports 16666 (control path) and 16667 (data path), establishing a Telnet connection to the firewall on port 16666 can help determine if the control path is open and if there are any issues that need to be addressed3.

Reference:

https://www.cisco.com/c/en/us/support/docs/wireless/4400-series-wireless-lan- controllers/107458-wga-faq.html

Community vote distribution

Question: 121

Refer to the exhibit.

AireOS 5520:

config mobility group domain CCNP
config mobility group member add 00:1e:14:08:fb:ff 10.0.109.4 CCNP encrypt enable
config mobility group member hash 10.0.109.4 dc0582ed7748ecfdb543cedd82caafa34b705a39
config mobility group member data-dtls 00:1e:14:08:fb:ff enable

IOS-XE 9800-CL

wireless mobility group name CCNP
wireless mobility mac-address 001E.E63D.CDFF
wireless mobility group member mac-address a493.4cb1.15e0 ip 10.0.100.2 public-ip 10.0.100.2 group CCNP

An engineer is about to establish a mobility peer connection between a Cisco Catalyst 9800-CL version 16.10.1e and Cisco AireOS 5520 version 8.8.120.0. The data path between the 9800-CL and AireOS 5520 is down, but its control path is up. Based on the configuration, what is the cause of the issue?

A. The certificate hash key is incorrect leading to data path down.

B. The data-link-encryption configuration is missing from the 9800-CL configuration.

C. Encrypted mobility is being used in the 5520 configuration leading to data path down.

D. CAPS is used to key in MAC address in the IOS_XE configuration leading to data path down.

Answer: C

Explanation:

The data path issue between the Cisco Catalyst 9800-CL and AireOS 5520, despite an active control path, is likely due to encrypted mobility being enabled on the AireOS 5520. Encrypted mobility requires both peers to have a matching configuration for encryption, which includes proper certificates and shared secrets. If there's a mismatch, the control path may be established, but the data path can fail due to the inability to establish an encrypted tunnel.

Question: 122

A customer is deploying an 802.11ac network on a oor to support approximately 300 wireless devices. Which setting must be changed on Cisco Prime Infrastructure Planning Tool to predict the number of APs the customer needs to service the new oor?

A. Demand Settings

B. Data Coverage Support Margin

C. 802.11n Protocol Support

D. Add AP Field

Answer: A

Explanation:

To predict the number of APs needed to support approximately 300 wireless devices on a new floor with an 802.11ac network, the Demand Settings in the Cisco Prime Infrastructure Planning Tool must be adjusted. This setting allows the planner to specify client density and throughput requirements, which are crucial for determining the correct number of APs.

Question: 123

An engineer added an AP to a deployment after a post-installation site survey. The engineer then notices an increase in co-channel interference and retransmissions. Which two features help mitigate the issue? (Choose two.)

A. Cisco Compatible Extensions

B. Transmit Power Control

C. Enhanced Distributed Channel Access

D. Coverage Hole Detection

E. Dynamic Channel Assignment

Answer: B, E

Explanation:

To mitigate increased co-channel interference and retransmissions after adding an AP, Transmit Power Control (TPC) and Dynamic Channel Assignment (DCA) can be effective. TPC adjusts AP transmit power based on real-time analysis of the wireless environment, reducing interference by lowering power where necessary. DCA dynamically changes channel assignments based on current RF conditions to optimize performance and minimize interference.

Question: 124

When a wireless survey is conducted at a customer facility, signal attenuation in an area that is surrounded by thick

glass walls is noted as 2dB. When Cisco Prime Infrastructure is configured, which obstacle must be placed in a map editor to represent the impact that the glass wall will have on the RF signal in the facility?

A. heavy door

B. glass

C. thick wall

D. light wall

Answer: B

Explanation:

When configuring Cisco Prime Infrastructure, to represent the impact of a thick glass wall with an attenuation of 2dB on the RF signal, the obstacle that should be placed in the map editor is glass. This is because the material-specific attenuation values are used to model the RF signal's behavior as it passes through different types of obstacles, and the thick glass wall's impact is best represented by the glass obstacle in the map editor.

Question: 125

While performing an AP-on-a-stick survey with a cell boundary of -67 dBm, an engineer is consistently reading SNR less than 15 dB in a particular area within the cell boundary. What is

causing this issue?

A. Another signal is interfering with the AP.

B. The engineer forgot to compensate for the wall type in that area.

C. The AP transmit power is too low.

D. The engineer is too far from the AP.

Answer: A

Explanation:

An SNR (Signal-to-Noise Ratio) less than 15 dB within the cell boundary during an AP-on-a-stick survey indicates that there is interference affecting the AP's signal. This interference could be from another signal source that is reducing the quality of the connection, despite the signal strength being within the acceptable cell boundary of -67 dBm.

Question: 126

An engineer must perform a Layer 2 survey for a mining facility. Which type of antenna does the engineer use in the mine shaft?

A. omnidirectional

B. patch

C. internal

D. dipole

Answer: A

Explanation:

In a mining facility, especially within mine shafts where the environment can be long and narrow, an omnidirectional antenna is typically used for a Layer 2 survey. This type of antenna radiates RF signal equally in all directions, providing coverage along the length of the shaft.

Question: 127

An engineer is designing a wireless network to support hyperlocation in an environment that already has APs installed. During the survey, the engineer notices that the APs are pointing in different directions. What is the recommended way to align the APs to easily determine AP

Azimuth, X-Y, and ceiling height information, and minimize confusion and user-entered errors?

A. APs must be aligned pointing toward the nearest wall.

B. APs must be aligned pointing toward each other.

C. APs must be aligned in the same direction.

D. APs can be aligned all four ways.

Answer: C

Explanation:

For supporting hyperlocation, it is recommended that APs be aligned in the same direction. This uniform alignment helps in accurately determining the AP Azimuth, X-Y, and ceiling height information, which is crucial for hyperlocation accuracy and minimizes confusion and user-entered errors.

Question: 128

An engineer is performing an active survey of a network that must support different types of mobile devices. The devices must be able to run an application that requires a minimum RF of 73 dBm. Which mobile device must be used for the survey?

A. one that has a receiver sensitivity of -70 dBm

B. one that has the lowest receiver sensitivity

C. one that has the most updated wireless card

D. one that has 802.11a wireless support

Answer: A

Explanation:

For an active survey where the application requires a minimum RF of -73 dBm, the mobile device used for the survey should have a receiver sensitivity of -70 dBm or better. This ensures that the device is sensitive enough to detect the minimum required signal strength for the application to function properly.

Question: 129

An engineer must produce a passive survey report. The coverage heat map shows the entire site with all signal levels. To see only the desired coverage, which action must the engineer take?

A. Change the color scheme to show the desired heat map.

B. Use the RSSI calibration tool to configure the receiver sensitivity.

C. Use the RSSI slider to set the heat map to the desired cutoff lter.

D. Filter the results to show the desired APs only.

Answer: C

Explanation:

To focus the coverage heat map on the desired coverage, the engineer should use the RSSI slider to set the heat map to the desired cutoff filter. This action will adjust the display to show only the signal levels that meet or exceed the specified RSSI value, effectively filtering out weaker signals and highlighting areas with sufficient coverage. Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD 300-425)

Question: 130

An engineer is performing an AP-on-a-stick survey and nds that the 5 GHz channel overlap is too high when an appropriate number of APs are used for the density requirements. Which two actions during the survey reduce channel overlap? (Choose two.)

A. Raise the minimum data rate to 24 Mbps.

B. Increase AP transmit power to improve the SNR.

C. Allow the use of UNII-2e channels.

D. Use directional antennas to limit the coverage area of some APs.

E. Enable power saving mode.

Answer: A, D

Explanation:

Raising the minimum data rate to 24 Mbps will reduce the range at which devices can connect, thereby reducing channel overlap. Using directional antennas can also help limit the coverage area of some APs, which can further reduce channel overlap by focusing the signal in specific directions rather than in a broad coverage pattern. Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD 300-425)

Question: 131

An engineer is designing a point-to-multipoint mesh network. Which two AP configurations must be completed for a site survey? (Choose two.)

A. MAP hostnames

B. Rx power

C. mesh on 2.4 GHz band

D. bridge group name

E. Tx power

Answer: B, E

Explanation:

For a point-to-multipoint mesh network site survey, configuring the Rx power and Tx power is essential. Rx power will determine the sensitivity of the AP to incoming signals, which is crucial for understanding the reach of each mesh point. Tx power settings will influence the strength of the signals transmitted from the AP, affecting the network's overall coverage. Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD 300-425)

Question: 132

The wireless survey report shows APs staggered throughout a facility, with several of them placed on the exterior walls. Other APs are located at building corners and major turns in the structure layout. Assuming that all survey locations are optimized with a minimum of -67 RSSI at

cell edges with 20% overlapping cells, for which purpose is this survey model used?

A. location services, VoIP, data, and video

B. streaming video with VoIP, data, and HD resolution

C. location-based services, BYOD preparation, and HD video streaming

D. voice, data clients, and video on demand

Answer: A

Explanation:

The survey model described is used for location services, VoIP, data, and video. The placement of APs on exterior walls, building corners, and major turns helps ensure consistent coverage and signal strength for a variety of applications, including precise location tracking and high-quality voice and video communications. Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD 300-425)

Question: 133

An engineer must perform a predictive design for a wireless network. The customer has devices that can tolerate at most 100 ms of delay when roaming. Which design criteria must be used?

A. location

B. data

C. video

D. voice

Answer: D

Explanation:

Devices that can tolerate at most 100 ms of delay when roaming are typically voice devices. Voice applications are sensitive to delays, and ensuring a maximum of 100 ms delay is a common design criterion for a wireless network supporting voice services. Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD 300-425)

Question: 134

A wireless engineer must assess constraints for a future WLAN deployment for a site that consists of o®ce cubicles. Which signal propagation attenuation result is associated with this environment?

