



## Case Study



# Rural Utility Builds High Capacity, Fault Tolerant Backbone with Ceragon

FibeAir® platform facilitates aggregated data streams from IP, serial and TDM systems

## Background

South Central Indiana REMC (“SCI”) in Martinsville, Indiana is a rural electrical membership cooperative. Owning and maintaining 3,440 miles (5,536 km) of line, SCI has the largest distribution of Indiana’s 39 rural electrical cooperatives.

Looking to improve its operation and service offering, SCI has implemented an advanced metering infrastructure and was in need of a backbone network to deliver its SCADA (Supervisory Control And Data Acquisition), DA, LMR (Land Mobile Radio), Video and AMI (Advanced Metering Infrastructure) traffic.

## The Challenge: Build a High Capacity Backbone Network

SCI maintains over 20 substations and metering points, all of which need to be connected back to the company’s head end office. In order to ensure a constant flow of mission critical communication, SCI took a decision to construct a fault tolerant backbone that will bridge across its entire service area and be capable of aggregating multiple data streams. SCI’s service area is rural, meaning that there was no financially feasible means of installing fiber. Instead, the company opted for a high-capacity wireless system.

## The solution: Cost-Efficient Wireless Point-to-Point Microwave

MapleNet Wireless, a broadband wireless integrator based in Elkhart, Indiana was selected to engineer and deploy the new SCI communications network. Using Ceragon’s FibeAir® IP solutions MapleNet Wireless ensured high performance delivery of a mix of IP and TDM traffic, along with a seamless software-based upgrade path. The 50Mbps of Ethernet bandwidth delivered by the FibeAir solutions also surpassed SCI’s original bandwidth requirement, without increasing the planned budget for the project.

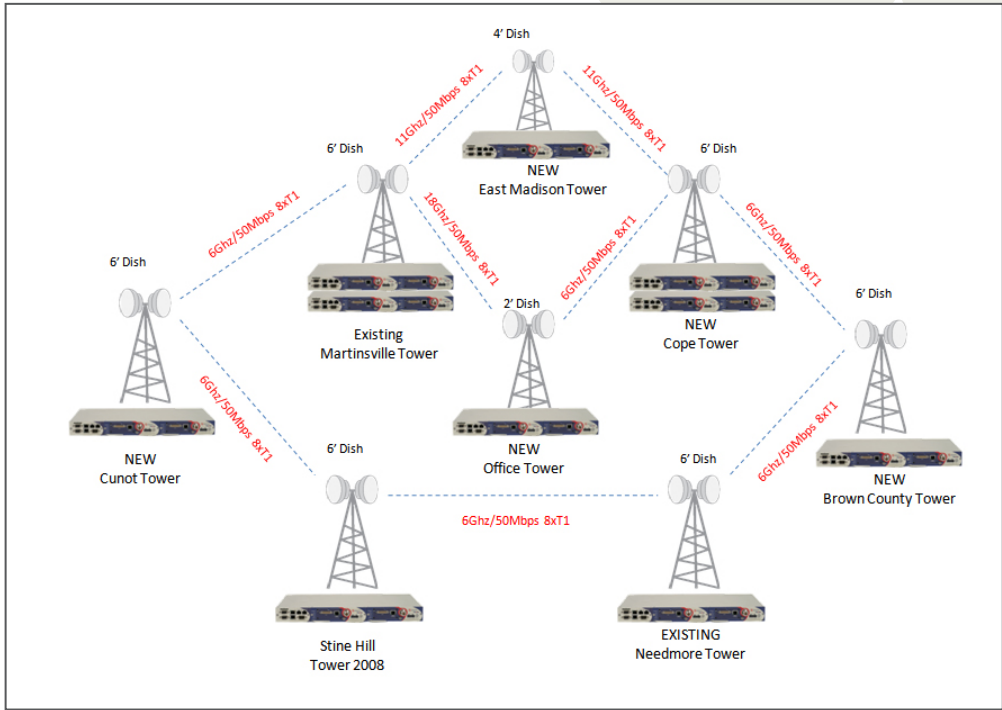
## Implementation

Using Ceragon wireless solutions, MapleNet Wireless constructed an eight hop ring in excess of 60 miles (95km), with link distances ranging from 5 miles to 17 miles (8-27km respectively). Each tower site also served as a connection point for substations and metering points

Ceragon’s FibeAir IP solutions were utilized to carry 50Mbps + 8xT1 over 18Ghz, 11Ghz and 6Ghz frequency bands. MapleNet Wireless also used Garrettcom managed switches at each tower with Garrettcom’s proprietary spanning tree software.



*“Ceragon’s modular design, software-based throughput upgrades, high system gain and TDM interfaces are all features that not only meet our current requirements, but also allow SCI to expand services in the future,”*  
Phil Mattison, VP of Operations, SCI



**FibeAir IP-MAX<sup>2</sup>**, Carrier Ethernet Wireless Solution

**SCI Wide Area Network Backbone using Ceragon FibeAir UP Solution**

“Ceragon’s modular design, software-based throughput upgrades, high system gain and TDM interfaces are all features that not only meet our current requirements, but also allow SCI to expand services in the future,” said Phil Mattison, VP of Operations, SCI. “The FibeAir’s split-mount configuration also saved us an estimated \$100,000 in costs for waveguide, pressurizers and accessories. Ceragon’s NBD warranty and simplified sparring are additional benefits.”

**Conclusion**

Taking advantage of Ceragon high capacity FibeAir solutions, SCI was able to set up an efficient wireless backbone network to support its advanced metering infrastructure. The network, engineered and implemented by MapleNet Wireless, also ensures smooth future upgradability to help SCI improve its operation and service offering with little incremental costs.

**About South Central Indiana REMC (SCI)**

*South Central Indiana REMC is the largest distribution cooperative in the state of Indiana serving more than 33,000 members in a seven county area including: Morgan, Monroe, Brown, Owen, and parts of Putnam, Clay and Johnson counties. For more information on the member-owned cooperative, visit [www.sciremc.com](http://www.sciremc.com).*

**About MapleNet Wireless**

*MapleNet Wireless is a turn-key fixed wireless integrator headquartered in Elkhart, IN. The company offers a comprehensive range of services included tower construction, wireless WAN integration, network optimization, and emergency service work. On average, the company installs one new tower per week for its customers. MapleNet Wireless regularly dispatches crews for installation and repair work in Chicago, Detroit, Indianapolis and throughout the Midwest. Some highlight projects for the company include a wireless WAN in the U.S. Virgin Islands, consulting work for a wireless deployment in Chad, and a Homeland Security project in Washington, D.C. [www.maplenetworkless.com](http://www.maplenetworkless.com)*

**About Ceragon**

*Ceragon Networks Ltd. (NASDAQ: CRNT) is a leading provider of high capacity wireless backhaul solutions that enable fiber-like connectivity for SONET/SDH networks, next generation IP-based networks and hybrid networks. Ceragon’s FibeAir® family of products support all wired and wireless access technologies and address Service Providers’ need to cost-effectively build-out and scale their networks to meet increasing demands for bandwidth and premium services. Ceragon solutions are deployed by more than 150 service providers of all sizes, as well as in hundreds of private networks, in nearly 100 countries. More information is available at [www.ceragon.com](http://www.ceragon.com).*