Wi-Fi Alliance's certification program sees Wi-Fi 6 as game-changer for advanced connections

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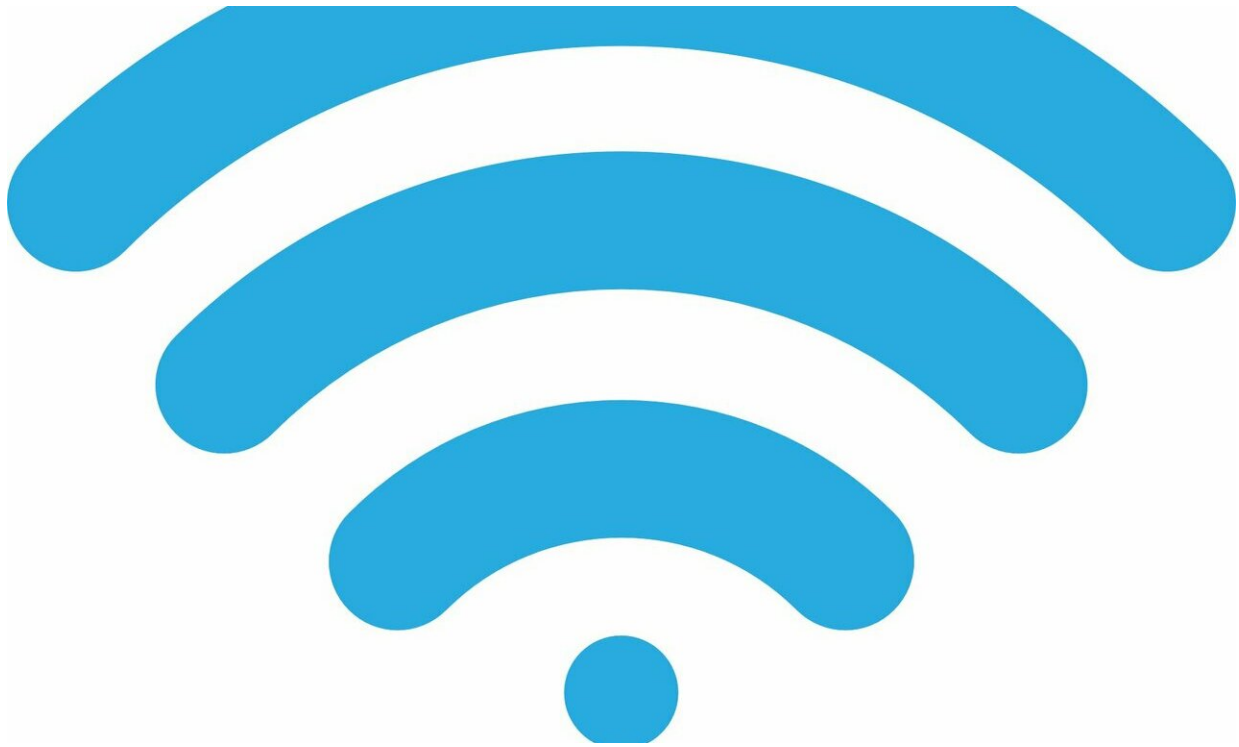

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Wi-Fi 6 certification is here. On Monday, an announcement from the Wi-Fi Alliance datelined Austin, Texas said the Wi-Fi CERTIFIED 6 certification program from Wi-Fi Alliance was now available.

Edgar Figueroa, president and CEO, Wi-Fi Alliance, said, "Wi-Fi CERTIFIED 6 will deliver improvements in connectivity, including in high density locations and IoT environments."

(Standards for Wi-Fi are established by the Institute of Electrical and Electronic Engineers, and devices are certified for these new standards by the Wi-Fi Alliance, said Lauren Goode in *Wired*.)

Advanced connectivity. Boosted performance. More capacity. Good power efficiency. Happy gains surrounding the tongue-teasing word-and-number string known as "Wi-Fi CERTIFIED 6, the industry certification program based on the IEEE 802.11ax standard."

Real world results?

One may anticipate "quality connectivity in locations with hundreds or thousands of connected devices." The update will translate into better performance when a large number of devices try to connect to Wi-Fi all at once.

Dr. Derek Peterson, Boingo CTO, said Wi-Fi 6 was a game changer for dense and congested environments. He said it will help operators like Boingo facilitate a more seamless connected experience in venues that include airports and stadiums.

Another scenario that will benefit involves "corporate networks utilizing time sensitive, high bandwidth applications."