A. re ection

B. absorption

C. noise

D. refraction

Answer: B

Explanation:

In an office environment with cubicles, signal propagation is most commonly affected by absorption. This is because the materials used in cubicle walls, such as fabric and other dense substances, tend to absorb the radio frequency (RF) signals

used in WLANs, leading to attenuation.

Question: 135

An engineer configured the optimized client roaming on Cisco WLC with an RSSI threshold of 72dBm. Clients report frequent disconnections. What must be configured for the AP to guide the client to a better AP?

A. Enable BSS transition at the radio level and optimized roaming on the SSID.

B. Disable coverage hole detection on the SSID and enable BSS transition on the SSID.

C. Disable optimized roaming and enable 802.11v support on the SSID.

D. Enable BSS transition on the SSID and optimized roaming at the radio level.

Answer: C

Explanation:

Frequent disconnections may occur if the RSSI threshold set for optimized roaming is too high, causing clients to attempt roaming too late. Disabling optimized roaming and enabling 802.11v support allows for better client steering by the AP, as 802.11v includes the BSS Transition Management feature, which guides clients to a better AP based on the network's conditions.

Question: 136

An engineer must install an outdoor wireless network for an area with a direct line of sight. The outdoor APs are in an open area with of harsh weather. Which two parameters must the engineer consider to prevent an outdoor wireless outage? (Choose two.)

A. lightning arrestor installation

B. antenna cable grounding

C. cable strength

D. cable length

E. elimination of trees

Answer: A, B

Explanation:

For outdoor wireless networks, especially in open areas prone to harsh weather, it's crucial to install lightning arrestors to protect against electrical surges caused by lightning strikes. Additionally, grounding the antenna cables helps dissipate any electrical charge that could damage the equipment.

Question: 137

A customer has a central Cisco WLC that manages APs in FlexConnect mode. The wireless infrastructure supports multiple small branches. One branch deploys new CCX wireless phones that are authenticated by a central Cisco ISE via PEAP/IMSCHAPv2, and tra®c is switched locally. The customer must reduce the number of full authentication requests and optimize roaming for the new phones. Which action

accomplishes the requirement?

A. Enable CCKM on the voice SSID and add APs to a FlexConnect group.

B. Enable Aironet IE on the voice SSID and add APs to an AP group.

C. Enable Aironet IE on the voice SSID and add APs to a FlexConnect group.

D. Enable CCKM on the voice SSID and add APs to an AP group.

Answer: A

Explanation:

To reduce full authentication requests and optimize roaming, enabling Cisco Centralized Key Management (CCKM) on the voice SSID is effective. CCKM allows for fast re-authentication during roaming, which is beneficial for voice applications. Adding APs to a FlexConnect group helps manage APs in remote branches more efficiently.

Question: 138

An engineer must identify the network requirements for a company that has a main o®ce and 10 branch support data, voice, video, and location tracking. Which two factors must be considered? (Choose two.)

A. security policy of the company for building access

B. number of wireless devices that require access

C. type of site for which the survey will be performed

D. available power sockets in the IT room

E. business type of the company

Answer: B, E

Explanation:

When identifying network requirements, it's important to consider the number of wireless devices that will need access to ensure sufficient capacity and coverage. The business type can influence the types of applications and services that will be used, which in turn affects the network design.

Question: 139

During a meeting to gather the requirements for a new Wi-Fi network design, the customer requests that to connect. Which affect does this have to the wireless network?

A. bigger channel width

B. lower throughput

C. 2.4 GHz signal congestion

D. higher RF re ection

Answer: C

Explanation:

Devices that only support 2.4 GHz can increase congestion on this frequency band, especially in environments where multiple devices are present. This is because the 2.4 GHz band has fewer nonoverlapping channels compared to 5 GHz, leading to more interference and potential performance issues.

Question: 140

A customer deploys a new Cisco high-density wireless network within the open areas of a mall to provide free public wireless on 5 GHz. The existing mall tenants have their own wireless networks that are independently managed. Which design approach minimizes channel

utilization for the public network?

A. Enable all 5-GHz channels that are supported by the region and use 40-MHz channels.

B. Enable UNII-1 channels only and use 80-MHz channels.

C. Enable UNII-1 channels only and use 20-MHz channels.

D. Enable all 5-GHz channels that are supported by the region and use 20-MHz channels.

Answer: C

Explanation:

To minimize channel utilization and interference with existing tenant networks, it's best to use the UNII-1 channels, which are typically less congested, and stick to 20-MHz channels to provide more non-overlapping channels and reduce co-channel interference.

Question: 141

A new wireless network design has these requirements:

- AireOS WLCs as guest anchors

- a Cisco Catalyst 9800 Series WLC as the foreign controller
- use of Wi-Fi 6 APs
- inter-controller roaming for guest users

Which two design approaches meet these requirements? (Choose two.)

A. Use EoIP for communication between controllers.

B. Use WLC software versions that support IRCM.

C. Use AVC on the anchor WLCs.

D. Use IPv6 across the wireless network.

E. Use secure mobility to pair controllers.

Answer: A, B

Explanation:

EoIP (Ethernet over IP) is used for communication between controllers in a guest anchor setup, allowing for seamless roaming. Inter-Controller Roaming Mechanism (IRCM) support is necessary for the controllers to facilitate roaming across different wireless LAN controllers.

Question: 142

An engineer is designing a new wireless network. Based on the design, O®ceExtend AP functionality must be used. Which type of license must the Cisco 5520 WLC v8.3 have?

A. Base license

B. O®ceExtend AP license

C. WPlus license

D. Plus license

Answer: A

Explanation:

The Cisco 5520 WLC v8.3 requires a base license to use OfficeExtend AP functionality, which allows remote workers to have the same wireless connectivity as they would in an office environment.

Question: 143

What is the wireless signal loss of large cases of liquid materials being stored in a warehouse environment?

A. It is higher than dry goods.

B. It is not impactful to the RF design.

C. It is less than dry goods.

D. It is impactful but overall negligible to the RF design.

Answer: A

Explanation:

Large cases of liquid materials can cause higher signal loss compared to dry goods due to the way radio frequency (RF) waves interact with liquid, which can absorb and reflect the signals more than dry materials.

Question: 144

An engineer is trying to configure the APs installed in a new auditorium to use 40 MHz channels with high data rates and lower TX power. The APs in the building hallway must use lower-density design settings configured for the rest of the building. Which two configurations achieve this design? (Choose two.)

A. TPC

B. DCA

C. AP group

D. RRM

E. RF protocol

Answer: C, D

Explanation:

AP groups allow the engineer to apply different policies for APs in the auditorium versus those in the hallway. RRM (Radio Resource Management) can dynamically adjust the TX power and channel settings to optimize the wireless coverage and capacity.

Question: 145

A wireless engineer must design a backhaul link. The engineer has a mesh access point that has a wired connection back to the infrastructure. What must be changed in the AP role before a change is made in the AP mode?

A. monitor

B. RAP

C. bridge

D. local

Answer: C

Explanation:

When designing a backhaul link, the mesh AP role should be set to 'bridge' to enable it to connect separate network segments or extend coverage to remote areas.

Question: 146

A Cisco controller-based wireless network must support workgroup bridges. The APs congured as workgroup bridges must support wired and wireless clients. The wireless clients must connect to the spare radio. What is the maximum number of wired client connections supported on a workgroup bridge?

A. 20

B. 25

C. 30

D. 35

Answer: A

Explanation:

Typically, a Cisco workgroup bridge can support up to 20 wired client connections. This allows for a reasonable number of devices to be connected while maintaining performance.

Question: 147

An engineer must assess an existing company WLAN to determine the possibility for future IEEE 802.11ac Wave 2 wireless deployment. The existing WLAN is IEEE 802.11a/n and has IEEE 802.11n and 802. 11a clients. The engineer must advise the customer about support for these older clients on the new APs. What happens with client compatibility?

A. 802.11ac is backward compatible with 802.11n but not with 802.11a.

B. 802.11ac is backward compatible with 802.11a but not with 802.11n.

C. 802.11ac is backward compatible with 802.11a and 802.11n.

D. 802.11ac is not backward compatible with 802.11a or 802.11n.

Answer: C

Explanation:

IEEE 802.11ac Wave 2 APs are backward compatible with 802.11a/n clients, allowing these devices to connect and communicate with the newer APs, albeit at their respective maximum supported speeds.

Question: 148

An engineer is setting up the WLC to support a high-density design for a lecture hall. The engineer must modify the existing high-density RF protocol to obtain a smaller cell size. Also, the clients must connect to the nearest AP using the highest possible data rates. Which setting allows this design?

A. AP load balance

B. client distribution

C. power threshold

D. RX-SOP threshold

Answer: D

Explanation:

Adjusting the RX-SOP (Receiver Start of Packet Detection Threshold) can help to control cell size by making APs less sensitive to low-level signals, thus requiring clients to be closer to the AP to connect, which can ensure they connect to the nearest AP with the highest data rates.

Question: 149

An engineer designs a new wireless network that uses a Cisco Catalyst 9800 Series wireless controller. The controller must be in a DMZ. The internal network is to be at the main on-premises data center of the customer. In addition, the customer wants to establish an EoIP tunnel to a Cisco 5520 WLC that is in a regional force. How must this requirement be incorporated into the design?

