CASE STUDY

DigitalC Uses Tarana & InCoax to Solve the Last Mile Challenge for MDUs

DigitalC, a non-profit wireless internet service provider, was challenged to provide high-speed broadband to multi-dwelling units (MDUs) in Cleveland, Ohio. A combination of Tarana's ngFWA platform and InCoax's MoCA Access solution allowed them to rapidly deploy fiber-class gigabit broadband service at scale with wireless economics. 47 MDU buildings were deployed in as little as 45 days with minimal disruption to tenants or property.

A Gigabit Solution

In a Tarana and InCoax solution, a Tarana remote node (RN) operating in the 6 GHz

Challenge: The city of Cleveland is one of the least connected in the US. DigitalC plans to fix this by offering symmetric 100 Mbps fixed wireless service to the entire city. With many MDUs throughout the city, DigitalC was tasked with finding an efficient method to connect them.

Solution: DigitalC leveraged Tarana to deliver next-generation fixed wireless, and selected InCoax to be able to use existing coax in the buildings, eliminating any need for construction.

Results: Using existing infrastructure, a remote node (RN) was placed on each MDU, and already in place coax wiring was used to deliver symmetric 100 Mbps high-speed broadband to each subscriber.

spectrum is mounted outside the building. All data is backhauled through the RN to a base node (BN) located on a nearby tower. From there, data is routed through the operator's network to the internet.

Inside the building, InCoax A101 modems are installed within each unit. The modems are managed by a C251 Control Unit that manages all modems within the building. Traffic flows from each access modem to the Control Unit connected to the Tarana RN.

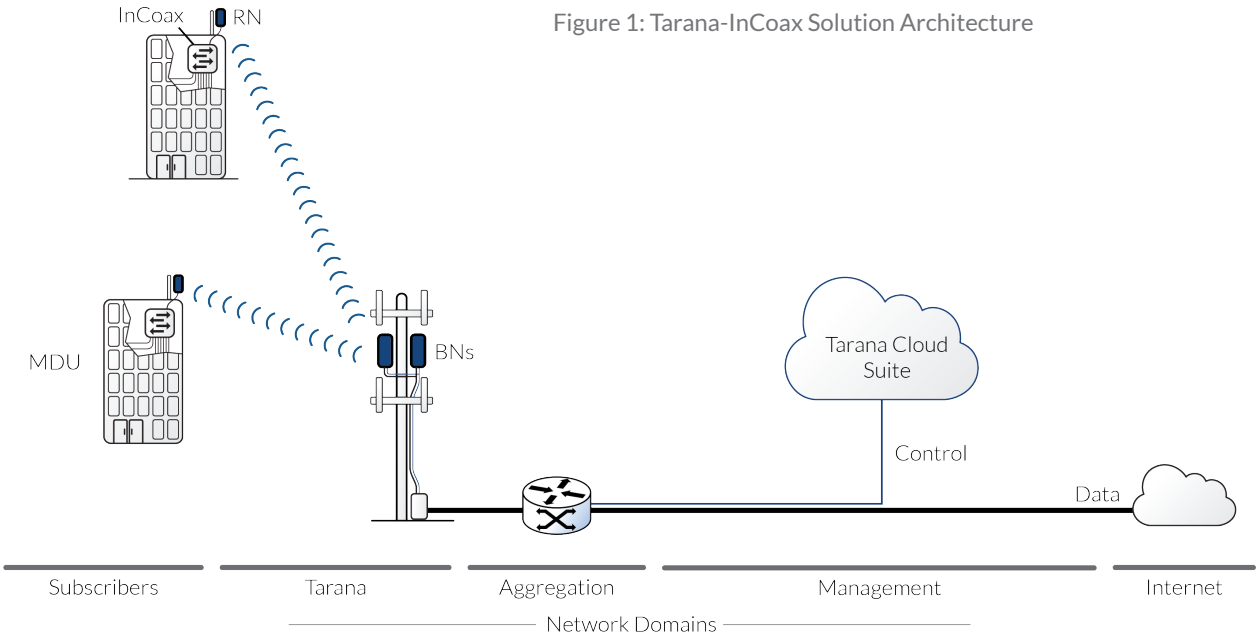

Figure 1: Tarana-InCoax Solution Architecture

By using existing coax within the building, new construction is kept to a minimum. This is important, not just in terms of construction time, but also in cases where extensive construction (hard ceilings, asbestos) might require costly modifications or remediation that are not practical.

The Tarana RN, mounted on the roof, uses next-generation fixed wireless access (ngFWA) to create a reliable, high-performance backhaul link to a nearby tower. Tarana takes advantage of sophisticated radio technology, including precise beamforming, advanced digital signal processing, and interference cancellation, to create a wireless link that is more reliable and offers greater performance than other technologies, such as 5G or legacy Wi-Fi-based fixed wireless.

Tarana's interference cancellation capabilities are particularly relevant for urban deployments, such as DigitalC's Cleveland network. These environments, with many sources of RF interference from other radio equipment on towers or home Wi-Fi networks and obstructions, are particularly challenging for fixed wireless. The Tarana ngFWA platform cancels up to 45 dB of interference, while reliably offering gigabit speeds in conditions that would severely hamper other wireless technologies.

Jose Valdez, COO of DigitalC, said, "I am proud to announce the successful integration of our Tarana ngFWA network with an InCoax system utilizing MoCA (Multimedia over Coax

Alliance) Access 2.5 technology. This innovative approach allowed us to leverage existing infrastructure and provide high-speed internet access to every unit at an affordable cost. Starting at 100/100 Mbps for only $18.00 per month, yet scalable up to symmetrical gigabit speeds over the existing coax infrastructure, meeting the growing demands of our residents. The project's standout feature was its remarkable efficiency and rapid deployment. We completed the installation in 47 buildings, totaling 502 units, within just 45 working days. This achievement showcases the exceptional effectiveness of the combined technologies and streamlined implementation".

Summary

DigitalC is committed to connecting the unconnected and has selected Tarana's ngFWA platform and InCoax's product line to rapidly and cost-effectively deploy symmetric 100 Mbps broadband across the city of Cleveland. With this solution, DigitalC can deploy fiber-class gigabit broadband to MDUs with minimal disruptions to property and tenants.

About DigitalC

DigitalC is a 501(c)(3) non-profit organization with a vision to change the world one connection at a time by offering superior internet, accessible community space, and tailored digital skills training to ensure an equitable digital future. We're on a mission to deploy a premier, state-of-the-art network that is affordable, reliable, and sustainable to bridge the digital divide — for good. Boasting a unique combination of expertise and an unmatched competitive spirit, we transcend the traditional boundaries of a non-profit technology social enterprise to operate as a transformative mission-focused business.

About InCoax

InCoax Networks re-purposes existing property coaxial networks in fiber and fixed wireless access extension deployments for Communication Service Providers globally. The technology is a high performance, future proof, reliable and cost-effective complement that reduces installation time and improves take-up rate, to boost digital inclusion and internet access for all. For more information, visit incoax.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 200 operators in 23 countries and 45 states. Tarana is headquartered in Milpitas, California, with additional research and development in Pune, India.

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