

Broadband Wireless Boosts Technology for Farmers Cooperative

Yellow Medicine County, Minnesota



Customer

Farmers Cooperative Association of Canby is a cooperative owned by local farmers. It primarily provides fertilizer, chemical and insecticide products to farmers in Yellow Medicine County, Minnesota. It also owns several convenience stores/Cenex gas stations and operates out of five buildings across the county in the cities of Canby, Minneota and Ghent.

Solution Provider

AG Wireless is a wireless network solutions provider specifically focused on the agricultural industry, serving agronomy and grain businesses with a variety of buildings in different locations that need connectivity. It provides the agricultural community with network design and implementation services for applications, LANs and WANs, delivering reliable, comprehensive networking solutions.

The Situation and Challenge

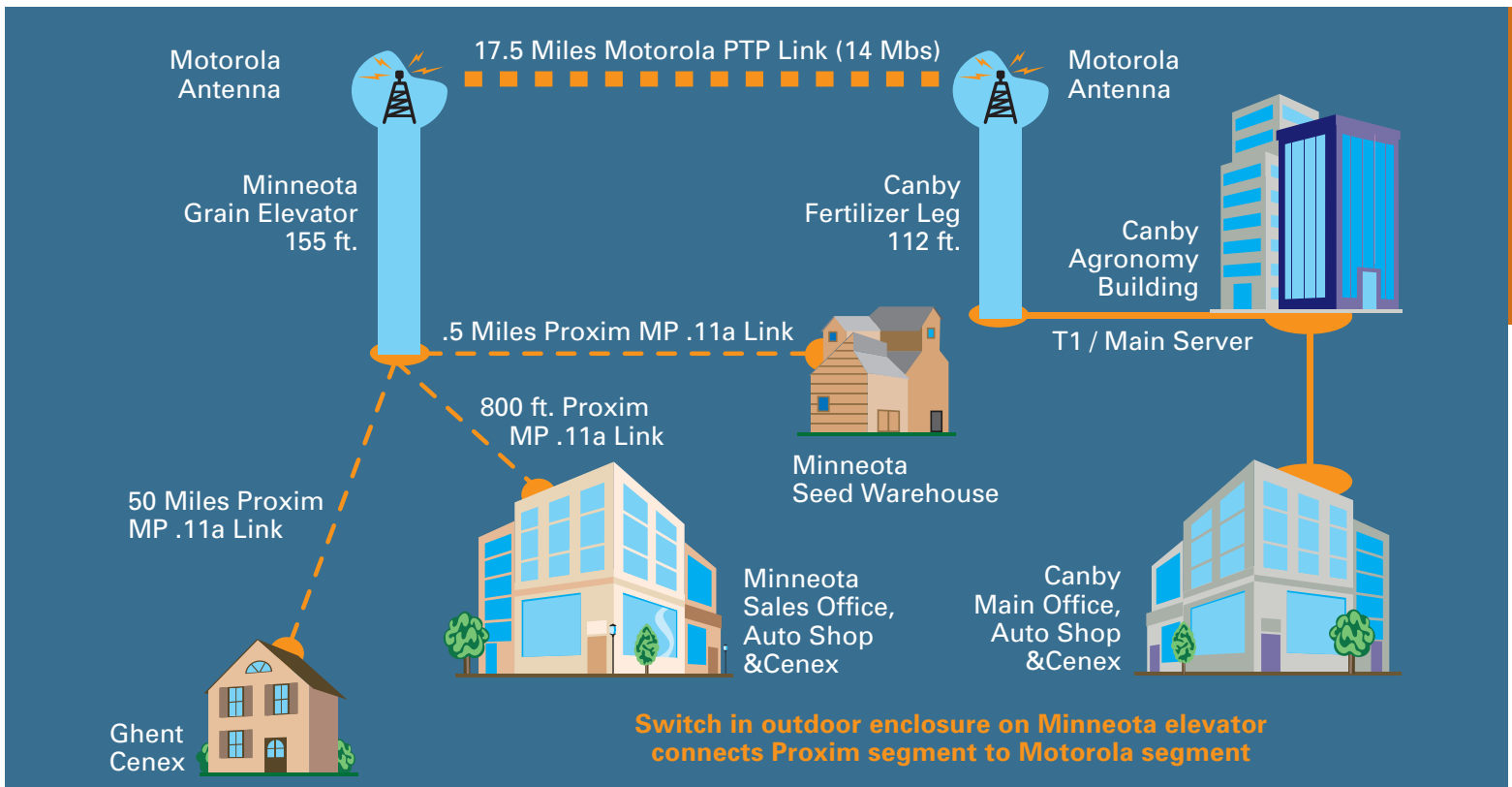
The Farmers Cooperative Association of Canby has five buildings in three main locations, each running multiple businesses, spread over 23 miles (37 km). The businesses share corporate resources, i.e., marketing and finance, and run multiple computer workstations and several POS (point-of-sale) terminals at each location. The Cooperative had been upgrading its technology capabilities to increase productivity, gain better

visibility into operations and reduce expenses. However, the lack of connectivity between sites was keeping the organization from realizing the technology's full potential. A high-speed DSL Internet connection was available only in the Canby location; otherwise, connectivity between locations was by dial-up Internet access.