A. Use Cisco IOS-XE code that supports encryption of the data plane on the Catalyst 9800 WLC.

B. Use AirOS code that supports encryption of the control plane on the 5520 WLC.

C. Use Cisco IOS-XE code that supports encryption of the control plane on the Catalyst 9800 WLC.

D. Use AirOS code that supports encryption of the data plane on the 5520 WLC.

Answer: A

Explanation:

When designing a network with a DMZ and an EoIP tunnel, it's important to ensure that the data plane is encrypted to protect the data as it traverses potentially unsecured networks. Cisco IOS-XE on the Catalyst 9800 supports encryption of the data plane, which is essential for this design.

Question: 150

An engineer must deploy a wireless network in an open-plan environment that has three SSIDs using the 5 GHz band set to 40 MHz. Co-channel interference must be reduced. Which two actions must be taken? (Choose two.)

A. Increase the number of SSIDs.

B. Increase channel bonding in the 2.4 GHz band to 40 MHz.

C. Disable band steering.

D. Decrease channel bonding in the 5 GHz band to 20 MHz.

E. Reduce the power of the AP.

Answer: D, E

Explanation:

To reduce co-channel interference, it's beneficial to decrease channel bonding, which will increase the number of non-overlapping channels available. Reducing the power of the APs can also help minimize interference by reducing the range of each AP's signal, thereby reducing the chance of overlap.

Question: 151

A network consultant must create a wireless design with these characteristics:

- Provide coverage in a single contiguous space.
- Support dual-band wireless coverage.
- Use nine APs for full coverage in a 5 GHz band.

What must the engineer do to mitigate co-channel interference and maintain coverage in 2.4 GHz?

A. Adjust the TPC neighbor threshold value to -64 dBm on the 2.4 GHz band.

B. Configure static channel and power settings of the 2.4 GHz radios.

C. Disable 2.4 GHz radios on selective APs.

D. Deactivate low data rates on the 2.4 GHz band.

Answer: C

Explanation:

In a high-density environment where 5 GHz coverage is provided by nine APs, disabling the 2.4 GHz radios on some APs can reduce co-channel interference because the 2.4 GHz band has fewer nonoverlapping channels. This approach helps maintain coverage while mitigating interference.

Question: 152

An engineer must perform a predictive design for a wireless network for location readiness and to mitigate interference. Which power level does the engineer use?

A. 10 mw

B. 18 mw

C. 20 mw

D. 50 mw

Answer: B

Explanation:

For predictive designs, especially for location readiness and interference mitigation, a mid-range power level like 18 mw is often used. It provides a balance between coverage and minimizing interference with other devices and networks.

Question: 153

A wireless consultant reviewing the installation of an old wireless network. The existing AireOS controllers are running software version 6.0.4539:44024. The customer is using OEAP and wants to keep this functionality. Which licenses should the consultant propose with the latest controller software version?

A. Base

B. Premium

C. WPlus

D. Advanced

Answer: C

Explanation:

The WPlus license is suitable for environments using OfficeExtend Access Points (OEAP), which allows employees to work from home with a seamless connection to the corporate wireless network. The WPlus license enables features such as advanced security and increased scalability for remote workers. Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide.

Question: 154

An engineer is designing a mesh wireless network. The network must full these requirements:

- bridge mode APs must be used
- WPA2-PSK
- minimize wireless traffic tunneled to the WLC

A. bridge RAP

B. Flex + Bridge

C. FlexConnect

D. bridge MAP

Answer: C

Explanation:

FlexConnect mode is ideal for branch offices and remote locations where it's necessary to minimize wireless traffic tunneled back to the Wireless LAN Controller (WLC). In FlexConnect mode, APs can perform client authentication locally and bridge traffic onto the local network. Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide.

Question: 155

A university lecture hall has a Cisco wireless high-density network with this configuration:

- 5 GHz only
- 20-MHz channels
- UNII-1, UNII-2, and UNII2-E channels
- TPC minimum = 8
- TPC maximum = 14

The lecture hall is 200 feet by 100 feet and has 16 Cisco APs that use directional antennas. Which feature must be included in the design to mitigate and reduce high-channel utilization from rogue APs?

A. band select

B. DFS detection

C. RxSOP

D. 802.11w

Answer: C

Explanation:

Receiver Start of Packet Detection Threshold (RxSOP) helps to mitigate high-channel utilization by ignoring rogue APs and other RF interference sources. By adjusting the RxSOP threshold, APs can be made less sensitive to unwanted signals, thus reducing the impact of interference. Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide.

Question: 156

An engineer is upgrading the legacy APs to 802.11ac Wave 2 capable APs. The existing gigabit uplinked switches provide 802.3at. Which switch limitation is a concern?

A. interface throughput

B. high availability

C. collision domains

D. output power

Answer: D

Explanation:

The concern with existing gigabit uplinked switches providing 802.3at is the output power limitation. 802.11ac Wave 2 APs may require more power than what 802.3at can deliver, especially for features like Multi-User Multiple Input Multiple Output (MU-MIMO). Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide.

Question: 157

A school deploys a Cisco wireless infrastructure in its classrooms to support a high density of mobile devices. The network administrator wants to bond channels in groups of two and only allow APs to send 802.11 management frames at 24 MB. What should be included in the design to accomplish this objective?

A. Set the channel width for 802.11b to 40 MHz and set data rates to 24 MB and Mandatory.

B. Set the channel width for 802.11a to 40 MHz and set data rates to 24 MB and Supported.

C. Set the channel width for 802.11a to 40 MHz and set data rates to 24 MB and Mandatory.

D. Set the channel width for 802.11b to 40 MHz and set data rates to 24 MB and Supported.

Answer: C

Explanation:

To support a high density of mobile devices and bond channels in groups of two, the channel width for 802.11a should be set to 40 MHz. Setting the data rates to 24 MB and Mandatory ensures that only APs can send 802.11 management frames at this rate, which helps in managing the airtime fairness. Reference: CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide.

Question: 158

An engineer designed a new wireless network for an enterprise customer. The customer is concerned that some wireless features may not be available because the bill of materials has only Base and no WPlus licenses for the Cisco WLC version 8. What is the reason for the engineer to take this approach regarding the licenses?

A. ForceExtend AP needs a WPlus license.

B. CAPWAP Data Encryption licenses are required for this feature.

C. All WLC features are available because WPLUS license is now included in the Base license.

D. To have all the features, plus licenses must be installed on the WLC.

Answer: C

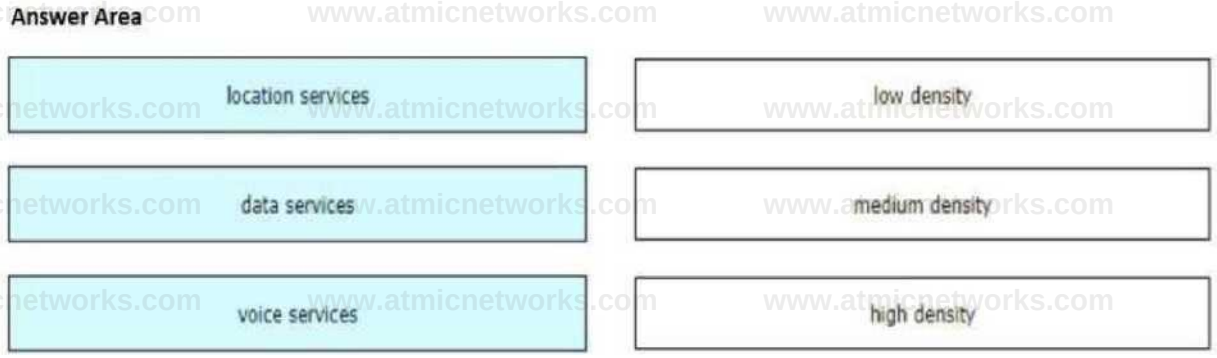
Explanation:

In Cisco WLC version 8, the need for separate WPlus licenses has been eliminated as all features that were previously part of the WPlus license are now included in the Base license. This consolidation simplifies licensing management and ensures that customers have access to all necessary features without requiring additional licenses. Reference := (CCNP Enterprise Wireless Design ENWLSD 300425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice)

Question: 159

DRAG DROP

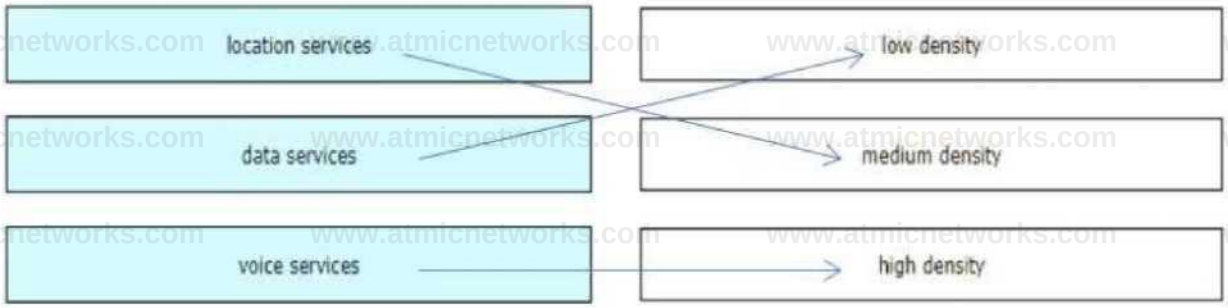
A wireless consultant is creating a wireless design for a multistory building. The building will house several groups that will use the wireless network for different operations. Depending on how the wireless network is used, different wireless approach designs must be taken. Drag and drop the services from the left onto the AP density levels on the right based on the wireless deployment requirements.



