TEACHING

"Is the Wi-Fi Good Here?" Depends Who Is Asking

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Is the Wi-Fi good right here?" has no honest answer until you name the device asking. Two laptops in the same spot can sit on two different networks, and both readings are correct.

I ran this walk multiple times in the last two days, logging every roam with the Roaming Log in the WLAN Pros Toolbox.

First walk: three MacBooks at once, an M1, an M2, and an M4. Same brand, same macOS, same hallway, same minute. The M1 is Wi-Fi 6 with no 6 GHz radio, so it spent the whole walk on 5 GHz. The M2 and M4 are Wi-Fi 6E, so they lived on 6 GHz. Three laptops from one vendor, and their radios alone put them on different bands and different access points. Same room, effectively different networks. Nobody chose that. The hardware did.

Roaming widens the gap. The two 6 GHz laptops handed off 40 to 50 percent more often than the 5 GHz-only one (26 roams against 37 and 39), because 6 GHz cells are smaller and you cross more of them. Even the two Wi-Fi 6E laptops, identical capability, roamed to different access points in a different order. The access point does not move your client. The client decides.

Second walk: a MacBook and an iPhone on the same path. Here a different gap shows up, and it matters if you measure Wi-Fi for a living. macOS reads the true band straight from the radio. iOS gives App-Store apps no band API, so the tool has to derive the band from the channel number. That holds up until 6 GHz. Some channel numbers exist in both 5 GHz and 6 GHz, and when the number alone cannot separate them, the derivation lands on 5 GHz. So a genuine 6 GHz access point shows up on the iPhone labeled "5 GHz.

Which device is right? Wrong question. Trust the client to choose.

The channel number was exact on every device, every time. Only the band label diverged, and only on 6 GHz. That is why the tool stamps every iOS band with an asterisk. It will not claim a 6 GHz reading that iOS cannot actually make.

Every device pointed at the same real thin coverage spots on the floor. That is the difference the tool is built to show you: a device quirk on one side, a coverage problem on the other.

Know your client. Once you know what your tool measures and what it only infers, several devices disagreeing in one spot stop being an argument and become data.

If two laptops in the same doorway handed you different Wi-Fi tomorrow, would you know it was their radios talking, and could you tell which numbers your tool measured from the ones it merely inferred?

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