

PhireLink: A BEAD Success Story



PHIRE LINK

A Challenge That Demanded Innovation

When the state of Louisiana encouraged PhireLink to submit a proposal for its Broadband Equity, Access, and Deployment (BEAD) program, the company faced a major obstacle: the rugged terrain made a traditional fiber-only solution exorbitantly expensive.

With decades of experience in fiber deployment, PhireLink's leadership knew an all-fiber network would deliver superior results, but be economically challenging, yet they still wanted to bid on the project. Initially, fixed wireless access seemed like a non-starter due to past limitations in speed, latency, and coverage. The company then turned to a revolutionary alternative: Tarana's G1 next-generation fixed wireless (ngFWA) platform — a breakthrough that would change everything.

Challenge: PhireLink was tasked with submitting a competitive BEAD application to bring high-performance broadband to an area with challenging terrain where a pure fiber deployment would be too costly.

Solution: Tarana's ngFWA platform delivered high-performance broadband at a fraction of the cost and time of an all-fiber approach.

Results: The state of Louisiana selected PhireLink's application in the second round of bidding.

Speeds: Up to 1 Gbps download and 500 Mbps upload speeds were achieved.

Distance: Link distances range up to 6 miles.

Subscribers: Piloting in two states with subscribers, including some legacy WISP and fiber networks.

Visibility: LoS and nLoS links due to hills, trees, and other foliage.

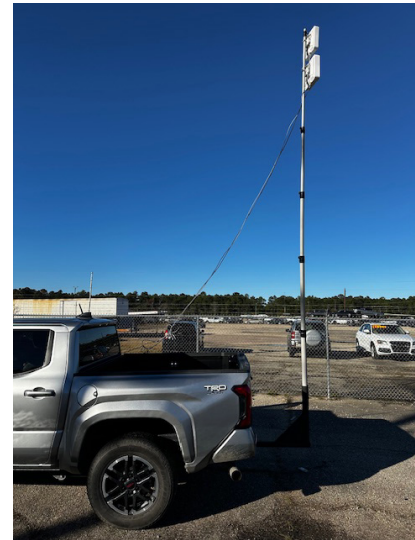
Spectrum: CBRS and 6 GHz were used.

“I’ve known about the capabilities of Tarana for quite some time and knew it this was a good fit for their unique technology,” said Bill Stueber, Senior Partner at Telecom Partners Group and Senior FWA Architecture Advisor to PhireLink. “We were intrigued to find out exactly how far we could push the coverage limits.”

G1: The Next-Generation of FWA

G1’s innovative breakthroughs create an entirely new paradigm for building and growing fixed wireless access networks, making gigabit broadband possible where legacy fixed wireless would fail. This includes:

- › **Unmatched Interference Cancellation:** G1’s interference cancellation ensures reliable, high-speed connectivity even in crowded, noisy RF environments. Features like Asynchronous Burst Interference Cancellation (ABIC) reduce the impact of bursty interference, such as nearby Wi-Fi transmitters. Less interference means more reliable, higher-speed connections.
- › **Superior Non-Line-of-Sight (NLoS) Performance:** Rugged terrain and trees can hinder other wireless technologies, making links laggy or entirely unusable. G1 overcomes this with fine-grain Tx and Rx digital beamforming, distributed massive MIMO at both ends of the link, and perfect multipath integration.
- › **Scalability and Speed:** Operators can deploy gigabit broadband at large scale in weeks, not months or years. High-speed connectivity is deployed faster — accelerating service and revenue timelines — bridging the digital divide quickly, efficiently, and affordably.



For PhireLink, these capabilities were a game-changer. G1 delivered on all key metrics — speed, latency, and coverage — making it the perfect complement to PhireLink’s existing fiber network.

Proof in Performance: Seeing Is Believing

“Most people from fiber backgrounds are skeptical that wireless will work for high-performance broadband,” said Stueber. “The other FWA solutions we looked at were not capable of delivering the speeds, latency, and distance we needed. It would have been a crap shoot. But we needed to see Tarana in action before we believed.”

With this in mind, PhireLink began a pilot in Slidell, Louisiana to confirm G1’s capabilities. Taking advantage of its rapid deployment capability, the team was able to bring up the site in a matter of months. “We never could have built fiber to all of those locations in that timeframe,” said Stueber. “It was a perfect example of how we could use Tarana to edge out our existing fiber network.”