Answer:

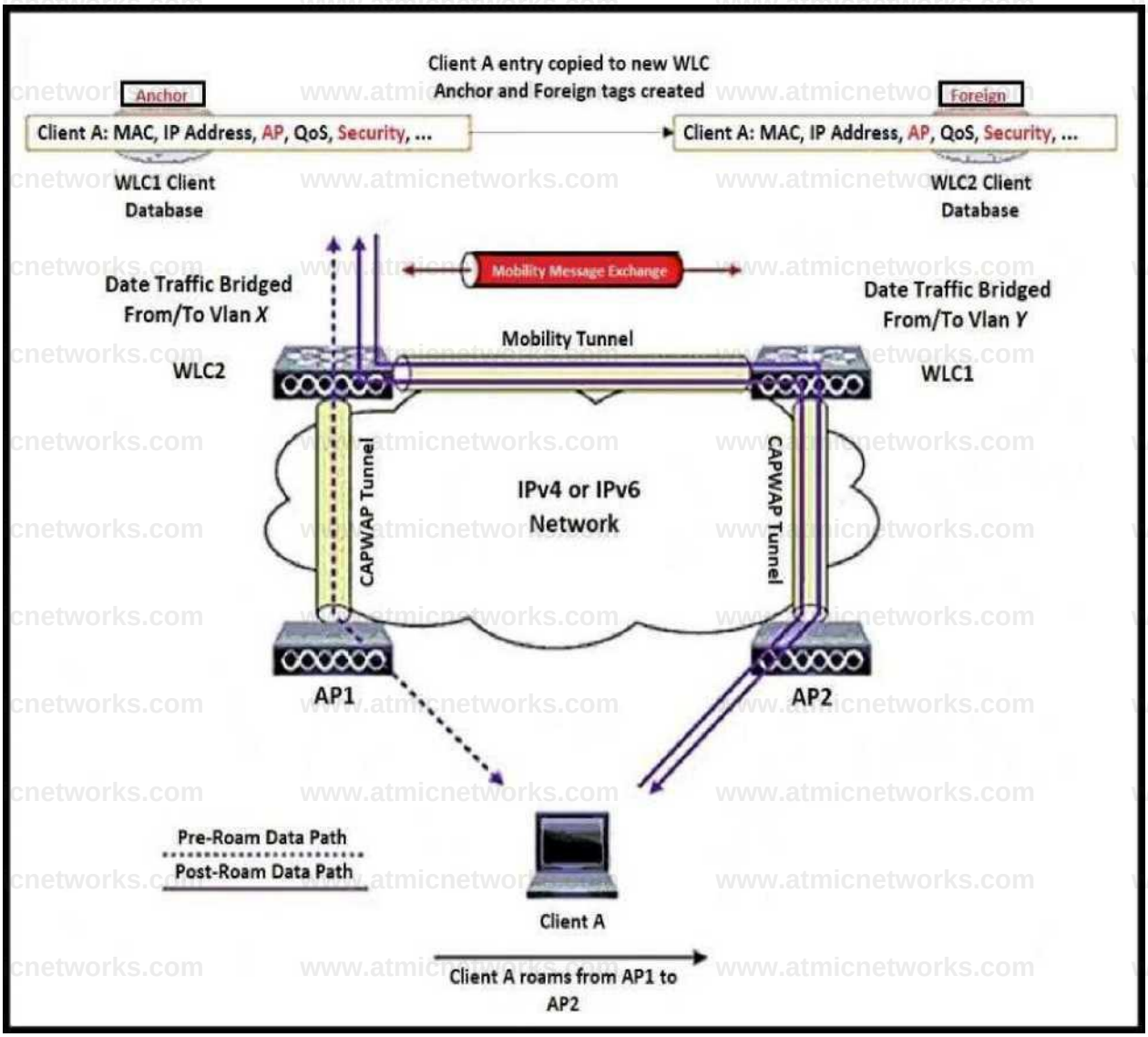
Explanation:

Answer Area



Question: 160

Refer to the exhibit.



Client A is roaming from AP1 on WLC1 to AP2 on WLC2. The client roams between two APs registered to two different controllers. The WLAN on the two controllers is on a different subnet. Which scenario explains the client's roaming behavior?

A. The client database entry is different than that of Layer 2 roam. (Instead of cop-ying, it moves the database to the new controller.)

B. The client database entry is different than that of Layer 2 roam. (Instead of mov-ing, it copies the database to the new controller.)

C. The client database entry is different than that of Layer 2 roam because the cli-ent database is neither moved nor copied into the new controller.

D. The client database remains in the mobility anchor controller and it is not cop-ied or moved.

Answer: B

Explanation:

When Client A roams from AP1 on WLC1 to AP2 on WLC2 across different subnets, this is considered

a Layer 3 roam. Unlike Layer 2 roaming where the client's database entry moves with them, in Layer 3 roaming, the client's database entry is copied to the new controller (WLC2). This ensures continuity of service as Client A transitions between access points managed by different wireless LAN controllers. Reference := (CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice)

Question: 161

An engineer working for an enterprise deployed multiple Cisco WLCs. A controller that sits in the R&D division is connected through a firewall and is part of the same mobility group. The engineer must ensure that the mobility tunneling is available through the firewall and test it as R&D engineers roam the production ..within their department. How is this requirement met?

A. mapping onUDP port 16666 and mapping on Protocol96 between management ports

B. mapping onUDP port 16666 and mapping on Protocol97 between management ports

C. mapping onUDP port 16667 and mapping on Protocol97 between management ports

D. mapping onUDP port 16667 and mapping on Protocol96 between management ports

Answer: B

Explanation:

For mobility tunneling through a firewall in a Cisco wireless network environment, UDP port 16666 must be open along with IP Protocol number '97', which is used for Encapsulating Security Payload (ESP) traffic typically found in IPsec tunnels. By ensuring these ports are mapped correctly through the firewall, R&D engineers can roam within their department while maintaining a secure mobility tunnel. Reference := (CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice)

Question: 162

An engineer is designing a solution where guests terminate on an anchor controller in the DMZ. The engineer is having issues and wants to test connectivity between members of a mobility group.

Which command must be issued to test whether a mobility control packet is able to be reached over the management interface?

A. show logging

B. mapping

C. mapping

D. tracert

Answer: D

Explanation:

The 'tracert' command is used to test connectivity between members of a mobility group by tracing the path that mobility control packets take over the network. This command helps identify any potential issues with the route that the packets are taking, which could affect the ability of guests to connect to the anchor controller in the DMZ. Reference := (CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice)

Question: 163

A customer uses a Cisco Catalyst 9800 Series wireless controller to manage all of the APs for a campus network. Secure guest access is required for the guest network. A Cisco 5520 anchor controller is deployed within a DMZ.

Which design approach ensures that the mobility tunnel is established successfully between the wireless controller and the anchor controller?

A. Run an Inter-Release Controller Mobility compatible software version on the wireless controller.

B. Enable control plane encryption on the wireless controller.

C. Disable data link encryption on the anchor controller.

D. Run an Inter-Release Controller Mobility compatible software version on the anchor controller.

Answer: B

Explanation:

Enabling control plane encryption on the wireless controller is crucial for establishing a secure mobility tunnel between the wireless controller and the anchor controller. Control plane encryption ensures that the signaling and management traffic traversing the mobility tunnel is encrypted, providing a secure channel for guest access authentication and authorization processes. This is particularly important when the anchor controller is deployed within a DMZ, as it is exposed to potential external threats. The Cisco Catalyst 9800 Series wireless controller supports control plane security features that can be leveraged to secure the mobility tunnel and ensure the integrity and confidentiality of the control traffic.

Question: 164

An engineer is working for a manufacturing company that has a centralized deployment model. Guests at headquarters need wireless access for presentations, demonstrations, and sharing of information. The engineer must provide external users with secure guest access by

connecting to anchor controllers on the DMZ. Auto-Anchor Mobility has been selected in the mobility group to accomplish it. Both anchors are configured as part of the mobility group for HQ.

Which design approach ensures that clients connect to the primary controller first and are pushed to the secondary if the primary fails?

A. Set the Anchor priority for the primary controller to 1.

B. Set the Anchor priority for the secondary controller to 1.

C. Configure ECMP but weigh the cost to be higher to go to the primary.

D. Configure ECMP but weigh the cost to be higher to go to the secondary.

Answer: A

Explanation:

Setting the Anchor priority for the primary controller to 1 ensures that clients connect to the primary controller first. The Anchor priority is a value assigned to each controller within a mobility group to determine the order in which clients should connect to the controllers. A lower priority value has higher precedence. Therefore, by setting the primary controller's Anchor priority to 1, it becomes the preferred controller for client connections. If the primary controller fails, clients are then pushed to the secondary controller, which should have a higher Anchor priority value.

Question: 165

Refer to the exhibit. An engineer is about to establish a mobility peer connection between a Cisco Catalyst 9800-CL version 16.10.1e and Cisco AireOS 5520 version 8.8.120.0. The data path between the 9800-CL and AireOS 5520 is down, but its control path is up. Based on the configuration, what is the cause of the issue?

A. The certificate hash key is incorrect, which causes the data path to be down.

B. Encrypted mobility is being used in the 5520 configuration, which causes the data path to be down.

C. The data-dtl s is disabled on the AireOS 5520 WLC, which causes the data path to be down.

D. The data-link-encryption configuration is missing from the 9800-CL configuration.

Answer: C

Explanation:

The data path being down while the control path is up indicates an issue with the data plane security configuration. The data-dtls setting on the AireOS 5520 WLC is responsible for enabling Datagram Transport Layer Security (DTLS) for the data plane, which encrypts the data traffic between the controllers. If this setting is disabled, the data path cannot be established securely, leading to the observed issue. Therefore, enabling data-dtls on the AireOS 5520 WLC is necessary to resolve the data path downtime.

Question: 166

A network consultant is designing a wireless network for a government agency. The customer requires high security between any device

communication. The design includes AireOS, Cisco IOS-XE controllers, and Cisco 4800 Series APs. Which requirement must be met to enhance the mobility group security?

