

## Broadband Case Study: NineStar Connect

### Cooperative Profile

NineStar Connect, which came into existence with the 2011 merger of cooperatives Hancock Telecom and Central Indiana Power, is a multiservice cooperative that offers electric, water and sewer, and advanced communication services to members across an increasing swath of central Indiana counties.



Its communications division operates as a telecommunications cooperative that offers services including high-speed Internet, telephone, video and security solutions to residential and business customers. Hancock Telecom's roots in the telephone business trace back to 1895 when the first telephone line in the community was installed by one of the original founders. Hancock Telecom became NineStar Communications, a division of the cooperative.<sup>1</sup> In the merger, Central Indiana Power<sup>2</sup> became the electric division of NineStar Connect, now serving around 14,700 members in four Indiana counties. Some 5,500 members receive both electric and telecommunications services from the cooperative today, which has about 120 employees overall.

NineStar Connect is not only one of only a very small handful of merged electric and telecom cooperatives nationwide. It is a *transformed* cooperative offering a range of infrastructure services to an expanding member population. In fact, it may be the only rural cooperative in the U.S. today offering fiber broadband, electricity, water and sewer services (see Figure 1 on next page).

### Business Drivers of Broadband Investment

A significant driver of the aforementioned merger was the electric cooperative's desire to extend broadband access to every residential and business member. According to NineStar Connect's Chief Technology Officer Ross Ferson, the goal was to bring fiber to unserved areas to create economic, educational, and retail service opportunities for residents. He notes that high-speed Internet access in many local homes was so sparse prior to 2011 that schools had to remain open late to meet the community's needs. NineStar Connect's original plan was for every electric member to have a smart meter installed by mid-2015 and fiber-to-the-home (FTTH) within a few years after that, building on the fiber ring that already connected the co-op's substations.<sup>3</sup> Largely enabled by Hancock Telecom's previous experience with broadband, the goal of 100 percent FTTH coverage will be reached by the end of 2018. It is a quantum leap forward for a telecom provider that was selling dial-

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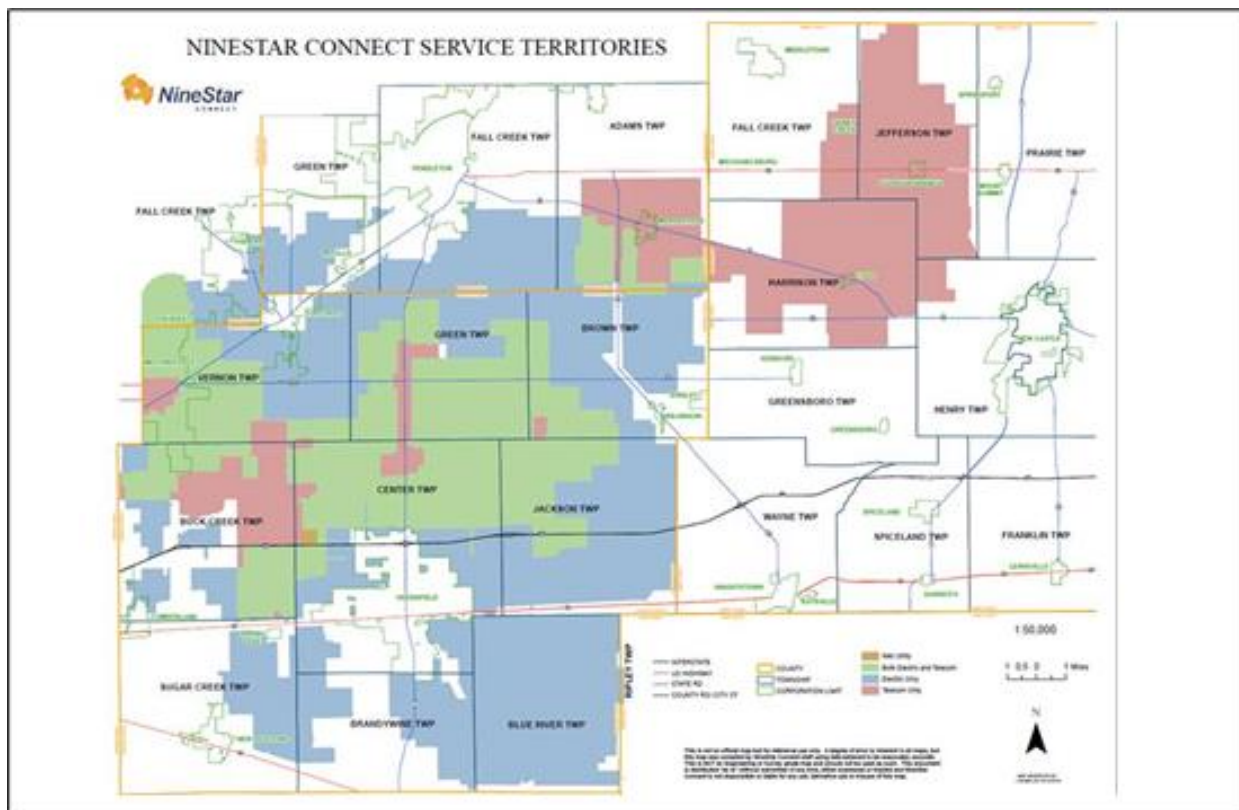
<sup>1</sup> Use of the overarching name NineStar Connect in this case study should not be taken to mean that the parent entity or the electric cooperative itself provides the mentioned services. Specific services are delivered by various of the entities which operate under the NineStar Connect umbrella.

