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Wi-Fi Training Program 2025

Module 5

Question 8:

What is the purpose of 802.11k and v, and how does it aid in roaming?

Solution:

The 802.11k and 802.11v standards are enhancements to Wi-Fi that improve roaming performance by helping client devices (like smartphones or laptops) make smarter and faster decisions when switching from one access point (AP) to another within the same wireless network.

Purpose and Function of 802.11k

802.11k – Radio Resource Management (RRM)

- **Main Goal:** Helps client devices quickly discover nearby APs with better signal strength or performance.
- **How it works:**
 - The AP provides a neighbor report listing nearby APs, including their channels and signal conditions.
 - Instead of scanning all channels blindly, the client can use this report to make faster roaming decisions.
- **Roaming Benefit:**
Reduces scan time and helps the device choose the best AP, improving connection reliability and speed.

Purpose and Function of 802.11v

802.11v – Wireless Network Management

- **Main Goal:** Allows the network to help guide the client toward a better AP.
- **How it works:**
 - The AP can suggest that the client roam to a better AP by sending a BSS Transition Management Request.

- Clients can also be given details about network load, power-saving options, and preferred APs.
- Roaming Benefit:
Enables network-assisted roaming, which reduces the chance of staying connected to a weak AP and improves load balancing.