



CH6302
August 2002

Federated Telephone Cooperative Case Study

*By Pam Enstad, Optical Solutions, Inc. and
John A. Jay, Corning Incorporated*

Introduction

Federated Telephone Cooperative of Chokio, Minnesota serves west central Minnesota where the principal business is agriculture--raising corn, soybeans, hogs, and cattle. The Federated service area encompasses a thousand square miles and includes the communities of Alberta, Big Bend, Chokio, Correll, Danvers, Hancock, Holloway, Milan, and Odessa. The largest of these towns is Hancock with a population of 727.

Formed as a cooperative in 1952 from five existing exchanges, Federated implemented major construction projects and purchased other systems in the 1970s. It now provides local dial tone, long distance, CLASS, and custom calling features to more than 3000 access lines.

Federated Telephone Cooperative sees its mission as providing to its owner-subscribers "the best communications services at a fair price, employing modern technology and up-to-date services, offering people choices to be successful and enhance their quality of life."

Goals

Federated Telephone Cooperative set four goals for itself as the new millenium approached:

1. To replace existing aging plant with technology that would serve for up to thirty years
2. To provide new services and open new business opportunities
3. To expand beyond its traditional communities
4. To enable its subscribers to enjoy the full range of today's communications and entertainment services such as high-speed Internet and cable TV, and those that will be developed in the future.

Fiber—The Technology of Choice

To expand its customer base, Federated established a CLEC outside of its service area in the neighboring town of Morris, Minnesota. The CLEC, called Hometown Solutions, would be doing an overbuild. It needed technology that would give it a clear competitive edge over the existing telephone and cable service providers. In its home territory, Federated needed a substantial upgrade, virtually a replacement of its aging plant. For these reasons, General Manager Kevin Beyer wanted technology that would be reliable and cost effective over a thirty-year time frame and future proof. That technology was clearly optical fiber to the home. The fiber Beyer selected to meet these expectations was Corning® optical fiber cabled by Corning Cable Systems. Corning fiber enables high performance and is designed to meet the demands of today's and tomorrow's networks.



CH6302

August 2002

Not only does Corning fiber provide the reliability and long life Beyer demands, it also offers virtually unlimited bandwidth. The competing copper-based technologies like VDSL and hybrid fiber-cable were rejected due to inherent bandwidth and other technical limitations. Beyer foresees companies like Microsoft and Disney developing applications that will demand huge amounts of bandwidth for each subscriber. Only fiber to the home can keep pace with this trend.

The Solution

Federated Telephone Cooperative had served as a testbed for a trial of early generation of fiber to the home, so they were sophisticated buyers as they searched for a supplier. Federated chose Optical Solutions' FiberPath® solution as the best available technology for their needs.

Since Federated is banking on fiber to the home to be its only connection to the customer, the product has to be proven and robust. "Optical Solutions is the only company out there with a product that is solid enough to handle voice, video and data," said Beyer. It is also important to him that Optical Solutions provides an outdoor weather-hardened customer premises unit. "We're not going to put something inside the customer's home, then have to get the customer's permission to enter the home if we have to work on it".

Federated contracted with an outside engineering firm to plan and lay out the installation. The firm worked closely with Optical Solutions engineers to come up with the best passive optical network (PON) architecture and layout. Installation in Morris, the first town, proceeded smoothly within cost estimates and on time. Chokio, Federated's headquarters town, followed with no surprises. Four more communities are in the pipeline, and all four will be implemented with Optical Solutions' FiberPath® 400 product.

FiberPath provides Federated and Hometown Solutions customers with multiple lines of local phone service, long distance, up to 80 channels of television in tiered service (plus an additional six pay-per-view channels), and dial-up or high-speed Internet connections on a single fiber pair. Tiers of speed are offered in the high-speed Internet service as well.

Customer acceptance has been excellent and the system has proven itself to be a community asset. "Optical Solutions provided us with technical support and assistance whenever we needed it," Beyer adds, and he notes that Optical Solutions has even incorporated some of Federated's suggestions into FiberPath 400 as standard features.

Conclusion

Federated Telephone Cooperative and Hometown Solutions are now serving their communities with an infrastructure that essentially knows no limits. The FiberPath solution has prepared them for services of the future like HDTV, video on demand, interactive video, and peer-to-peer applications.

Asked for his recommendations for other communications managers, Federated General Manager Kevin Beyer says emphatically "I would think about the bandwidth that might be needed ten to fifteen years down the road, the longevity of fiber over copper, and I would be building fiber to the home this year!"