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Photo by: Jeff Gasper | Location: Nichols, NY Installation Site

Southern Tier Network

Labor-saving preconn solution helps bring broadband to rural New York

The Network

- Enables ISPs to provide up to 5 Gbps symmetrical broadband.
- STN deploys and maintains network from PoP (Point of Presence) to end users' ONT and router.
- Supports FTTH, 5G expansion, and IoT smart city technology.

Communities Served

- Southern Tier and Finger Lakes regions of New York State
- Rural, 8 counties (3 founding)
- Accessible by commercial and private network customers.
- Initial middle-mile ring build: ~600 miles
- Current FTTH phase: ~220 miles

The Customer

Southern Tier Network (STN), a public-private, open-access telecommunications organization, was founded in 2011 to develop, lease, and operate bandwidth on a middle-mile, dark-fiber infrastructure. Their mission is enabling internet providers to bring affordable broadband service to the Southern Tier region of New York State with the goal of promoting economic growth. Originally a partnership with three rural counties, STN has now grown to encompass an eight-county area. Their current project phase is on track to complete ~220 network miles, passing ~4,200 homes with fiber within two years.

The Challenge

The Southern Tier is known for its natural beauty and quiet lifestyle. Rolling hills, forests, and farmland are dotted with villages and small cities. It's also home to New York's Ceramics Corridor, comprised of scientific innovators, like the State University of New York at Binghamton, Alfred University, Cornell University, and Corning, plus a portion of the NY SMART I-Corridor semiconductor incubator. The Southern Tier should be perfectly positioned for growth. However, due to its very low population density, complex terrain, and unsuitability for wireless internet coverage, the communities have remained mostly un- or underserved.

Through the support of a variety of state and federal grants, by 2023 STN completed the initial phases of its backbone and network deployment, a middle-mile ring linking the largest towns along with universities, K-12 schools, government, and key enterprises to the long-haul network. Then, STN's focus broadened to include FTTH (fiber to the home) for their most remote residents. With a density as low as 3–5 houses per mile, planning a network that could achieve the goals set out in their current grant within the approved time frame using traditional spliced fiber technology proved extremely challenging. STN started looking for new options.

"With FlexNAP™ cables and Evolv® terminals, we have approximately 80% less splicing on our projects. Our splicing labor costs went from $40,000 to almost zero in our first phase. That savings allows us to allocate and shift our budget to more pressing needs."

— Patrick Miller | Director of Broadband Services | Southern Tier Network

Products Deployed

Corning FlexNAP Solution

Corning Evolv Splitter Terminals

Corning® FlexNAP™ Solution and Evolv® Terminals

The Solution

"I'm so glad I can use the internet now!" That's what Southern Tier Network's team heard from one resident whose only options had been dial-up or spotty cellular. To balance the need for enough fiber to accommodate growth while keeping the cost and time for repairs low in a region prone to damage from flooding, high wind, and heavy snow, STN uses a distributed split architecture with a 144-fiber backbone. For the latest phase of their build, this strategy did not change. But to significantly reduce labor costs and speed up deployment to more effectively use their public funding, they switched from a spliced solution to Corning FlexNAP™ preconnectorized cabling and Evolv® terminals.

When Director of Broadband Services Patrick Miller first heard about Corning's preconn solutions, he said, "This isn't for me. This isn't how I do things." According to Patrick, both STN's engineers and their contractors were skeptical. But "once you get it in your hands and try it, you change your mind almost immediately. It's the best thing since sliced bread." STN's first experience with the solution was at a rural broadband summit held at Corning's HQ in Charlotte, North Carolina. Their next step was meeting with an ISP that was already using the solution to get an unbiased, in-the-field perspective. Once STN decided to switch to the preconn solution, Corning's design team worked with their engineers to develop a network plan. When the plan was approved and the materials were delivered, Corning's team went back to Nichols, NY, to help STN and their contractors get underway. Says Miller: "It was 13 degrees out, but the Corning Team came to the site to do a pre-set up along the entire 2-mile route, helping pull out the cable, going through the prints, all the tether locations, making sure the contractors knew exactly what to do."

According to CEO Jeff Gasper, the switch to the FlexNAP and Evolv solution has also improved the grant process: "For the first leg, we went from start to 75 customers who had service within three days." When we met with the Empire State Development team to report our progress, their eyes just lit up." Jeff notes that while the design service and preconn product costs are marginally higher up front than their previous process, the overall savings, especially compared to hiring splice contractors at prevailing wage, is game-changing: "That would have certainly affected our budget before we even started." From an end-user perspective, the accelerated speed-to-market has improved take-rate as well. Says Miller: "If residents receive a 'coming soon' post card or see linemen working in their area, they get excited. If they have to wait 3-4 months for service, we lose that momentum. Now, they can have service the very next week."

"I couldn't ask for a better team than Corning's design team. They took 90% of the load off our engineering team. Everything in the field aligned perfectly, right to the drop lengths, so the installers could just roll the preconn out and plug in. The prints and cable are even color coded."

— Patrick Miller | Director of Broadband Services | Southern Tier Network

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Corning Optical Communications LLC • 4200 Corning Place • Charlotte, NC 28216 USA
800-743-2675 • FAX: 828-325-5060 • International: +1-828-901-5000 • www.corning.com/opcomm