

EXHIBIT 17



Kerry Baker | January 14, 2025

Booster Rocket – Cable MVNO Speeds Take Off With Wi-Fi

Customers of the two biggest cable mobile virtual network operators (MVNO) in the U.S. – Charter's Spectrum Mobile and Comcast's Xfinity Mobile – are both enjoying an impressive upward trajectory in their overall network performance. In their respective service areas over the past two years, Spectrum Mobile and Xfinity Mobile users' **download speeds increased by more than 100 Mbps**. The performance lift is largely thanks to Wi-Fi offloading capabilities through Spectrum Mobile's *Speed Boost* and Xfinity Mobile's *PowerBoost*.

Charter began augmenting speeds for its Spectrum Mobile customers leveraging their home Charter Wi-Fi in spring 2022 and, in the fall the same year offered speeds up to 1 Gigabit per second (Gbps). Likewise, Comcast was aggressive in tapping into its installed base of customer hotspots, and in 2023, Charter and Comcast offered their combined footprints to each other's MVNO customers. That is, Charter's Spectrum Mobile customers have access to the network of Comcast Wi-Fi hotspots within the Comcast service area – and visa-versa for Xfinity Mobile customers in the Charter service area.

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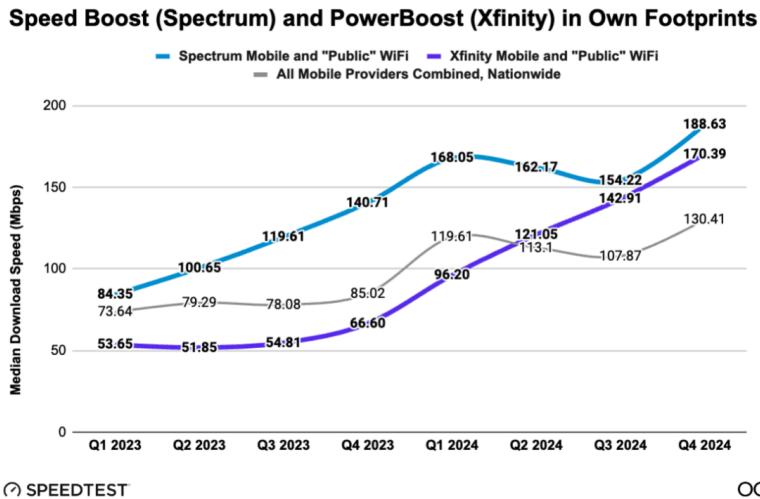
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Comcast said it operates more than 23 million Wi-Fi hotspots in its footprint. Charter says it has 43 million Wi-Fi access points in its and its partners' networks, the latter including the Comcast figure. Both cable companies say that between their own Wi-Fi networks and those of partners, with minimal overlap, they provide near-nationwide (population) coverage.

Then, in April 2024, Comcast took the lid off with *WiFi Boost* offering speeds up to 1 Gbps, and just last week have rebranded the feature to *PowerBoost*. These steps by Charter and Comcast to converge the mobile and Wi-Fi networks are meaningfully boosting their customer experience in home and out-and-about.

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We examined the last eight quarters (Q1 2023 – Q4 2024¹) of Speedtest Intelligence® data for the median download speed performance of Speedtest users for customers of Spectrum Mobile, Xfinity Mobile, U.S. mobile providers as a group, and Verizon; the latter is the host mobile network for both MVNOs. We analyzed the Spectrum Mobile and Xfinity Mobile results within their two respective geographic service areas of Charter and Comcast, where “public” Wi-Fi is available to enhance available speeds of their mobile customers. (“Public,” in our usage here, means access points managed by Charter and Comcast, available to Spectrum Mobile and Xfinity Mobile customers.) We do not have knowledge about the wholesale network relationships or any performance implications as part of their agreements.



Spectrum Mobile – They Have Separation

Charter's earlier start in promoting *Speed Boost* had its Spectrum Mobile users consistently clocking higher overall download speeds in its service area than Comcast did for Xfinity Mobile users in its service area. (Charter and Comcast service areas do not overlap.)

During these past two years, Spectrum Mobile customers saw their median download speeds increase by more than double from 84.35 Mbps to 188.63 Mbps – a 104.28 Mbps increase. The pause in its quarterly climb in Q2 and Q3 2024 is explained, at least partly, by the underlying host mobile network slowing down.

