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Wi-Fi Training Program 2025

Module 5

Question 10:

How do 802.11k/v/r work together to provide seamless roaming in enterprise Network

Solution:

Working Together in Seamless Roaming

1. Before Roaming Starts (802.11k)

    o   The client device (like a smartphone) requests and receives a neighbor report from its current AP.

    o   This report includes details about nearby APs, such as their channel numbers and signal strengths.

    o   Result: The device can scan quickly and efficiently, avoiding unnecessary full-channel scans.

2. Roaming Decision Assistance (802.11v)

    o   The network/AP monitors the device's connection quality and load on nearby APs.

    o   If it detects a better AP, it sends a BSS Transition Management Request to the device.

    o   The device then roams proactively based on network suggestions.

    o   Result: Reduces sticky clients and balances traffic across APs.

3. During the Handoff (802.11r)

    o   The device performs a Fast BSS Transition (FT) using pre-authenticated credentials with the target AP.

    o   This allows the device to roam in under 50 milliseconds, fast enough for real-time applications like VoIP or video calls.