

Cisco

Exam Questions 300-425

Designing Cisco Enterprise Wireless Networks (ENWLSD)



NEW QUESTION 1

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: B

Explanation:

The -67 dBm measurement has been used for years for 11b phone clients from many vendors. Tests indicate that this same rule of thumb measurement works well for 11g and 11a phone clients.

NEW QUESTION 2

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 select?

- A. 802.11i
- B. 802.11ac
- C. 802.11r
- D. 802.11e

Answer: C

Explanation:

The 802.11r Fast Transition (FT) Roaming is an amendment to the 802.11 IEEE standards.

NEW QUESTION 3

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

NEW QUESTION 4

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

NEW QUESTION 5

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:

802.11r, which is the IEEE standard for fast roaming, introduces a new concept of roaming where the initial handshake with the new AP is done even before the client roams to the target AP, which is called Fast Transition (FT). The initial handshake allows the client and APs to do the Pairwise Transient Key (PTK) calculation in advance. These PTK keys are applied to the client and AP after the client does the reassociation request or response exchange with new target AP.

NEW QUESTION 6

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: BE

Explanation:

Site surveys are one of the basic requirements when you deploy a WLAN, and you must always consider the Wi-Fi capabilities of the client devices or endpoints. Most smartphones and tablets support 802.11. However, generally, the smartphones and tablets have fewer antennas and lower data rates than laptops. In addition, most are not purpose-built for the enterprise WLAN market. Almost all smartphones and tablets support enterprise security policies. However, many of them do not support

NEW QUESTION 7

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:

- The optimal VoWLAN cell boundary recommendation is -67 dBm

NEW QUESTION 8

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 all WLCs in the group to 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: D

NEW QUESTION 9

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: BE

Explanation:

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

NEW QUESTION 10

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

- support high client concentration
- optimize client performance
- avoid interference

Which approach should be taken?

- A. Deploy APs near each other for 5 GHz coverage, and disable the 2.4 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: D

Explanation:

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

NEW QUESTION 10

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:

<https://www.cisco.com/c/en/us/td/docs/wireless/controller/8-1/Enterprise-Mobility-8-1-Design-Guide/Enterprise>

NEW QUESTION 14

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: A

Explanation:

Signal AttenuationSignal attenuation or signal loss occurs even as the signal passes through air. The loss of signal strength is more pronounced as the signal passes through different objects. A transmit power of 20 mW is equivalent to 13 dBm. Therefore, if the transmitted power at the entry point of a plasterboard wall is at 13 dBm, the signal strength is reduced to 10 dBm when exiting that wall. This table shows the likely loss in signal strength caused by various types of objects.

Signal Attenuation Caused By Various Types of Objects Object in Signal Path

Signal Attenuation through Object

Plasterboard wall 3 dB

Glass wall with metal frame 6 dB

Cinder block wall 4 dB

Office window 3 dB

Metal door 6 dB

Metal door in brick wall 12 dB

Human body 3 dB

Each site surveyed has different levels of multipath distortion, signal losses, and signal noise. Hospitals are typically the most challenging environment to survey due to high multipath distortion, signal losses and signal noise. Hospitals take longer to survey, require a denser population of access points, and require higher performance standards. Manufacturing and shop floors are the next hardest to survey. These sites generally have metal siding and many metal objects on the floor, which result in reflected signals that recreate multipath distortion. Office buildings and hospitality sites generally have high signal attenuation but a lesser degree of multipath distortion.

<https://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-lan-wlan/71642-vocera-deploy-guid>

NEW 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: AE

Explanation:

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

NEW QUESTION 20

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:

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

NEW QUESTION 21

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:

Information About RF Profiles

RF Profiles allows you to tune groups of APs that share a common coverage zone together and selectively change how RRM will operate the APs within that coverage zone.

For example, a university might deploy a high density of APs in an area where a high number of users will congregate or meet. This situation requires that you manipulate both data rates and power to address the cell density while managing the co-channel interference. In adjacent areas, normal coverage is provided and such manipulation would result in a loss of coverage.

NEW QUESTION 25

Refer to the exhibit.