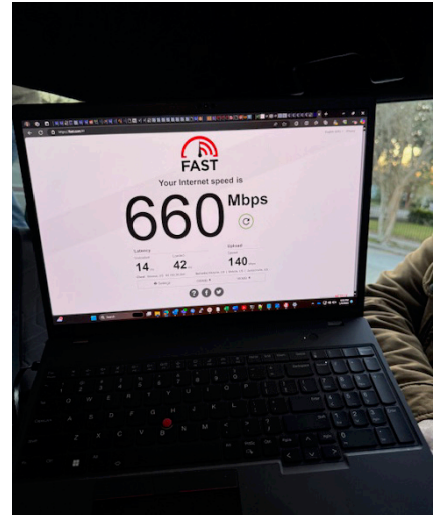
Once installed, PhireLink ran extensive performance tests, and the results were jaw-dropping. “We were getting 750 Mbps in places that were 6 miles or more out from the tower,” said Stueber. “That made us believers. Now, we’re upgrading our subscribers in Colorado and using Tarana as a tool to expand our fiber footprint. Our goal is to provide broadband faster and with less investment than would otherwise be available with fiber for those types of areas.”

ngFWA: A Competitive Edge for BEAD

With G1, PhireLink was able to win the BEAD grant in the second round of bidding. “It wouldn’t have been possible to win this grant without Tarana,” said Stueber. “75% of our bid was Tarana. Fiber is the right choice when density meets demand — offering virtually unlimited bandwidth in the right conditions. Fixed wireless excels where fiber falters — bridging the digital divide in areas where terrain, cost, or infrastructure gaps make fiber impractical.”

As part of its cost analysis, PhireLink looked at metrics such as spectral efficiency, operational expenditures, and the potential cost of churn. It determined operational cost would have been significantly higher for legacy FWA. “It would have required a minimum of five towers of legacy FWA versus two for Tarana,” said Stueber. “You also have to factor in the cost of time to deploy fiber. Fiber can have tremendous delays in challenging deployment geographies.”

PhireLink also calculated the cost of churn. “Fiber churn is expensive,” said Stueber. “Once you’ve run the fiber, especially in isolated or remote environments, there’s no way to recover the cost of subscriber churn. With FWA, you can take the radio and move it somewhere else.”



The Future: Fiber + Tarana = Broadband Without Limits



With successful pilots and a BEAD grant secured, PhireLink is committed to leveraging Tarana ngFWA to complement and expand its fiber broadband networks. The G1 platform gives PhireLink the high speeds, low latency, and extended coverage it needs, coupled with cost-effectiveness and fast deployment. “We treat ngFWA just like fiber,” said Stueber. This gives PhireLink a competitive edge, particularly when defending existing networks from fiber overbuilders. G1 allows the operator to rapidly deploy quality broadband and stay ahead of the competition.

“I’ve been deploying networks for more than 40 years,” said Stueber. “Connectivity isn’t about ideology; it’s about pragmatism. Fiber where possible, new fixed wireless where necessary. A connected world isn’t built on one technology alone — fiber and next-gen fixed wireless together unlock the full potential of broadband expansion.”

About PhireLink

PhireLink is a broadband internet service provider delivering high-quality, high-speed internet across rural America. At PhireLink, they’re more than just an internet provider — they’re neighbors, dedicated to bringing the power of high-speed connectivity to every corner of the communities they serve. They’re driven by one simple goal: level the playing field and ensure everyone, no matter where they live, has access to the limitless opportunities the internet provides. To learn more, visit phirelink.com.

Tarana’s mission is to accelerate the deployment of fast, affordable internet access around the world. Through a decade of R&D and more than \$400M of investment, the Tarana team has created a unique next-generation fixed wireless access (ngFWA) technology instantiated in its first commercial platform, Gigabit 1 (G1). It delivers a game-changing advance in broadband economics in both mainstream and underserved markets, using either licensed or unlicensed spectrum. G1 started production in mid-2021 and has been embraced by more than 250 operators in 24 countries and 47 states. Tarana is headquartered in Milpitas, California, with additional research and development in Pune, India.