<sup>2</sup> Once known as Hancock County Rural Electric Membership Corporation

<sup>3</sup> Wireless backhaul of smart meter data is being replaced by fiber backhaul as it became available.

up Internet access in 1999 and DSL (Digital Subscriber Line) service in 2002, the same year Hancock Telecom began trials with fiber broadband technology.

**Figure 1. NineStar Connect Service Territories:**  
Electric, Telecom, Electric+Telecom, and 'Wet Utility' (water and sewerage services)



## Project Overview and Deployment Approach

In 2015, NineStar Connect was named a Smart Rural Community Showcase Award winner by NTCA — The Rural Broadband Association — for its work extending broadband into its rural communities and, thereby, making them more vibrant places in which to live and do business. Indeed, it has. Since 2011, NineStar Connect has installed more than 1,500 miles of fiber-optic cable and invested \$54 million in new infrastructure.<sup>4</sup> Much of the credit rests with the Hancock Telecom side of the merged cooperative. In addition to its own extensive fiber-optic facilities and phased rollout of fiber network additions, the cooperative helped establish a statewide fiber network that is jointly owned by independent telephone companies (currently 20). The Indiana Fiber Network consists of more than 4,500 route miles of fiber-optic cable connecting all of Indiana’s major population centers. Central

<sup>4</sup> As fiber broadband is extended, reliance on wireless communications is being reduced. From a high of about 600 members served wirelessly, wireless now only accounts for about 20 members’ broadband connections.

Indiana Communications, Inc. (CICI), the holding company for all of NineStar Connect's unregulated lines of communications business, owns 10 percent of the statewide network.<sup>5</sup>

Hancock Telecom had also partnered with eight other telephone companies in 2004 to construct a video head-end, located at NineStar's North Campus in North Greenfield, as the centerpiece of a statewide video network. NineStar TV obtains its signal from the head-end, and the statewide network uses the Indiana Fiber Network to transport video signal to other companies throughout the state. CICI owns 12.5 percent of the Indiana Video Network.

NineStar's electric business division takes full advantage of this expanding fiber network. Automated feeder switching is enabled by the fiber backbone that connects substations. Moreover, data from the co-op's smart meters are backhauled over a combination of wireless and fiber paths to the fiber backbone. The network also enables security cameras at substations and provides the foundation for WiFi coverage serving engineering technicians and line crews working in the field. In addition, SCADA (Supervisory Control and Data Acquisition) system deployment is planned along with automated reclosers for improved system reliability. Both of these systems require high-speed, low latency communications that fiber broadband provides.