Wireless connectivity was a possibility for the Minneota and Ghent facilities, but connecting those locations to the main offices in Canby was considered impossible. The 17.5-mile (28-km) distance, coupled with near-line-of-sight fresnel obstructions, prevented wireless systems from reliably connecting. Deploying high-speed Internet and a VPN were unlikely. If a broadband link could be made from Canby, the Cooperative could realize many of the benefits of a networked business.

Technical Requirements

- The 17.5-mile (28-km) link from the main location in Canby would need to run at high throughput across an obstructed path
- A carrier-class connection was required for the hundreds of business-critical transactions processed daily
- The broadband link had to support both voice (multi-service PBX) and data
- Support for terminal services was required



Deployment Detail and Interoperability

AG Wireless found that the Motorola Point-to-Point Wireless Ethernet Bridge - 400 Series could uniquely satisfy the technical requirements for the long-distance and the near-line-of-sight broadband link, so it was deployed as the critical enabler of a private network for Farmers Cooperative Association of Canby.

AG Wireless connected the two buildings in Canby by Ethernet cable and brought in a T1 connection. It then connected the PTP 400 Series bridge from the Canby location to a 5-port Cisco Ethernet switch in a grain elevator in Minneota. The Cisco switch connected the PTP 400 segment with Proxim's MP.11, a point-to-multipoint platform that connects the three other Cooperative buildings between one and six miles (1.6 and 9.6 km) away.

The Results

The Motorola PTP 400 solution provided a carrier-class, always-on, 14 Mbps connection over a 17.5-mile (28-km) distance through an obstructed zone – a link that was impossible to achieve with other broadband wireless platforms. As a result, the remote locations of the Cooperative are now running as one LAN for data-sharing and file-transfer, with all locations accessing the Internet through the T1 in the Canby office. Using the multi-service PBX, intercompany calls are connected over IP with excellent quality, and POS transactions and out-of-office calls are backhauled to the main office and connected through the T1.

The PTP 400 Series bridge was the enabler of this network. By consolidating phone line traffic onto a wireless WAN and deploying a multi-service PBX, the Cooperative expects to achieve a return on its investment in less than a year and save almost \$40,000 US (\$32,000 Euro) in networking expenses over the next three years. In addition, productivity was enhanced and operations were streamlined.

At the time of this installation, the products deployed were the Orthogon Systems OS-Gemini point-to-point wireless Ethernet bridges. With Motorola's acquisition of Orthogon Systems, the OS-Gemini products were renamed as the PTP 400 Series bridges. They are now part of Motorola's **MOTOwi4™** portfolio of innovative wireless broadband solutions that create, complement and complete IP networks. Delivering IP coverage to virtually all spaces, the **MOTOwi4** portfolio includes Fixed Broadband, WiMAX, Mesh and Broadband-over-Powerline solutions for private and public networks.

MOTOwi4™

"We could not make this connection work with other products. There was neither the high bandwidth nor carrier-grade reliability of the PTP 400 Series bridge. An attempt to achieve this type of high-quality connection would have entailed building a tower and using six-foot (1.8-meter) antennas, plus weeks of labor and high expense. We had the Motorola PTP 400 bridge up and running in a half-day."

~ Paul Mehl, President, AG Wireless

Why Motorola?

- A wireless broadband connection was not possible with other products
- Motorola uniquely provided a high throughput, carrier-class connection
- Installation was complete in a few hours, as opposed to weeks for other systems

About Motorola

Motorola is known around the world for innovation and leadership in wireless and broadband communications. Inspired by our vision of Seamless Mobility, the people of Motorola are committed to helping you get and stay connected simply and seamlessly to the people, information, and entertainment that you want and need. We do this by designing and delivering "must have" products, "must do" experiences and powerful networks – along with a full complement of support services. A Fortune 100 company with global presence and impact, Motorola had sales of US \$36.8 billion in 2005. For more information about our point-to-point products and services, visit our website at www.motorola.com/ptp.



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