Xfinity Mobile – Up and Up

Xfinity Mobile, on the other hand, was not affected the same way. Its later introduction of *WiFi Boost*, compared to Spectrum Mobile's *Speed Boost*, was still providing gains during this period. *Speed Boost*, however, had already realized the speed gains from Wi-Fi (also explaining why Spectrum Mobile was faster than Xfinity Mobile), thus being more sensitive to the mobile network performance. Interestingly, the Xfinity Mobile and Spectrum Mobile speeds became closer to one another in the second half of 2024, as *WiFi Boost* (now *PowerBoost*) was catching up.

Xfinity Mobile users, comparing year-on-year Q4 2023 to Q4 2024, saw their download speeds increase more than 2.5 times from 66.60 Mbps to 170.39 Mbps.

Quarter-on-quarter, Xfinity Mobile Speedtest users experienced a relentless climb in their download speed performance starting from Q3 2023 at 54.81 Mbps:

- Q4 2023 up 11.79 Mbps to 66.60 Mbps
- Q1 2024 up 29.60 Mbps to 96.20 Mbps
- Q2 2024 up 24.85 Mbps to 121.05 Mbps

- Q3 2024 up 21.86 Mbps to 142.91 Mbps
- Q4 2024 up 27.48 Mbps to 170.39 Mbps

The Verizon network provides the Spectrum Mobile and Xfinity Mobile customer experience, when not on Wi-Fi. During this same two-year period, nationwide Verizon's overall median download speeds increased from 66.81 Mbps in Q1 2023 to 97.45 Mbps in Q4 2024 – up 30.64 Mbps. Increased network capacity from Verizon's ongoing C-Band spectrum deployment is a rising tide that floats the boat for Verizon's customers, as well as for Spectrum Mobile and Xfinity Mobile customers.

To Xfinity, Spectrum and Beyond

Hardware is a key component to faster speeds, and *PowerBoost* benefits from a new access point with Wi-Fi 6E technology that triples the available bandwidth versus the prior generation. Comcast began offering its 6E-capable *xFi Advanced Gateway* in 2022.

Comcast also is making improvements to its underlying network. The company is currently upgrading from DOCSIS 3.1 to DOCSIS 4.0, doubling downstream capacity and quadrupling upstream capacity. In September 2024 the cable company said it had deployed DOCSIS 4.0 to parts of 10 markets and 1 million homes.

And, as older handsets are replaced with newer and faster ones, the technology ecosystem as a whole comes together to deliver an ever-better customer experience.

And just as technology advancements mentioned above have provided the foundation for the performance gains these past two years, more is on the way.

The XB10 gateway, coming in 2025, will be Comcast's fastest and most powerful device yet – supporting WiFi 7 and DOCSIS 4.0 – and will deliver multi-gigabit symmetrical speeds over WiFi, with the unprecedented capacity to connect to 300 devices simultaneously. The XB10 also includes AI technology that will help ensure a consistent experience. Comcast WiFi

Implicit in the march of technology is not just the network foundation, but also the consumer adoption. New access points require new cabling, and newer devices offer improved capabilities, and often paying for the “right” bundled service offering is needed. For example:

For Spectrum Speed Boost, you need Spectrum Internet, Spectrum Mobile and Advanced WiFi. Spectrum Speed Boost

It's not a secret that the vast majority of mobile device data traffic is actually served by Wi-Fi, rather than the mobile network. Comcast President Michael Cavanagh noted in a recent call with investors, “My final thought on broadband is the importance of bundling with mobile, with 90% of Xfinity Mobile smartphone traffic traveling over our Wi-Fi network.”

Noteworthy is Cavanagh's mention of “bundling,” which, in the context of the foregoing analysis, is the combining of networks in a way to best benefit the customer experience. Comcast and Charter are proving this to be the case.

This approach of combining the networks is part of a strategic narrative happening in the U.S. telecoms industry called network “convergence.” Were it not for AI, convergence could have been the industry's top buzzword in 2024. And, like with AI, there will be plenty more said about convergence in 2025.

1. Through December 10, 2024 ↵

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About the Author



Kerry Baker

Kerry Baker leads Ookla's research and content efforts in North America. He has over 20 years experience in the telecom industry, primarily at T-Mobile studying network performance benchmarking and customer experience. Kerry also has founder's experience with four technology-related startups. Kerry holds masters degrees from the University of Washington in Business and International Political Economics.

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