### **NineStar Connect Announces Fiber Optic Service to 100% of Businesses and Residences in McCordsville**

GREENFIELD, Ind. — (July 12, 2017) — NineStar Connect, a smart utility based in Hancock County, Ind., announced today that it has reached a milestone of providing high-speed fiber optic broadband service to 100 percent of businesses and homes in McCordsville, Ind.

With a population nearing 7,000 residents, McCordsville is the second-fastest growing community in the state for the second straight year, according to the U.S. Census Bureau. Incorporated in 1988 in fast-growing Hancock County, McCordsville borders the city of Lawrence in Marion County and the town of Fishers in Hamilton County.

Marcie Klaunig, assistant director at Thomas P. Miller and Associates, which recently completed a study on the impact of development on the Mount Comfort Corridor, says McCordsville is poised for tremendous growth. "Access to fast, reliable internet will make the town all that more attractive to businesses — particularly high-tech industries — while providing a crucial amenity for attracting and retaining a quality workforce."

Located in McCordsville, Hancock Wellness Center, the only certified medical fitness center in the region, relies on NineStar Connect fiber for business operations, for cable TV and internet at the facility, and to provide an interactive experience to users of the center's state of the art Technogym cardio equipment.

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<sup>5</sup> Similarly, Central Indiana Power, Inc. (CIP) is the holding company for all of Ninestar's unregulated lines of electric business, which include ornamental and street lighting for subdivisions and unincorporated communities as well as security lighting for NineStar members.

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“Our facility and services are designed specifically to help people reach their personal health and wellness goals,” said Steve Long, president and CEO of Hancock Health. “Connected fitness equipment, apps and other online resources play an important role in this, so our partnership with NineStar Connect is very important to us.”

New residents moving to McCordsville are pleased to have high-speed broadband service at home, an unexpected benefit in the region’s rural atmosphere. Jeff Corns and his work-from-home wife Marcy, an accountant, were eager to become NineStar Connect fiber customers as soon as the service was offered at their six-acre home in McCordsville.

“We have a digital household, so fiber to our home provides us the connectivity and content we need,” said Jeff, who notes that wireless access enables the family to stay connected while sprawled out on the family property. “Increasingly our four daughters rely on high speed access to complete school assignments, and my wife and I still have enough broadband capacity to work from home.”

“Reliable, high speed internet is no longer a nice-to-have for businesses; it’s an absolute necessity,” said Suzanne Short, a member of the McCordsville Redevelopment Committee. “Having the service available in McCordsville gives businesses the confidence they can establish themselves in our community and have the speed and bandwidth they need now and in the future as they grow. The availability of fiber to the home provides opportunities for e-learning and the flexibility to work remotely which helps companies attract and retain top talent.”

NineStar announced this spring that it had expanded its fiber optic service to 10 counties surrounding Indianapolis: Fayette, Hamilton, Hancock, Henry, Johnson, Madison, Marion, Morgan, Rush and Shelby.

## Broadband Business Case

NineStar Connect’s business case depends on new revenues from broadband services, along with cost savings and enhanced operational performance across its various lines of business to repay its broadband infrastructure investment. The capital cost for full, fiber coverage within NineStar’s electric membership area is approximately \$54 million. Grant funding has not been available, except indirectly through a federal pilot program to provide dedicated fiber access to hospitals.<sup>6</sup> The number of years needed to fully recover the fiber broadband infrastructure investment is expected to be lengthy. However, many of the benefits of the fiber network are not easily quantifiable.

<sup>6</sup> The Indiana Fiber Network (IFN), in which Ninestar Communications participates, has won the majority of contracts with the Indiana Telehealth Network (ITN), a project funded under the Federal Communications Commission’s (FCC’s) Rural Health Care Pilot Program (RHCPP).