A. Use a different group name for each mobility member.

B. Enable MIC authentication between the mobility group members.

C. Enable Mobility Encryption on the network.

D. Use a complex group name for the mobility group.

Answer: C

Explanation:

For a government agency requiring high security between device communications, enabling Mobility Encryption across the network is essential. Mobility Encryption enhances the security of the mobility group by encrypting the traffic exchanged between mobility peers, including AireOS, Cisco IOS-XE controllers, and Cisco 4800 Series APs. This encryption helps to protect against potential eavesdropping and unauthorized access, ensuring that sensitive government data remains confidential during wireless transmission.

Question: 167

An architect configures a set of AirOS controllers to be in the same mobility group as the existing controllers. The implementation should facilitate inter-controller roaming for users in their new campus. After the configuration, the mobility tunnel is not operational for the data path in the network. Which two validations should be performed? (Choose two.)

A. firewall port 16666

B. mapping

C. mepping

D. rping

E. firewall IP protocol 97

Answer: A, E

Explanation:

When the mobility tunnel is not operational for the data path, it is essential to validate the network's firewall settings. Firewall port 16666 must be open to allow mobility control messages to pass through, and firewall IP protocol 97 (EtherIP) must be permitted to enable the encapsulation of IP within IP, which is necessary for the data path of the mobility tunnel. Ensuring these firewall settings are correctly configured is critical for facilitating inter-controller roaming and operational mobility tunnels.

Question: 168

Refer to the exhibit. An engineer must design a mobility group that has these requirements:

- The mobility group must consist of two WLCs.

- All WLCs must run software version 8.0 or later.
- The WLCs must connect via an IPv4 network.
- Two of the WLCs must be in an SSO high availability pair.

Which two configurations must be included in the design? (Choose two.)

A. All the WLCs must be of the same model or type.

B. Only WLCs in an SSO high availability pair must use the same virtual IP address.

C. The WLAN SSID must be consistent across all the WLCs.

D. All the WLCs must run the same software version.

E. Each WLC must use the same mobility domain name.

Answer: B, E

Explanation:

In a mobility group design, it is essential that all Wireless LAN Controllers (WLCs) share the same mobility domain name to ensure seamless client mobility and roaming between WLCs. This allows for clients to be recognized across the network and maintain their sessions as they roam.

Additionally, when WLCs are in a Stateful Switch Over (SSO) high availability pair, they must use the same virtual IP address to present a single network entity to the wireless clients, ensuring uninterrupted service in the event of a failover.

Question: 169

An engineer is working for an enterprise and deployed a Cisco 9800 Series Wireless Controller. The wireless infrastructure serves the employees and guest users across the company. The engineer must configure the controller to alleviate the sticky client issue in the deployment. Which action resolves the issue?

A. Enable CHDM.

B. Enable Optimize Roaming.

C. Enable 802.11k.

D. Enable data RSSI to -90db.

Answer: B

Explanation:

The sticky client issue occurs when a wireless client device clings to a suboptimal access point instead of roaming to a better one with a stronger signal. Enabling Optimize Roaming on the Cisco 9800 Series Wireless Controller can alleviate this issue. This feature prompts clients to roam by disassociating them when their signal strength drops below a threshold, encouraging them to seek a better connection.

Question: 170

A customer has two Cisco wireless controllers named WLC-A and WLC-B. Each controller is in a different building on a campus. The WLCs have different Layer 3 interfaces and broadcast the same SSIDs from their respective APs. Users must remain connected to the same VLAN and

maintain their IP addresses during roaming from the APs that are attached to WLC-A and WLC B. Which action accomplishes the requirement?

A. Create a mobility group between the two WLCs to allow auto-anchoring.

B. Create an SSO cluster to ensure that client sessions sync between WLCs.

C. Enable 802.11r on each SSID on both WLCs to allow caching of the PMK.

D. Enable AP groups using the same name on both WLCs for each group.

Answer: A

Explanation:

To maintain the same VLAN and IP address for users roaming between APs attached to different WLCs, a mobility group should be created between WLC-A and WLC-B. This allows for intercontroller roaming, where client sessions are maintained across different controllers, ensuring that users can move across the campus without losing connectivity or changing IP addresses.

Reference:

Cisco's official training and certification resources.

Question: 171

An engineer must optimize client roaming after noticing that clients in the environment are not roaming as expected. Upon reviewing an over- the-air packet capture, the engineer sees that the AP is sending a BSS Transition Management query to the client, which causes it to roam.

The disassociation imminent feature is not enabled on the WLAN. What is the cause of the issue?

A. Low RSSI check is enabled.

B. Fast Transition is disabled.

C. Band Select is enabled.

D. Optimized roaming is enabled.

Answer: D

Explanation:

Optimized roaming is a feature that helps manage the client's roaming behavior by disassociating clients with a signal strength below a predefined threshold. This feature is designed to prevent clients from sticking to an AP with poor

connectivity, which can lead to suboptimal performance. If the BSS Transition Management query is causing the client to roam and the disassociation imminent feature is not enabled, it indicates that optimized roaming is likely enabled, prompting the client to seek a better AP connection.

Question: 172

A customer Wi-Fi deployment is experiencing the sticky client problem and must enable the optimized roaming feature. The wireless clients have valid security credentials for an SSID and can see an AP that offers that SSID to join. What must be configured to enhance roaming?

A. RSSI threshold

B. disable DFS

C. disable 802.11k

D. enable data rates

Answer: A

Explanation:

To address the sticky client problem, setting an RSSI (Received Signal Strength Indicator) threshold

can help. This configuration will prompt clients to roam to a better AP when their signal strength falls below the set threshold, thus enhancing the roaming experience and ensuring clients are connected to the AP with the strongest signal available.

Question: 173

A customer has a centralized wireless deployment with N+1 high availability and few open authentication SSIDs configured. After fail over, all APs are broadcasting all SSIDs, but the clients are assigned IP addresses from a different subnet. The WLANs on both WLCs are configured with the same dynamic interfaces. Which feature must be incorporated in the wireless design of the second controller?

A. RF Protocol

B. AP Groups

C. VLAN Select

D. AAA Override

Answer: C

Explanation:

VLAN Select is a feature that allows for the assignment of clients to different VLANs based on various criteria, such as user credentials or device type. In a centralized wireless deployment with N+1 high availability, incorporating VLAN Select can

ensure that clients maintain consistent IP addressing across failovers, preventing them from being assigned IP addresses from a different subnet.

Question: 174

An engineer must create a multicampus architecture wireless design to accommodate 4500 access points for wireless data Which model controller the requirements to support all access points on one high availability controller setup?

A. 3504

B. 5508

C. 5520

D. 8540

Answer: D

Explanation:

The Cisco 8540 Wireless Controller is designed for large enterprise and high-density environments.
It has the capacity to manage up to 6000 access points, making it suitable for a multicampus architecture that needs to accommodate 4500 access points. Its high availability features ensure that all access points can be supported on one controller setup with minimal downtime.

Question: 175

A wireless network consists of:

- two IOS XE controllers installed in a data center
- 9100 series APs
- corporate and a guest WLAN

The customer must high availability pair two Cisco WLCs for the client SSO. Which two design approaches must the engineer take to meet the requirement? (Choose two.)

A. The controllers must have the same number of licenses.

B. Both WLCs must have the same redundancy management IP address.

C. Both WLCs must have the same service port IP address.

D. Each WLC must have a unique redundancy management IP address.

E. The controllers must run the same operating system version.

Answer: A, E

Explanation:

For high availability pairing of two Cisco WLCs for client SSO, it is essential that both controllers have the same number of licenses to ensure feature parity and seamless failover. Additionally, they must run the same operating system version to avoid compatibility issues during SSO operations.

Question: 176

A customer has this wireless design:

- two Cisco Catalyst 9800 Series wireless controllers that are configured in a high-availability SSO cluster to manage the APs in a local office network
- 100 APs in local mode that are registered to the high-availability cluster
- one Catalyst 9800 Series wireless controller that is deployed as an anchor in a DMZ
- a CAPWAP tunnel in UP state between the high-availability cluster and the anchor WLC

The customer wants the anchored traffic to remain up if a single WLC in the high-availability cluster fails. How must this requirement be incorporated into the design?

A. Configure the APs with the high-availability cluster as the primary base.

B. Deploy EMC APs as anchors and configure a high-availability cluster.

C. Create a separate EoIP tunnel for each WLC in the high-availability cluster.

D. Configure the mobility MAC address for the high-availability cluster.

Answer: D

Explanation:

To ensure the anchored traffic remains up if a single WLC in the high-availability cluster fails, the mobility MAC address for the high-availability cluster should be configured. This allows the APs to recognize the cluster as a single entity, maintaining the CAPWAP tunnel to the anchor WLC in the DMZ even if one of the WLCs in the cluster fails.

Question: 177

Refer to the exhibit.

A network engineer has identified that during a recent controller failure, several APs failed over to the tertiary controller instead of the secondary controller. The configuration from one of the APs is provided. Which design consideration led to the issue?

A. The secondary controller was at capacity.

B. The secondary controller is an SSO configuration.

C. The tertiary controller is an HA-SKU controller, so it took priority.

D. The tertiary controller is in the same subnet as the primary controller.

Answer: A

Explanation:

The issue where APs failed over to the tertiary controller instead of the secondary controller during a controller failure is likely due to the secondary controller being at capacity. When a controller reaches its maximum capacity, it cannot accept any additional APs, causing them to failover to the next available controller in the high availability configuration.

Question: 178

A customer has a single anchor WLC named Anchor A. Anchor A is in a DMZ and provides guest access. The customer wants to deploy an additional anchor controller named Anchor B to provide redundancy if Anchor A fails. Which design approach should be taken for the guest WLAN priority on the foreign WLC for each anchor WLC?

