



Case Study: Agri-Valley Services

Agri-Valley Services selected the Billion 4G/LTE Outdoor routers to provide last mile broadband internet access to rural regions of Michigan

Executive Summary

For years, residents and business owners in some rural regions of Michigan were struggling with dial-up or didn't have any broadband internet options. Agri-Valley Services (AVS), located in downtown Pigeon, Michigan was the first operator to roll out fixed services to rural areas of Michigan (many of them previously unserved or underserved). Agri-Valley Services selected the Billion 4700ZUL series of 4G/LTE Outdoor routers to provide last mile broadband internet access through its truNet LTE wireless service. Today, otherwise unserved AVS truNet customers enjoy affordable, blazing fast internet connectivity capable of multi-gigabit download speeds.

The Customer

Agri-Valley Services, Inc (AVS) is a wholly owned subsidiary of Agri-Valley Communications, Inc., as a dial-up internet provider launching services on April 10, 1996. The company provides broadband internet access to rural Michigan communities in Huron, Tuscola and Sanilac Counties of the Upper Thumb Region as well as the Sunrise Side communities of Twining and Turner and the Northern Michigan communities of Alba and Lakes of the North, west of Gaylord. As the company name implies, Agri-Valley Services is service-oriented with exceptional technical support. Their parent company, Agri-Valley Communications, Inc (AVCI), a multi-faceted communications company has been providing telecommunications services to rural Michigan since the early 1900's.

Challenges

Agri-Valley, being located in rural Michigan always understood the importance of providing urban services to rural communities. Nearly all urban residents have access to high-speed internet, while the rural residents had virtually no options at all. AVS's first challenge was how to deliver services at such a great distance. The existing copper infrastructure in the area was unreliable, and FTTH buildout would be extensive and cost prohibitive. AVS decided to invest capital in deploying 4G LTE fixed wireless utilizing the 700MHz and AWS spectrum that they own.

After selecting an LTE core and RAN equipment, AVS needed a reliable UE (User Equipment) that would be placed at the customer premises to communicate to the network and deliver on the promise of high-speed internet connectivity. The 700MHz and AWS spectrum owned by AVS have their unique benefits and challenges as well. The 700MHz frequency has better propagation characteristics enabling greater coverage and deeper in-building penetration while the AWS frequency does not propagate as well as the 700MHz but is perfect for increasing network capacity. AVS's second challenge was identifying a UE vendor with a single device that incorporates both 700MHz and AWS frequency supporting single SKU deployment across their network. AVS selected the Billion 4700ZUL series of 4G/LTE Outdoor routers.

How Product Helped

The Thumb area of Michigan has substantial seasonal temperature differences, with warm to hot (and often humid) short summers and long cold (sometimes severely cold) winters and frequent subjection to heavy lake-effect snow. The Billion 4700ZUL series of 4G/LTE Outdoor routers are purpose-built for deployments in such environments. The rugged, compact IP-68/UL-50E rated enclosure ensures protection against dirt, harmful ingress of water, humidity and extreme temperatures for years of dependable operation. The 4700ZUL Series also features a wideband multi-element adaptive antenna design which provides improved signal quality, increased signal range, coverage and increased data transfer rates across multiple frequency bands. The wideband antenna and multi-band support was critical for successful deployment across AVS's spectrum.

Result

Today, Agri-Valley Services is delivering affordable, reliable and blazing fast internet connectivity to its rural customers with speeds of up to 10Mbps downlink and 2Mbps uplink. The Billion 4700ZUL Series is consistently meeting the demands of its subscribers and delivering on the performance specified by the AVS service/data plans. As the consumer demand for more bandwidth increases, the 4700ZUL Series supports carrier aggregation, which allows AVS to increased capacity and downlink data rates by combining RF carriers.



BiPAC 4700ZUL
4G LTE Outdoor Router