Name Prefix **AP_**

Add APs **Automatic**

AP Type **AP3700I**

Enable 11n Support ☐

802.11a/n/ac Antenna **Internal-3700-5GHz**

802.11b/g/n Antenna **Internal-3700-2.4GHz**

Protocol **802.11a/n/ac/b/g/n**

Throughput 802.11a/n/ac **15-18**

802.11b/g/n **6**

Services: ☒ Advanced Options

☒ Data/Coverage

Safety Margin **Aggressive**

☒ Voice

Safety Margin **Aggressive**

☒ Location

☐ Location with Monitor Mode APs

☐ Demand

☐ Override Coverage Per AP

Per AP Area0 (sq feet)

Total Coverage Area **179312 (sq feet)**

Calculate

Recommended AP Count **74**

Data/Coverage **48**

Voice **48**

Location **59**

Location with Monitor


Mode APs


Demand

Floor Type: Cubes and Walled Offices

Add APs Automatically:

Realize and move the rectangle using the mouse over the desired coverage area, then specify placement criteris. Click "Calculate" to determine the number of APs recommended by NCS. If you are satisfied with the result, press "Apply". APs will be created and automatically positioned on the map.





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: DE

Explanation:

Use Planning Mode to Calculate Access Point Coverage Requirements

Prime Infrastructure planning mode lets you calculate the number of access points (APs) required to cover an area by placing fictitious APs on a map and viewing the coverage area. Based on the throughput specified for each protocol (802.11a/n or 802.11b/g/n), planning mode calculates the total number of APs required to provide optimum coverage in your network. You can calculate the recommended number and location of APs based on the following criteria:

NEW QUESTION 30

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: BC

NEW QUESTION 31

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: AC

NEW QUESTION 34

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: C

NEW QUESTION 37

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: A

NEW QUESTION 41

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:

The only special implementation of the WLC in CCKM is that WLCs exchange client PMK via mobility packets, such as UDP 16666.

NEW QUESTION 44

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: B

Explanation:

With the proliferation of clients with varying wireless capabilities, it is important to survey for the 'worst' clients in order to ensure a consistent experience across all your clients once your wireless network is in production.

https://documentation.meraki.com/MR/WiFi_Basics_and_Best_Practices/Conducting_Site_Surveys_with_MR_

NEW QUESTION 46

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

NEW QUESTION 47

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: D

Explanation:

Default voice minimum RSSI is -75 dBm. but cisco recommend to get RSSI better than -67 dBm.

https://www.cisco.com/c/en/us/td/docs/net_mgmt/prime/infrastructure/34/user/guide/bk_CiscoPrimeInfrastructu minimum is -90 and maximum is -67 for IP phone

NEW QUESTION 50

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: BC

Explanation:

1. The optimal VoWLAN Cell Edge recommendation is -67 dBm.
5. Retransmissions should be kept under 20 percent.

NEW QUESTION 52

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

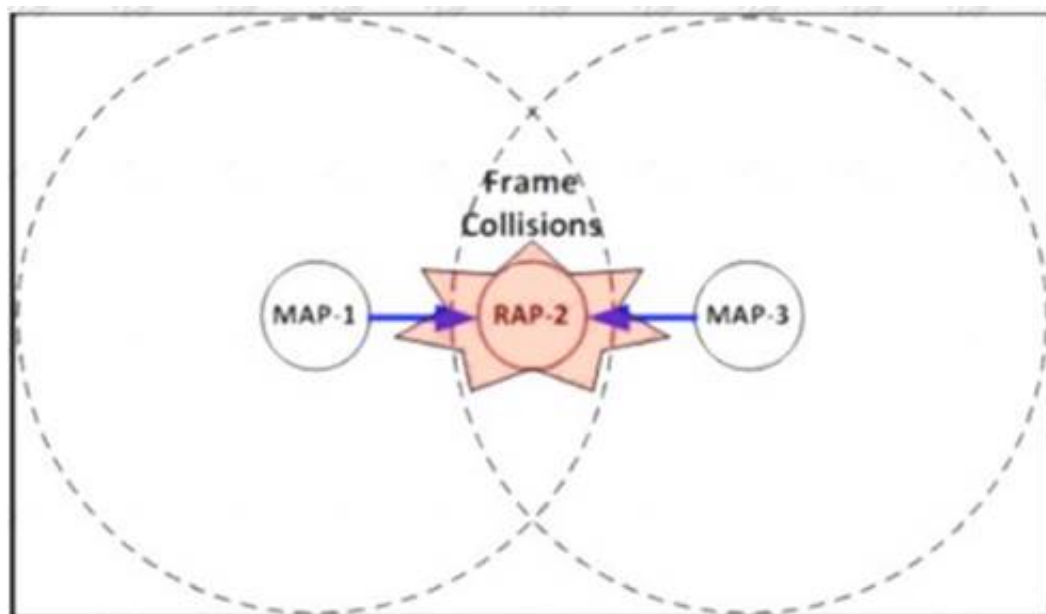
Answer: BD

Explanation:

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

NEW QUESTION 56

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:

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

NEW QUESTION 57

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