

Adaptrum

Case Study: Maine, USA



New Day. New Connectivity in the Sunrise County

Axiom Networks Connects the Unconnected in Washington County, Maine

Washington County in Maine includes the easternmost point in the United States. With this distinction, Washington County can claim to be the first place in the US that the sun rises. However, while unique in many aspects, Washington County shares characteristics common to many rural areas of the US—sparse populations and hilly topography—that make it difficult to provide Internet access. It takes four hours to drive from one end of the county to the other where you see rugged rocky terrain, heavy woods, and nestled throughout, many unconnected homes and communities. Providing Internet access to such areas has been a huge challenge for existing technologies.

Axiom Technologies, based in Machias, the seat of Washington County, is a last mile Internet provider offering Internet service across Maine. With their mission of improving the economic status of Washington County and Maine, Axiom set out on a mission to find a last-mile technology that could cost effectively provide connectivity to the many homes and businesses that are today without Internet.

“ We are passionate about making sure that every home and business in the State of Maine and in the United States are connected to the internet. ”

Susan Corbett, CEO of Axiom

Existing technologies including legacy fixed wireless solutions were having difficulty getting to many homes. Adaptrum's TV White Space (TVWS) technology offered the much needed solution. TVWS regulation and technology allow unlicensed public access to prime underutilized spectrum in the TV band with zero upfront spectrum costs.

Summary

Axiom deployed Adaptrum's TV White Space solution to close the digital divide in unserved communities of their home county of Washington County, Maine.

Requirements

A solution that provides affordable Internet access to homes in sparsely populated areas, over rugged terrain, and through heavy trees.

Solution

Axiom deployed Adaptrum's ACRS2 systems in a point-to-multipoint last-mile network.

Benefits

- Long-range Non-Line-of-Sight (NLOS) broadband connectivity
- Reliable, simple-to-install that are easy to manage
- The only cost effective radio system to connect remote homes to internet services

Results

Axiom Networks was able to cost-effectively bring internet to unserved homes and communities, and is poised to scale throughout Maine.

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Axiom

In rural regions such as Washington County, tremendous amounts of spectrum, approximately 180MHz, are available for high-capacity networks using TVWS.

With Adaptrum's Non-Line-of-Sight (NLOS) OFDMA technology and low UHF frequency propagation, the ACRS2 provides superior range and the ability to penetrate obstacles such as trees, buildings and rough terrain. Compared to alternate high frequency fixed wireless products, the TVWS network can extend Axiom's last-mile service area multifold at the same cost to reach currently unserved areas.

Axiom assessed various TVWS solutions, and selected Adaptrum's pioneering ACRS2 TVWS radios for their last-mile network. Designed with a lightweight rugged form factor, ACRS2 radios were deployed with ease both as base station and client devices in a point-to-multipoint network configuration to provide expansive last-mile connectivity.

“ The only way to serve those customers is with Adaptrum's TV White Space technology; otherwise, they would not have a connection. ”

Mark Oulette, COO of Axiom



Beyond the technology, Axiom wanted a partner they could trust. Adaptrum shares Axiom's vision of leveraging technology to enable a sustainable business of wireless service to improve lives. "We really love the Adaptrum equipment and the affordable wireless Internet service it delivers," said Mark. "Adaptrum has been great. Their thoroughness and follow-through has been very impressive."

With Adaptrum's TVWS network, Axiom has been able to bring Internet connectivity that directly improves customers' lives. Customers who used to have to travel over 45 miles each way to have their medical equipment checked with doctors can now do so remotely, because they now have a connection to the Internet—a connection provided by Adaptrum TV White Space technology.

With the success of initial deployments, Axiom has been awarded funding as part of Microsoft's Affordable Access Initiative to help scale their solutions and business models to increase affordable Internet access in communities around Washington County. Axiom plans to use the money to expand their network to incorporate additional Adaptrum radios to connect additional homes and business that are far from wired broadband connections.



About Adaptrum

Driving both technical and regulatory innovations, Adaptrum has pioneered the use of previously underutilized TV White Space spectrum. Founded by leading experts in wireless communications, our creative and experienced team is committed to fundamentally changing the wireless industry and enabling universally affordable broadband.