A. Set Anchor A to priority 3 and Anchor B to priority 3.

B. Set Anchor A to priority 3 and Anchor B to priority 1.

C. Set Anchor A to priority 1 and Anchor B to priority 1.

D. Set Anchor A to priority 1 and Anchor B to priority 3.

Answer: D

Explanation:

In a wireless network design where redundancy is required for guest access, setting different priorities for the anchor controllers ensures that one serves as the primary and the other as a backup. Anchor A, being the primary controller, should have a higher priority (lower numerical value), making it the preferred choice for guest WLAN connections. Anchor B, as the secondary or backup controller, should have a lower priority (higher numerical value) so that it is used only if Anchor A fails. This approach provides a failover mechanism for guest access in the DMZ.

Question: 179

An engineer needs a wireless design to provide redundancy for APs at remote sites that are connected to Cisco 3504 Wireless LAN

Controllers. The central Cisco 5520 Wireless LAN Controller supports 2000 APs and has 1975 access points associated to it. The engineer decides that not all APs at the remote sites must remain functional in the event of a failure. How does the engineer ensure that the most important access points at the remote sites remain online while not impacting the main site?

A. Enable Global AP Fail over Priority, set the 1975 APs to a priority of "high", and set the 25 most important APs at the remote sites to "critical".

B. Enable AP Fallback Mode, set the 1975 APs to a priority of "high", and set the 25 most important APs at the remote sites to "critical". C. Enable Global AP Fail over Priority, leave the 1975 APs at the default priority, and set the most important APs at the remote sites to "low".

D. Enable AP Fallback Mode, leave the 1975 APs at the default priority, and set the most important APs at the remote sites to "high".

Answer: A

Explanation:

To ensure that the most critical APs at remote sites remain functional in the event of a failure, the Global AP Failover Priority feature can be used. By setting the priority of the most important APs to “critical”, these APs will be given precedence over others during a failover scenario. This allows the engineer to prioritize which APs should remain online without impacting the main site’s APs, which are set to a “high” priority.

Question: 180

Based on a wireless network design, an engineer configured a primary and secondary controller for their APs. A power interruption caused the primary Cisco WLC to go down, and, as expected, all APs joined the secondary controller. When the primary controller came back up, all the

APs remained joined to the secondary controller. Which approach must the engineer take for the APs to move back to the primary?

A. Set AP Fail over Priority to 4 on each AP.

B. Set AP Fallback to Enabled on the secondary controller.

C. Set AP Fallback to Enabled on the primary controller.

D. Set AP Fail over Priority to Critical globally.

Answer: C

Explanation:

AP Fallback is a feature that allows APs to rejoin their primary controller after they have connected to a secondary controller due to a failure. By enabling AP Fallback on the primary controller, the APs will automatically rejoin it when it becomes available again after a power interruption. This ensures that APs return to their designated primary controller for normal operations.

Question: 181

A customer uses a Cisco 5520 WLC that is connected via a single 10-GB interface to manage the wireless network. The wireless network

includes 500 APs for the campus network. The customer wants to add 300 APs and is concerned about traffic load and lack of redundancy. The purchase of a second controller is not an option. Which design approach mitigates the customer concerns?

A. Connect a second 10-GB interface on the WLC and set the port as a secondary port.

B. Connect a second 10-GB interface on the WLC and implement LAG.

C. Implement a vWLC and configure SSO with the WLC.

D. Implement a vWLC and configure N+1 redundancy with the WLC.

Answer: B

Explanation:

The Cisco 5520 WLC supports Link Aggregation (LAG), which allows multiple physical interfaces to be treated as a single logical channel. By connecting a second 10-GB interface and implementing LAG, the customer can increase the throughput capacity and provide redundancy without the need for a second controller. This approach also simplifies network design and management by reducing the number of IP addresses needed for the controllers and APs. Reference: Designing Cisco Enterprise Wireless Networks (ENWLSD) training and certification materials.

Question: 182

A customer with two Cisco 5520 WLCs that work as a primary and secondary had some switching issues and the primary controller lost

connectivity. Immediately all APs went to discovery and joined the secondary controller. After recovering from the issue, the

primary controller is online, but no APs return to it. All APs remain in the secondary controller. Which setting advises the APs to return to their primary controller?

A. AP fallback

B. AP multicast mode

C. AP heartbeat timeout

D. broadcast forwarding

Answer: A

Explanation:

The AP fallback feature is designed to allow access points to return to their primary controller after they have connected to a secondary controller due to a failure or connectivity issue with the primary. This setting ensures that once the primary controller is back online, the APs will recognize it and reestablish their connection as per the original network design. This feature is crucial for maintaining the intended controller hierarchy and ensuring seamless wireless network operation.

Question: 183

A network engineer is retorting an existing building wired with Category 5e with Cisco Aironet 3800 Series APs and mGig switches. Which cable length allows for 5G operation?

A. 70 m

B. 120 m

C. 130 m

D. 150 m

Answer: C

Explanation:

The Cisco Aironet 3800 Series APs support mGig, which allows for higher throughput over existing cabling. However, the maximum cable length that supports 5G operation is limited by the quality of the cable and signal attenuation. Category 5e cabling can support 5G operation up to a length of 130 meters, which is within the acceptable range for maintaining the required signal integrity for 5G speeds.

Question: 184

A hospital wireless environment was designed with these characteristics:

- RF coverage

- better than -67 dBm in the 5 GHz spectrum
- RRM be used for DCA and TPC in the 2.4 GHz band
- RRM be used for DCA and TPC in the 5 GHz band

After deployment, why do many of the legacy 802.11b/g devices have difficulty maintaining connectivity?

A. Excessive co-channel interference in the 2.4 GHz band exists.

B. Excessive overlapping channels in the 2.4 GHz band exists.

C. TPC drastically increases Tx power in the 2.4 GHz band.

D. TPC drastically reduces Tx power in the 2.4 GHz band.

Answer: D

Explanation:

The Cisco Aironet 3800 Series APs support mGig, which allows for higher throughput over existing cabling. However, the maximum cable length that supports 5G operation is limited by the quality of the cable and signal attenuation. Category 5e cabling can support 5G operation up to a length of 130 meters, which is within the acceptable range for maintaining the required signal integrity for 5G speeds.

Question: 185

A customer has a Cisco wireless network that supports VoWLAN services. The customer wants supported voice clients to receive roaming recommendations and suggestions from APs. This functionality must not impact non-VoWLAN clients. What should be enabled on the

VoWLAN SSID?

A. 802.11r Fast Transition

B. 802.11k neighbor lists

C. CCKM with 802.1X

D. 802.11v BSS Transition Management

Answer: B

Explanation:

To support VoWLAN services and provide roaming recommendations to supported voice clients without impacting non-VoWLAN clients, the feature that should be enabled on the VoWLAN SSID is 802.11k neighbor lists. This feature allows APs to provide information about neighboring APs that are candidates for roaming, which helps clients make better decisions about when and where to roam. Reference := CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice

Question: 186

An engineer is designing a network deployment for a technology company. The company has four buildings with access points that must provide seamless wireless coverage and client roaming. The customer data center must have two WLCs and the core switches for the network. Which type of wireless architecture must be used?

A. cloud

B. centralized

C. autonomous

D. distributed

Answer: B

Explanation:

For a technology company with multiple buildings requiring seamless wireless coverage, client roaming, and centralized data center with two WLCs (Wireless LAN Controllers) along with core switches, a centralized wireless architecture is most suitable. This architecture allows for easier management of the network from a central location. Reference := CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice

Question: 187

Refer to the exhibit.

A customer is deploying a Greenfield 802.11n network with data, voice, and location awareness using APs with the WSSI modules. Which two settings in the Cisco Prime Infrastructure Planning Tool, when selected, provide a more accurate prediction of the number of APs the customer must purchase for the new facility? (Choose two.)

A. Override Coverage per AP

B. Voice

C. Data/Coverage

D. Location with Monitor Mode APs

E. Location

Answer: B, E

Explanation:

When using the Cisco Prime Infrastructure Planning Tool for deploying a Greenfield 802.11n network with data, voice, location awareness, and APs equipped with WSSI modules, selecting 'Voice' will ensure that the tool accounts for the additional bandwidth requirements of voice applications which have strict QoS requirements. Choosing 'Location' will allow the tool to consider the need for more precise location tracking capabilities which typically require additional APs for triangulation purposes. Reference := CCNP Enterprise Wireless Design ENWLSD 300-425 and Implementation ENWLSI 300-430 Official Cert Guide Premium Edition and Practice

Question: 188

An engineer in a branch office that does not have a wired backhaul must ensure that local clients can be switched locally and authenticated centrally. In which mode must the AP be configured?

A. RAP

B. Flex+Bridge

C. MAP

D. Cisco FlexConnect

Answer: D

Explanation:

Cisco FlexConnect mode is designed for branch offices that lack a wired backhaul. It allows APs to switch client data traffic locally while still performing client authentication centrally. This mode provides the flexibility needed for branch deployments, ensuring that client traffic is handled efficiently even if the WAN link to the central site is down. Reference: Cisco FlexConnect technical documentation and Designing Cisco Enterprise Wireless Networks (ENWLSD) training.

Question: 189

When a wireless network is designed for location services, how many APs must be heard by each location-ready AP at a signal level of -75 dBm or better?

A. three APs

B. no more than three APs

C. two APs

D. at least four APs

Answer: D

Explanation:

For accurate location services, it is recommended that each location-ready AP hears at least four other APs at a signal level of -75 dBm or better. This ensures sufficient signal overlap and triangulation accuracy for reliable client location tracking. Reference: Cisco's guidelines on wireless network design for location services.

