OnQ Blog

MU-MIMO: How your Snapdragon processor powered device could be three times faster over Wi-Fi

JUL 7, 2014

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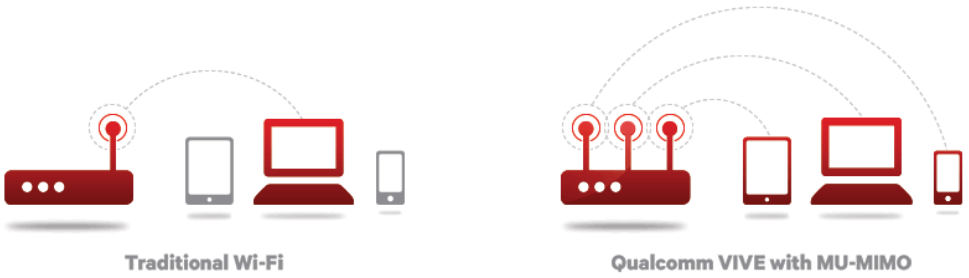

Wi-Fi is one of the unsung heroes inside every smartphone and tablet. By connecting to Wi-Fi networks that are all around us, we can download music, upload photos and stream videos – while avoiding those annoying data overage

are getting pretty crowded. Luckily, Qualcomm Technologies is tackling the issue by making Wi-Fi a better multitasker.

To understand how we're fixing the problem, it helps to first understand why the problem exists. Traditionally, Wi-Fi networks share their bandwidth between several devices, communicating with one at a time. Your tablet, for example, is served for just a fraction of a second, before your movie stream gets back in line behind your connected fridge. With the average American home approaching 20 connected devices – and corporate networks even more crowded – your tablet will get a smaller and smaller fraction of that precious bandwidth.

Enter one of the most advanced Wi-Fi on the planet. Qualcomm® VIVE™ with MU-MIMO (Multiple-User Multiple-Input and Multiple-Output) technology allows networks to serve up to three devices at once through multi-user beamforming—where the router essentially concentrates its signal toward a device or group of devices. By serving three smartphones or tablets at once, the wait times are shorter for everyone on the network. Practically, this means up to 3x faster downloads, less interference, and lower latency.

Of course, to get the maximum benefit of this revolutionary new feature, you must have MU-MIMO on both the network and the device. Qualcomm Technologies has introduced MU-MIMO solutions for both sides of the connection, which will help drive this into a variety of products. But don't throw out your older devices just yet – even existing Wi-Fi devices will get some benefits because of those shorter wait times we mentioned before.

MU-MIMO already lives inside Qualcomm® Snapdragon™ 801 processor supported smartphones and tablets, and is anticipated to be available in forthcoming devices supported by Snapdragon 805 and 810 processors. Some device makers and carriers may issue a software update to bring the feature to life, while others may offer it in their next smartphones and tablets. That could come soon, as MU-MIMO routers— 802.11ac routers marked with MU-MIMO support— begin to make an appearance in the next few months. They couldn't come soon enough—we've all been waiting for progress to buffer.

More MU-MIMO resources:

- Multi-User MIMO is here: Revolutionary MU-MIMO Algorithms from Qualcomm Lead the Way
- MU-MIMO: Live at Computex 2014

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