Samsung achieves Wi-Fi data travel feats for 60GHZ band

October 14 2014, by Nancy Owano

Samsung Electronics has announced advances in Wi-Fi technology. Samsung said it found a way to make Wi-Fi data travel faster than it does currently. Specifically, Samsung said the new technology enables data transmission speeds of up to 4.6Gbps, or 575MB per second, a fivefold increase from 866Mbps, or 108MB per second, which the company said was the maximum speed possible with existing consumer electronics devices. Eventually, consumers will see the results of these efforts within various connected devices.

BBC News said the faster Wi-Fi could make it fast to stream movies from phones to TVs and other displays. A 1GB movie will take less than three seconds to transfer between devices, said Samsung. Samsung Electronics refers to the development as its "60GHz Wi-Fi technology." The company's engineers worked on Wi-Fi that operated in the 60GHz band, whereas current Wi-Fi systems use 2.4 and 5GHz bands, said the BBC. This is news in itself, as Samsung has successfully overcome some barriers to the commercialization of the 60GHz millimeter-wave band Wi-Fi technology, said Kim Chang Yong, Head of DMC R&D Center of Samsung Electronics. In the press release, the company said, "Unlike the existing 2.4GHz and 5GHz Wi-Fi technologies, Samsung's 802.11ad standard 60GHz Wi-Fi technology maintains maximum speed by eliminating co-channel interference, regardless of the number of devices using the same network."

"Samsung has Invented a No-Interference, 60GHz Wi-Fi," said the Windows IT Pro headline on Monday. Rod Trent of Windows IT Pro wrote that "the 802.11ad technology also maintains maximum speed by eliminating co-channel interference. If you've worked with Wi-Fi for very long, you know that speeds can vary because the signal is constantly negotiating with other technologies in the near area that are utilizing the same channels."

According to the BBC News report, engineers were able to address some technical problems that had restricted the transfer of data at well below its theoretical limit. "Until now, there have been significant challenges in commercially adopting 60GHz Wi-Fi technology," said Samsung. The company enhanced the overall signal quality by developing micro beam-forming control technology, which optimizes the communications module in less than 1/3,000 seconds, in case of any changes in the communications environment.

Devices built to use the 60GHz Wi-Fi standard are not expected

immediately but Samsung is looking to the future. Samsung said that "the 60GHz is an unlicensed band spectrum across the world, and commercialization is expected as early as next year." The company intends to apply the new technology to products which include audiovisual, medical devices and telecommunications equipment. Samsung said, "The technology will also be integral to developments relevant to the Samsung Smart Home and other initiatives related to the Internet of Things."

Gigaom commented on the announcement. "Samsung's technology appears to be interoperable with other WiGig products. Based on the IEEE's 802.11ad standard, WiGig is being groomed by the Wi-Fi Alliance as an extremely fast but short range complement to traditional Wi-Fi."