Question: 190

A company is in the process of relocating to a new force space and ends out that the Internet circuit will not be ready before the move. The new building has a non-Cisco WLAN to which they can connect. The engineer has a 12-port switch and one Cisco autonomous AP and must connect multiple wired devices. Which additional device is needed to get all clients connected over the workgroup bridge?

A. router

B. transparent firewall

C. hub

D. wireless controller

Answer: A

Explanation:

To connect multiple wired devices over a workgroup bridge using an autonomous AP, a router is needed to manage the IP addresses and route traffic between the wired devices and the wireless network. The router will act as a gateway for the wired devices, allowing them to communicate with the WLAN. Reference: Cisco autonomous AP configuration guides and workgroup bridge deployment scenarios.

Question: 191

An engineer is implementing a wireless design for a service provider. The design includes a Catalyst 9800, a stack of two Catalyst 9300X-

48HX switches, and 9166 APs. Each AP must be named using the Floor-439412509-01X sting where X

is the area number. The engineer wants

to connect the APs to the switch stack using POE. How many APs must the engineer connect to the stack so the APs run using full functionalities?

A. all ports on switch 2 of the stack

B. all ports on switch 1 of the stack

C. all ports of the switches

D. half ports per switch

Answer: C

Explanation:

The Catalyst 9300X-48HX switches support PoE, which can power the 9166 APs. To ensure that all APs run with full functionalities, including PoE, the engineer should connect the APs to all available ports on the stack of two Catalyst 9300X-48HX switches. This will provide sufficient power and connectivity for the APs to operate effectively. Reference: Cisco Catalyst 9300X switch specifications and PoE requirements for 9166 APs.

Question: 192

A customer has a Wi-Fi network that is designed to support video over Wi-Fi. The Wi-Fi network has good coverage; however, video multicast traffic is unreliable. Video multicast traffic is reliable on the wired portion of the network. Which performance value indicates an issue with the Wi-Fi multicast traffic?

A. jitter

B. packet error rate

C. throughput

D. latency

Answer: A

Explanation:

Jitter is the variation in time between packets arriving, caused by network congestion, timing drift, or route changes. In a Wi-Fi network designed to support video over Wi-Fi, if video multicast traffic is unreliable despite good coverage, jitter is a key performance metric to investigate. High jitter can cause the video to play erratically, freeze, or have sync issues between video and audio streams

Question: 193

A network engineer must design a new wireless solution for a company, but the budget can only stretch to include a single Cisco 9800-40

WLC. The company requires high availability between the WLC and the core switch in the event of a cable failure. The WLC must dynamically manage port redundancy and perform load balancing between APs transparently. Which design approach must the engineer take to meet the requirements?

A. LAG

B. Multi-LAG

C. LACP

D. PAgP

Answer: A

Explanation:

Link Aggregation Group (LAG) allows multiple physical ports to be combined into a single logical channel. In the scenario where only one Cisco 9800-40 WLC is available and high availability is required, LAG can be used to manage port redundancy and perform load balancing between APs transparently. This ensures that if one cable fails, the others can continue to carry the traffic without any perceived downtime

Question: 194

An engineer must design and configure a wireless network for:

- pervasive coverage in an oil terminal
- casual web and email traffic
- 5 GHz

What is the best design?

A. Keep the power assignment as auto and disable 802.11n and 802.11ac MCS rate.

B. Disable all data rates below 24 Mbps and keep the power assignment on the AP as auto.

C. Keep all the data rates enabled and set the AP power assignment mode to auto.

D. Disable all data rates below 54 Mbps and assign static power level 1 on all access points.

Answer: B

Explanation:

For pervasive coverage in an oil terminal that supports casual web and email traffic over 5 GHz, disabling lower data rates can help improve overall network efficiency. Lower data rates can cause the network to slow down because they take up more airtime. By disabling rates below 24 Mbps, the APs can focus on providing higher throughput for users. Keeping the power assignment as auto allows the APs to adjust their power levels dynamically for optimal coverage and client performance

Question: 195

A 60,000-square-foot outdoor area must be surveyed. The survey must be completed in the least amount of time.

Which tool or equipment is used when performing the site survey?

A. additional access points that use sniffer mode

B. site survey tool that has modules in sniffer mode

C. Additional access points that use GPS mode

D. site survey tool that has a GPS module

Answer: D

Explanation:

When performing a site survey of a large outdoor area, a site survey tool with a GPS module is ideal. The GPS module allows for precise location tracking, which is essential for mapping signal coverage over a large area. This tool can help complete the survey efficiently by automatically recording the location of signal measurements

Question: 196

A company is upgrading its wireless infrastructure and is in a state of transition. Some parts of the company's building still run on the legacy WLC. The new WLC is not located at the same site as the legacy WLC. The company requires seamless client inter-controller roaming between the new WLC and the legacy WLC, with no disruptions. Both WLCs are separated by firewalls. Which troubleshooting command validates that the mobility control packets between the WLCs can be sent and received?

A. mapping mobility_peer IP address

B. debug mobility handoff enable

C. debug mobility cong enable

D. mapping mobility_peer_management IP address

Answer: B

Explanation:

The command debug mobility handoff enable is used to validate the mobility control packets between Wireless LAN Controllers (WLCs). This command enables debugging of the handoff process, which is critical for ensuring seamless client roaming between controllers. When WLCs are separated by firewalls, it is essential to confirm that mobility control packets can traverse these firewalls without being dropped or rejected. The debug mobility handoff enable command allows network administrators to monitor the handoff process and troubleshoot any issues that may prevent successful client roaming.

Question: 197

Which two statements about the requirements to configure inter-controller roaming are true?

(Choose two.)

A. The same mobility group name must be configured across controllers.

B. The same virtual interface IP address must be configured across controllers.

C. The same RF group name must be configured across controllers.

D. The controllers must be in the same VLAN.

E. The same SSID must be configured on each controller.

Answer: A, E

Explanation:

Question: 198

Which feature must be incorporated into the network design to allow seamless Layer 3 roaming between controllers?

A. Same VLANs across controllers

B. Mobility groups

C. Client load balancing

D. Link aggregation

Answer: B

Explanation:

Question: 199

A customer requires fast secure roaming for Voice over WLAN. Which protocol should you recommend?

A. WPA2-PSK

B. 802.11r

C. TKIP

D. WEP

Answer: B

Explanation:

Question: 200

When designing for voice over WLAN, what is the recommended cell overlap percentage between adjacent APs?

A. 10%

B. 20%

C. 15%

D. 30%

Answer: B

Explanation:

Question: 201

Which two wireless design principles help mitigate co-channel interference? (Choose two.)

A. Use directional antennas

B. Increase AP transmit power

C. Use non-overlapping channels

D. Place APs too close together

E. Lower AP transmit power

Answer: C, E

Explanation:

Question: 202

Which two factors influence the roaming decision of a wireless client? (Choose two.)

A. Signal-to-Noise Ratio (SNR)

B. Access point channel number

C. Received Signal Strength Indicator (RSSI)

D. AP transmit power

E. Client's roaming algorithm

Answer: C, E

Explanation:

Question: 203

What is the main purpose of conducting a post-deployment site survey?

A. To validate coverage and capacity

B. To estimate AP placement

C. To create heatmaps

D. To document network topology

Answer: A

Explanation:

Question: 204

Which design consideration is most important for real-time applications such as voice and video over WLAN?

A. High data rates

B. Low latency and jitter

C. Maximum throughput

D. Use of DFS channels

Answer: B

Explanation:

Question: 205

Which two statements are correct about 5 GHz WLAN compared to 2.4 GHz? (Choose two.)

A. 5 GHz has more non-overlapping channels.

B. 5 GHz provides better coverage through walls.

C. 5 GHz is less prone to interference.

D. 5 GHz supports higher throughput.

E. 5 GHz requires fewer APs for coverage.

Answer: A, C, D

Explanation:

Question: 206

Which of the following is a design best practice for AP placement in a high-density environment like a lecture hall?

A. Increase transmit power on APs

B. Use omni-directional antennas only

C. Reduce cell size by lowering transmit power

D. Place APs directly next to each other

Answer: C

Explanation:

Question: 207

Which survey type uses predictive modeling software instead of physically visiting the site?

A. Passive survey

B. Predictive survey

C. Active survey

D. Post-deployment survey

Answer: B

Explanation:

Question: 208

What is the recommended overlap percentage for 2.4 GHz coverage cells in a WLAN design?

A. 5%

B. 10%

C. 15–20%

D. 50%

Answer: C

Explanation:

Question: 209

Which antenna type is best for covering a long corridor in a building?

A. Omni-directional antenna

B. Patch antenna

C. Yagi antenna

D. Dipole antenna

Answer: B

Explanation:

Question: 210

During a wireless design, why should DFS (Dynamic Frequency Selection) channels be used cautiously?

A. They provide less throughput.

B. They can cause interference with Bluetooth devices.

C. They may be subject to radar interference and APs must vacate the channel.

D. They are not supported on 802.11ac.

Answer: C

Explanation:

Question: 211

What is the maximum recommended number of SSIDs per WLAN to avoid excessive overhead?

A. 4–5

B. 8–10

C. 12–15

D. 20+

Answer: C

Explanation:

Question: 212

Which design document contains detailed RF coverage maps, AP placement, and antenna orientation?

A. Low-Level Design (LLD)

B. High-Level Design (HLD)

C. BOM

D. Network topology diagram

Answer: A

Explanation:

Question: 213

Which authentication method is most scalable for enterprise WLAN deployments?