Business benefits of the merged cooperative's deployment of fiber broadband include, but are not limited to, the following:

- By using the communication's division fiber-optic network, the electric division was able to deploy smart meters that involve two-way communication between the meter and a central station. This allows the power division to acquire meter data and manage electric loads remotely without visits to the member premises.
- Smart meters also enable the electric division to begin a move to time-of-use (TOU) billing, under which members can save money by shifting power usage to off-peak times. More than 150 members have enrolled in the co-op's TOU rate option since its introduction in fall of 2014.
- The communication division sometimes needs to put fiber-optic cables on power poles – the electric division has employees experienced in this type of work. Figure 2 illustrates the public face of this resource sharing.
- Administrative efficiencies are gained by consolidating functions, such as customer support and billing across lines of business.



**Figure 2.** NineStar Connect – a transformed, multiservice utility cooperative.

*Photos courtesy of NineStar Connect.*

## Broadband Business Model

NineStar Connect owns and operates its fiber network, which is used by all of its operating divisions. A team of 34, which reports up to CTO Ferson, works on the technical side to maintain the network. Central Indiana Communications is NineStar Connect's for-profit subsidiary acting as a CLEC (Competitive Local Exchange Carrier). It currently operates in ten Indiana counties and expands its business reach into unserved and underserved areas to satisfy consumer demand. The business model includes retailing of broadband access to residences and businesses with carrier-to-carrier sales for long-haul traffic. NineStar Connect offers Internet access speeds up to 300 Mbps (megabits-per-second) to residential customers with prices for "Triple-Play" bundles of Internet+Phone+TV started at \$93.12 per month as of June 1, 2018.<sup>7</sup> Other residential services offered include home security and emergency response systems. Business customers' Internet speeds currently include 600 Mbps and 1 Gbps (gigabits-per-second) options. Services offered to business customers include hosted phone service, outsourced IT, and video services. The latter includes master TV accounts for multi-dwelling complexes and commercial entertainment establishments, such as restaurants and sports bars.

## Network Architecture

NineStar's network is owned and operated by the cooperative and will ultimately be 100 percent FTTH with GPON (Gigabit Passive Optical Network). Currently though, in addition to the small number of wireless coverage areas previously mentioned, some DSL also remains in hard-to-reach locations within the CLEC service area.

<sup>7</sup> For current offers and prices, see: <https://www.ninestarconnect.com/residential/residential-internet/>



## Regulatory Issues

No significant regulatory issues have been encountered to date. It is important to note that NineStar has various operating divisions and also wholly owns both not-for-profit and for-profit subsidiaries. These divisions and entities are either regulated (water service) or self-regulated.<sup>8</sup> This business structure varies significantly from that of mainstream electric cooperatives and may reduce the applicability of the business model.

## Market Setting

NineStar Connect operates its broadband communication business in previously unserved areas, but also in areas where there is service competition. For the latter, Ferson reports that high-speed Internet service may be obtained from Comcast, Charter Spectrum, AT&T Fiber<sup>SM</sup> and/or Frontier FiOS, depending on specific location. Most, if not all, of these providers offer bundled packages of Internet, TV, and phone service. Some also offer home security monitoring and other ancillary services.

## Why is this Case Important?

To paraphrase the title of the famous 1959 movie, NineStar Connect is “the mouse that roared” with respect to innovation in broadband communications in Indiana. In spite of the fact that it is a relatively small entity, the cooperative has remodeled itself into something that would hardly have been recognizable as a rural electric cooperative as recently as a decade ago. Moreover, the co-op has leveraged its own investments in fiber by establishing statewide networks to interconnect with other companies to share broadband communication assets. Its transformation into a multiservice utility cooperative with various subsidiary entities reflects a long-held belief by management and the board that advancements in communications technology not only enable greater vibrancy in the rural communities they serve, but also require dramatic, ongoing changes in utility structure and significant investments in new infrastructure. It may not be achievable overnight, but the experience of NineStar Connect offers tangible proof that there is a path to a multiservice utility cooperative model.

## For additional information, contact:

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<sup>8</sup> Cooperatives are encouraged to work with local counsel to determine whether state law permits an electric cooperative to engage directly in non-electric business activities. Moreover, tax issues are not considered here. Electric cooperatives should consult with their tax advisers.