Central Florida Electric Cooperative (CFEC) Chooses RADWIN to Upgrade Ageing Wireless Infrastructure.

RADWIN's high-capacity solutions support CFEC’s backhaul system as well as bandwidth intensive applications.

Overview
Central Florida Electric Cooperative (CFEC) provides electrical power to less populated areas of north central Florida, with more than 33,000 active services in six Florida counties.

At near full capacity with their aging wireless network, they had to upgrade to a wireless communication infrastructure that could accommodate their present traffic and allow room for growth. This would allow them to ensure reliable communications between the company’s 16 substations and 2 district offices and the main office in rural Chiefland, Florida, as well as support a wide range of bandwidth-intensive applications.

The Challenge
» High-Bandwidth – Recent AMI (Advanced Metering Infrastructure) and SCADA (Supervisory Control and Data Acquisition) deployments have added more traffic to CFEC’s already over-burdened communications infrastructure, creating the need for increased IP capacity and throughput.

» Beyond AMI and SCADA, CFEC’s private network solution needs to provide backhaul for 16 substations and 2 district offices. It also needs to support VoIP services, trunking for 2-way radio systems, virtual desktops for district offices and video surveillance traffic.

» Cost – CFEC required reliable but cost-effective replacement equipment. Fiber was not an option as it is too costly.

» Distance – Many legs of the proposed network would be extremely long, some spanning a distance of more than 33 Km/21 miles over rough terrain.

» Reliability – CFEC required a highly reliable wireless infrastructure to ensure uninterrupted communications within its private network.

The Customer
Central Florida Electric Cooperative, Inc.
Since 1939, Central Florida Electric Cooperative, Inc. (CFEC) has been proudly providing 33,000 active services in the Tri-County area of Florida. Their mission is to be the finest example of an electric cooperative where excellent service, competitive rates and concern for the consumer, community and environment guide their every action.

www.cfec.com

The Distributor
Telworx
TelWorx Communications, LLC, is a certified provider of products, solutions and technical services for wireless, wireline, data centers and government customers.

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The Solution
Due to cost considerations and the physical topology of their network (rough and remote terrain), CFEC determined that a wireless backhaul solution based on Point-to-Point and Point-to-Multipoint microwave was the best and most cost-effective choice.

CFEC chose the RADWIN 2000 C product for its Point-to-Point backhaul system and RADWIN 5000 radios for Point-to-MultiPoint substation communications.

The RADWIN 2000 Point-to-Point radios deliver throughput ranging from 48 Mbps to 100 Mbps full duplex and support two primary applications:

- **Backhaul** – the network serves as the main backhaul system for 16 substations and 2 district offices.
- **Point-to-Point** – the network also supports SCADA, AMI and other applications including VoIP, trunking for 2-way radio systems and virtual desktops.

The RADWIN 5000 radios deliver up to 200 Mbps per base station sector and support several substation applications:

- **Video Surveillance** – monitoring the substations to protect them from trespassing and copper theft.
- **SCADA** – for both status and control.
- **AMI** – hourly reads are pulled and integrated into CFEC’s Outage Management System.

While all systems operate in the unlicensed 5 GHz spectrum there is minimum interference due to RADWIN's unique Hub Site Synchronization capability.

The Result
With RADWIN providing the expert advice necessary to lead the design process, CFEC was able to use a RADWIN-based solution to upgrade the wireless network within their tight budget constraints. The system easily handles the challenging communications needs of the network and CFEC is continuing the network upgrade with additional RADWIN equipment.

Why CFEC Chose RADWIN

- **Unrivaled Price/Performance** – RADWIN solutions offered the lowest total cost of ownership per megabit when compared with other alternatives.
- **Ideal for SCADA and AMI Traffic** – Due to their low latency, RADWIN solutions enable real-time IP communications which is imperative for SCADA and AMI networks.
- **High-Capacity** – RADWIN’s solution met the requirements of the utility company’s bandwidth intensive applications delivered over long ranges.
- **Maximum Reliability** – RADWIN outdoor units deliver unparalleled performance and robustness even in the harshest weather conditions.

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