The Wi-Fi Alliance said streaming ultra high-definition movies will gain.

Virtual and augmented reality used in e-learning, telepresence, and healthcare may also show better performance.

All in all, it's helping out a very "connected" world. The benefit of Wi-Fi CERTIFIED 6 travels across the range of "the most dense and dynamic connectivity settings."

How does it differ from Wi-Fi 5? WI-FI 6 delivers nearly four times the capacity. This is how Jim Salter in *Ars Technica* summed up the difference: "Wi-Fi 6—aka 802.11ax—is the next generation of Wi-Fi. 802.11ax will, at least in theory, allow many more nearby devices to use the same Wi-Fi channels and frequencies without causing as much congestion and lag as Wi-Fi 5 (better known as 802.11ac) and Wi-Fi 4 (802.11n) do."

Anton Shilov in *AnandTech* said that "Under the hood, the new standard takes a bit of a departure from past Wi-Fi iterations by focusing more on improving performance in shared environments, as opposed to solely boosting peak device transfer rates."

Beyond Wi-Fi 6 talk about improved capacity and performance, "what gets me really excited," said Jayanthi Srinivasan, director of product management, Cisco Meraki, "is the support for 2.4 GHz band and the power consumption improvements."

Wired wrote that Wi-Fi 6, or 802.11ax, is supposed to optimize for transmission frequencies of 2.4-GHz and 5-GHz bands. "Two of its marquee features are multi-user, multiple-input, multiple-output technology (MU-MIMO), and something called Orthogonal Frequency Division Multiple Access (OFDMA)."

TechSpot can help you visualize those technologies. Mark Turner wrote that "instead of one clerk serving a single line of customers individually, the combination of MU-MIMO and OFDMA can be equated to having many clerks and many lines, with each clerk capable of serving multiple customers at once."

CNET's Ry Crist commented on what this would mean for manufacturers. "Its availability also serves as a green light for manufacturers who might be watching for the right moment to jump in with the new standard—especially now that we have multiple Wi-Fi 6 routers on the market, as well as Wi-Fi 6 support in flagship phones such as the Samsung Galaxy S10 Plus and the iPhone 11."

What, iPhone? Ed Hardy in *Cult of Mac* confirmed" "An overlooked feature of the iPhone 11 series is Wi-Fi 6, a faster version of this nearly ubiquitous short-range wireless-networking standard." Hardy said, "Located in an 'other good stuff' section of the official iPhone 11 specifications is a promise of 'Faster WiFi: Wi-Fi 6 (802.11ax) lets you download up to 38 percent faster.'"

Meanwhile, a router comment from ASUS: "As a pioneer of the world's first Wi-Fi 6 router and a rapidly expanding ecosystem of Wi-Fi 6 network adapters, motherboards, laptops and mini PCs, we at ASUS believe Wi-Fi CERTIFIED 6 is the answer for multi-device households." That was from ASUS' Tenglong Deng. He is general manager of the company's networking and wireless devices business unit.

Just because you buy a Wi-Fi 6 friendly router, however, won't be everything. Here is where CNET's Cris comment about jumping in bears relevance. Jim Salter in *Ars Technica* said that "very few of these benefits can be seen just from buying a Wi-Fi 6 router—you need most, if not all, of the devices in range (both yours and, ideally, any neighbors') to also support Wi-Fi 6 before you see the improvements." CNET's Crist added it all up to "better, faster Wi-Fi and that you get all of it from devices that are certified."

So, when the Alliance talks about their "certification program" what does that really mean? Anton Shilov, *AnandTech*: The program's focus is verifying the interoperability and feature sets of IEEE 802.11ax

devices—such as, Do the devices work well with each other? Do they show all the features that belong to the new standard's capabilities?

OK, it is the morning after, and you the consumer need to know what to do with this announcement, the word strings, and the enthusiastic partner statements. *Ars Technica* to the rescue: "...make certain that moving forward, any new devices you purchase—especially expensive ones, like smartphones—support Wi-Fi 6, so you don't end up with a technical deficit in a couple years' time."

The Samsung Galaxy Note10 is the first smartphone to be announced Wi-Fi CERTIFIED 6 by the Wi-Fi Alliance, said Samsung.

Wi-Fi 6 ratification from the Institute of Electrical and Electronics Engineers, the industry group that maintains and develops wireless standards, is expected to happen later, said CNET.

More information: www.wi-fi.org/discover-wi-fi/wi-fi-certified-6

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