

BEC'S INDUSTRIAL CONNECTIVITY SOLUTION PROVIDES SECURE AND RELIABLE CELLULAR CONNECTIONS FOR AMI BACKHAUL



Customer

Electric Cooperative in Arizona with over 36,700 members, 43,500 meters, and more than 1,555 miles of line spanning portions of three counties

Application

AMI Backhaul over LTE

Solution

BEC MX-200A LTE-A Industrial Router and BECentral® CloudEdge

Connectivity

Cellular 4G LTE Technology

Results

BEC's industrial connectivity solution provides secure and reliable 4G LTE cellular connections for the AMI backhaul in the remote locations

In recent years, the progress of Advanced Metering Infrastructure (AMI) has been remarkable, bringing it from a mere meter reading system to a comprehensive communications system.

In addition, its capabilities have seen expanded bandwidth and decreased latency to allow for Demand Response/Load Management and Distribution Automation.

Challenges and Solutions

The Electric Cooperative has several remote locations where reliable connectivity is challenging. Typically, fiber is the preferred connectivity option; however, fiber deployment would be cost-prohibitive and impractical in these areas. So instead, the Electric Cooperative opted to try cellular 4G LTE technology and came across the BEC MX-200A Industrial 4G LTE Router.

Initially, only concerned about reliable connectivity to get meter reads back to the billing software, the Electric Cooperative found the MX-200A offered much more functionality. While LTE connectivity provides inherent data encryption and secure connectivity, the Electric Cooperative enabled native VPN termination on the MX-200A for an added layer of security. Additionally, the ultra-compact rugged IP50 form factor allowed for limited space installations, flexible DC power options of 8 to 56 VDC and an industrial temperature range to support reliable operation in extreme temperatures in Arizona.

Results

The BEC MX-200A LTE-A Industrial Router was the perfect option to connect to the AMI collectors, providing highly reliable, secure, and cost-effective connectivity. The highly compact and versatile platform is full-featured, integrating robust cellular connectivity, active GPS, multiple Gigabit Ethernet interfaces, RS-232 serial device IP connectivity, and enterprise-level functionality such as advanced security mechanisms, Quality of Service (QoS), SPI firewall, VPN Termination, and auto-failover for unparalleled uptime and network redundancy.

As the Electric Cooperative continued to add MX-200A devices to their network, they leveraged BECentral® CloudEdge to accelerate deployments and integrate API functionality.

The platform enables zero-touch provisioning visual dashboards with real-time analytics, detailed reporting, historical analysis, performance monitoring, proactive alerts/notifications, and API extensibility for 3rd party application integration. BECentral® has become an essential part of their day-to-day operations.