

# GVEC Leverages Cambium Solutions to Enhance Rural Member Services



Here at the Guadalupe Valley Electric Cooperative, we place a very high expectation on the vendors we do business with. We take pride in the assurance that we have the latest technology to deliver the quality of service our members deserve at every opportunity.

— Bernie Acre, Information Services Division Manager

## SITUATION

The Guadalupe Valley Electric Cooperative (GVEC) has three subsidiaries: GVEC Home which sells and services home appliances and HVAC units, GVEC.net offering high speed wireless Internet, and the Guadalupe Valley Development Corporation (GVDC) which supports local economic development. In 2007, GVEC.net's concerns for their network infrastructure and surrounding coverage area were mounting. Not only had a slew of new ISPs popped up throughout their service area, but most were using Wi-Fi technology which was creating a lot of radio frequency (RF) noise in the bands they were occupying. They needed an alternative solution that would offer more reliability in challenging environments while providing a way to scale their network for additional capacity and improved quality of service. Additionally, they needed a broadband solution that would allow them to cost effectively serve the under-served and rural populations that had been left behind by other providers.

## SOLUTION

Quickly, GVEC determined that Cambium Networks' fixed broadband solutions were optimal for their connectivity challenges and communication projects that were

underway. More than 100 Canopy 2.4 GHz Access Points (APs) and 60 Point-to-Multipoint (PMP) 320 APs are the driving force behind their distributed access and are being used to communicate with remote breakers for operational controls or meters. On the backhaul side of GVEC.net's network are an abundance of Cambium Point-to-Point (PTP) radios, including PTP 600 and PTP 500 systems, plus a PTP 300 system that is providing communications to a third-party bank. Fifteen 11 GHz PTP 800 systems also are providing backhaul to substations and throughout the overall communication system.

## RESULT

Except for the fiber supporting the backhaul on two of their POPs, GVEC.net has built their access and backhaul network with Cambium solutions. The PTP bridges provide exceptional throughput and stability when and where needed with no downtime. GVEC is also using Wireless Manager for firmware upgrades and device configurations and reports that support has been excellent.

## CUSTOMER PROFILE

Guadalupe Valley Electric Cooperative (GVEC) Gonzales, Texas

- Approximately 3,500 square miles of service territory
- More than 245 miles of transmission lines with 41 power transformers
- Supplies power to 44 distribution substations
- Service motto: "Your kind of power."

## Cambium Products

- 2.4 GHz Access Points
- PMP 320 Access Points
- PTP 300
- PTP 500 Series
- PTP 600 Series
- PTP 800 Series

## Results

- Exceptional backhaul throughput and stability with no downtime
- Efficient communications for operational controls or meters
- Greatly improved distributed access
- Superior performance in congested RF conditions
- Great service penetration into rural and under-served locations
- Up to 115 subscribers on a single access point

# Guadalupe Valley Electric Cooperative

## Customer Background

The business of an electric cooperative is to provide select services for their members. That is the principle that governs how the cooperative conducts itself strategically as well as how they handle day-to-day activities, even hour-to-hour activities. GVEC is no exception to this rule. Their mission and heritage is very clear. They strive to offer the highest quality of service for all their members, even if their locations are difficult to reach or rural.

GVEC's service area spans 100 miles from East to West and 75 miles from North to South, totaling about 3,500 square miles of territory. Their electric system encompasses more than 245 miles of 138 kV and 69 kV transmission lines with 41 power transformers, supplying power to 44 distribution substations. In addition to 7,917 miles of overhead distribution lines, they have 497 miles of primary underground distribution line, leading from the substations and bringing electricity to homes and businesses. The Cooperative maintains a state-of-the-art SOCC (System Operations & Control Center) which is monitored 24 hours per day and electronically monitors each of GVEC's 44 substations. GVEC service line-men are on call 24 hours a day, seven days a week 365 days per year.

## Deployment and Interoperability Details

With over 69,000 meters and an expanding membership covering 13 counties across the state, the Cooperative understood the importance that reliability and scalability would play on their network infrastructure and communication systems as additional demands were placed upon these systems.

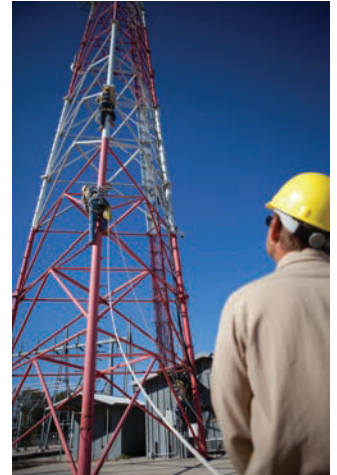
GVEC had recently completed 55 miles of distribution improvements for reliability and growth, and were simultaneously constructing new towers and upgrading their 900 MHz communications equipment to support

Automated Meter Reading (AMR). To improve outage restorations, more communications were added to downline distribution devices. Lastly, upgrades were made to Engineering Analysis, Outage Management, Geographic Information, and Field Service systems in order to provide intelligent management and monitoring.

"We are very happy with the performance we are getting by overlaying the Canopy 2.4 GHz and the PMP 320 APs. Not only is the GPS Synchronization allowing us to operate in congested areas with superior performance, the PMP 320 is providing us great penetration into geographies we were previously not able to reach. We have had as many as 115 subscribers on an AP even though our goal was 62," said Tad Vernor, ISP Installation Services Manager.

## Cambium Advantage

Cambium Networks PTP and PMP solutions provided the GVEC with the reliability and scalability they needed to provide the highest level of service for all of their members, regardless of their location.



**"As a community-based organization that is driven by our ability to enhance the lives of the very members who are also our owners, we take deep pride in our relationship with our members and our business partners. We have gained a number of efficiencies for our investment and are well positioned to continue making communication enhancements that will benefit our members for many years to come. We know we have a committed and innovative partner in Cambium Networks."**

— Bernie Acre, Information Services Division Manager