A. WPA2-PSK

B. MAC filtering

C. WPA3-SAE

D. 802.1X with RADIUS

Answer: D

Explanation:

Question: 214

A wireless network requires location tracking for assets. Which Cisco feature should be included in the design?

A. Fast roaming

B. Hyperlocation

C. DFS

D. Band steering

Answer: B

Explanation:

Question: 215

When designing for high-density environments such as stadiums, which is MOST important?

A. Use of omnidirectional antennas

B. Increase transmit power of APs

C. Use of directional antennas with sectorization

D. Deploying APs only on 2.4 GHz

Answer: C

Explanation:

Question: 216

Which metric best indicates client experience in a WLAN design?

A. SNR

B. RSSI

C. Data rate

D. Round-trip latency

Answer: A

Explanation:

Question: 217

Which wireless survey type is performed without APs installed, using simulated AP locations?

A. Passive survey

B. Predictive survey

C. Active survey

D. Post-deployment survey

Answer: B

Explanation:

Question: 218

In a hospital environment with many medical devices, which design consideration is most important?

A. Using DFS channels

B. Ensuring minimal RF interference

C. Enabling 160 MHz channels

D. Maximizing AP transmit power

Answer: B

Explanation:

Question: 219

Which feature ensures seamless roaming between APs with no noticeable delay for voice clients?

A. Client load balancing

B. 802.11k

C. 802.11r Fast Transition

D. 802.11d

Answer: C

Explanation:

Question: 220

Which band provides the best balance between range and throughput for enterprise

WLANs?

A. 2.4 GHz only

B. 5 GHz

C. 900 MHz

D. 60 GHz

Answer: B

Explanation:

Question: 221

Which Cisco WLC feature allows grouping of APs into a logical set for RF management?

A. RF Profiles

B. FlexConnect Groups

C. Mobility Groups

D. AP Groups

Answer: D

Explanation:

Question: 222

Which wireless survey method validates that the AP placement meets design requirements after installation?

A. Predictive survey

B. Passive survey

C. Post-deployment survey

D. Virtual survey

Answer: C

Explanation:

Question: 223

A stadium deployment requires handling a very high number of clients per AP. Which design principle should be applied?

A. Enable 160 MHz channels for maximum throughput

B. Reduce cell size and increase AP density

C. Use omnidirectional antennas only

D. Increase AP transmit power to cover more area

Answer: B

Explanation:

Question: 224

Which antenna type is most appropriate for covering a long hallway?

A. Omnidirectional

B. Patch

C. Yagi

D. Dipole

Answer: C

Explanation:

Question: 225

Which feature provides clients with neighbor reports to improve roaming decisions?

A. 802.11r

B. 802.11k

C. 802.11d

D. 802.11h

Answer: B

Explanation:

Question: 226

A university requires coverage in large outdoor courtyards. Which antenna type should be used?

A. Omnidirectional outdoor antenna

B. Patch antenna

C. Dish antenna

D. Sector antenna

Answer: A

Explanation:

Question: 227

During a wireless site survey for a hospital, the client requires seamless roaming for VoWi-Fi handsets. Which design factor is most critical to ensure high-quality voice roaming?

A. Using omni-directional antennas for all APs

B. Ensuring 15–20% cell overlap at –67 dBm

C. Deploying APs only on the 2.4 GHz band

D. Using high-gain directional antennas in hallways

Answer: A

Explanation:

Question: 228

Which survey type relies on predictive models of RF behavior based on building floor plans and

materials, without physically measuring signals?

A. Active survey

B. Passive survey

C. Predictive survey

D. Validation survey

Answer: C

Explanation:

Question: 229

In a warehouse deployment, why is a predictive survey often insufficient?

A. Predictive surveys cannot account for metal racks and variable inventory

B. Warehouses do not require Wi-Fi coverage

C. Predictive surveys are more expensive than passive surveys

D. Warehouses always use only 2.4 GHz Wi-Fi

Answer: A

Explanation:

Question: 230

Which Cisco wireless feature is designed to help balance the client load across multiple APs in a dense environment?

A. CleanAir

B. ClientLink

C. Band Select

D. Load Balancing

Answer: D

Explanation:

Question: 231

A university lecture hall has high client density. Which antenna type is most appropriate to

reduce co-channel interference and improve coverage?

A. High-gain directional antennas

B. Omni-directional antennas

C. Patch or panel directional antennas

D. Yagi antennas

Answer: C

Explanation:

Question: 232

Which IEEE standard enables Fast BSS Transition (FT) for seamless roaming?

A. 802.11k

B. 802.11r

C. 802.11v

D. 802.11ac

Answer: B

Explanation:

Question: 233

What is the recommended signal threshold for designing a wireless network that supports

voice over Wi-Fi (VoWi-Fi)?

A. –72 dBm

B. –67 dBm

C. –80 dBm

D. –50 dBm

Answer: B

Explanation:

Question: 234

A shopping mall wants to track customer movement patterns using Wi-Fi. Which Cisco solution should you

recommend?

A. Cisco CleanAir

B. Cisco DNA Spaces

C. Cisco Band Select

D. Cisco ClientLink

Answer: B

Explanation:

Question: 235

In a high-density stadium deployment, which two design considerations are most important?

A. Use of high-gain omni antennas and 2.4 GHz channels

B. Coverage overlap of 50% and fewer APs

C. Sectorized directional antennas and channel reuse planning

D. Single large AP with maximum transmit power

Answer: C

Explanation:

Question: 236

What is the primary purpose of a validation survey?

A. To predict AP placement before installation

B. To confirm that the deployed WLAN meets design requirements

C. To simulate wireless performance using CAD drawings

D. To test AP throughput in a lab environment

Answer: B

Explanation:

Question: 237

Why is the 2.4 GHz band generally avoided in high-density enterprise designs?

A. It has more available channels than 5 GHz

B. It supports only 802.11ac

C. It has fewer non-overlapping channels and more interference

D. It requires directional antennas

Answer: C

Explanation:

Question: 238

Which antenna type is most appropriate for outdoor Wi-Fi coverage across a campus quad?

A. Patch antennas

B. Yagi directional antennas

C. Omni-directional antennas

D. Dipole antennas

Answer: C

Explanation:

Question: 239

Which Wi-Fi 6 feature allows multiple clients to share the same channel at the same time?

A. MU-MIMO

B. OFDMA

C. Beamforming

D. RRM

Answer: B

Explanation:

Question: 240

What is the recommended overlap percentage between adjacent AP cells in a data WLAN design?

A. 5%

B. 10%–15%

C. 20%–30%

D. 50%

Answer: B

Explanation:

Question: 241

Which Cisco feature proactively detects and mitigates interference from non-Wi-Fi devices?

A. CleanAir

B. ClientLink

C. Band Select

D. FastLane

Answer: A

Explanation:

Question: 242

A hospital needs seamless roaming between APs for wireless medical devices. Which WLAN feature is most critical?

A. DFS channels

B. Mobility groups

C. Band Select

D. CleanAir

Answer: B

Explanation:

Question: 243

What is the main advantage of using directional antennas in lecture halls?

A. Increased AP throughput

B. Reduced co-channel interference and focused coverage

C. Stronger 2.4 GHz performance

D. Lower power consumption

Answer: B

Explanation:

Question: 244

Which type of wireless survey involves physically walking the site and measuring signal strength

in real time with APs powered on?

A. Predictive survey

B. Passive survey

C. Validation survey

D. Active survey

Answer: D

Explanation:

Question: 245

What is the purpose of Cisco Band Select?

A. Push clients to use the 5 GHz band instead of 2.4 GHz

B. Improve antenna gain for long corridors

C. Increase MIMO stream count

D. Prioritize voice traffic over data

Answer: A

Explanation:

Question: 246

In WLAN high availability, which deployment provides two controllers that share AP load

and fail over instantly?

A. N+1 redundancy

B. Active/Active SSO (Stateful Switchover)

C. Single-controller centralized model

D. Cloud-only deployment

Answer: B

Explanation:

Question: 247

Which frequency band provides the widest channel availability for enterprise WLANs?

A. 2.4 GHz

B. 5 GHz

C. 900 MHz

D. 6 GHz

Answer: D

Explanation:

Question: 248

What is the recommended cell overlap for WLAN design that supports voice traffic?

A. 5%–10%

B. 10%–15%

C. 15%–20%

D. 25%–30%

Answer: C

Explanation:

Question: 249

A warehouse has metal shelving that reflects RF signals. Which antenna strategy is best?

A. Ceiling-mounted omni-directional antennas only

B. Low-gain directional antennas mounted on the aisles

C. APs installed randomly throughout the warehouse

D. High-gain Yagi antennas pointing across shelves

Answer: B

Explanation:

Question: 250

Which survey is performed after deployment to ensure coverage matches design requirements?

A. Predictive

B. Passive

C. Validation

D. Active

Answer: B

Explanation:

Question: 251

What is the minimum recommended RSSI for designing a WLAN to support data applications?

A. –67 dBm

B. –70 dBm

C. –75 dBm

D. –80 dBm

Answer: B

Explanation:

Question: 252

Which Cisco technology improves the signal quality for clients at the edge of a cell by optimizing beamforming?

A. CleanAir

B. ClientLink

C. FastLane

D. FlexConnect

Answer: B

Explanation:

Question: 253

Why is Dynamic Frequency Selection (DFS) important in WLAN design?

A. To allow use of radar-detected channels in 2.4 GHz

B. To increase AP transmit power beyond regulations

C. To enable usage of additional 5 GHz channels while avoiding radar interference

D. To reduce co-channel interference on 6 GHz

Answer: C

Explanation:

Question: 254

A retail chain wants centralized WLAN control with remote APs. Which Cisco deployment model is most suitable?

A. FlexConnect

B. Cloud-only deployment

C. Autonomous AP deployment