

LENOWISCO Planning District Commission and Sunset Digital Communications



This month's featured municipal FTTH deployer is LENOWISCO Planning District Commission, which partners with Sunset Digital Communications to bring fiber connectivity to southwest Virginia. The commission assists local governments in the district with community development activities. Nearly a decade ago, it realized that broadband would be instrumental in transitioning the area from a tobacco economy to a knowledge economy, and it has pioneered the use of FTTP for economic development. Our thanks to Paul and Ryan Elswick of Sunset Digital Communications for providing the information for this profile.

— BBP Editors

BACKGROUND

Network operator: Sunset Digital Communications Inc.
Public entity owning the network: LENOWISCO Planning District Commission
Current/planned FTTP service area: Lee and Wise Counties in Virginia and parts of northeastern Tennessee
Number of households and businesses in FTTP service area: 28,000
Number of FTTP subscribers: 900
Competitive landscape: Comcast provides cable broadband and Verizon provides DSL in some areas, but the majority of the area is limited to dial-up or satellite.

NETWORK PROFILE

Miles of fiber backbone: 350 built, 350 leased, with connections to Ashburn, Va., and Atlanta.
Number of POPs: Sunset Digital offers "corridors of presence" rather than points of presence. Because it runs large bundles of extra fibers parallel to its backbone fibers, Sunset has the capacity to break into the cable at nearly any point along the backbone and splice a fiber directly to a customer, minimizing the need to lay fiber. This unique architecture is what allows Sunset Digital to economically serve rural households and businesses.
Network architecture: Active Ethernet
Business model: The LENOWISCO Planning District Commission owns the network. Sunset Digital builds, designs and manages the LENOWISCO network, which it leases from LENOWISCO and operates for the benefit of the community. Sunset Digital sells connectivity (including virtual private LAN services) directly to customers seeking private connections; retail Internet access is provided by a third-party provider, Clariti Media LLC, which plans to begin offering television and telephone services soon as part of a triple-play package.



Highest-tier Internet access speeds/cost: 100 Mbps downstream/2 Mbps upstream for \$99 per month. Businesses have requested up to 10 Gbps service.

Year deployment started: 2001

Year services began: 2001

Years to complete buildout: The buildout has been in progress for eight years due to ever-expanding plans.

ECONOMIC DEVELOPMENT IMPACT

Several businesses were able to stay or expand within the region because of broadband, including some home-based businesses as well as larger ones, such as Crutchfield Electronics. Other businesses located in the area because of the broadband network, including OnePartner, an advanced technology and application center and the only commercial Tier-III data center in the United States, and Holston Medical Group (HMG), whose electronic medical records are stored at OnePartner's data center. HMG takes advantage of the data center's capacity and connectivity to run virtual clinical trials. In total, the network has attracted an estimated

MUNICIPAL FTTH DEPLOYMENT SNAPSHOT



ing, navigating the challenging terrain and winning customers in an economically depressed area, and we are able to return more than \$150,000 per year to the network owner.

Through a partnership with the LENOWISCO Planning District Commission, Sunset obtained funding from the Tobacco Indemnification and Community Revitalization Program. The purpose of the program was to redistribute tobacco settlement money for economic development in areas whose major industry had once been growing tobacco. LENOWISCO leaders and Paul Elswick wrote grant applications and secured money to lay the initial fiber lines in their district. Sunset was charged with making it happen by laying the fiber and providing Internet service.

\$50 million in corporate investments in the region and 1,200 jobs.

DEPLOYMENT DETAILS

Aerial, underground, or both: Both, mostly aerial.

Method for underground installation: Plowed cable and conduit. Conduit uses Emtelle blown fiber.

Method for connecting fiber: Field fusion splicing

Splicing equipment: Fitel S175, S177, S122



OPERATING EQUIPMENT

Central office electronics: Ciena (previously World Wide Packets)

Fiber cables: OFS AllWave and EZ-Bend.

Fiber distribution cabinets/other OSP: DDB cabinets with Clearfield fiber management equipment

Testing equipment: Fitel

Residential gateway: Ciena

Softswitch: MetaSwitch, through telephone partnerships

NETWORK OPERATION

Number of central office personnel: 11

Number of OSP personnel: 32

Number of CSRs: One

Trucks, trailers, other equipment: Eight large bucket trucks, four bucket vans, one van, two splice trailers and three reel trailers

BIGGEST CHALLENGE

Most of our competitors were started by large, better-funded organizations. Sunset was started from scratch with no cash flow of its own and no investment. Today, it is a self-sustaining business with no significant debt. This has been our greatest challenge and perhaps our greatest accomplishment.

BIGGEST SUCCESS

We are still here! We've surmounted the difficulties of providing rural broadband connectivity, including securing fund-

After the funding was in place, Sunset had to lay the fiber. Using aerial and underground installation, the technicians at Sunset have been creative in using new techniques to bring fiber to the rural setting of Southwest Virginia. Obtaining rights of way was also challenging, but after we entered into a partnership with the power company, trading fiber for its SCADA system in return for rights of way, we were able to realize dramatic cost savings. We are now part-

nering with this same company on a smart-grid project.

Some observers have been surprised at how enthusiastically Appalachian residents have embraced the technology Sunset has provided. Customers aren't using broadband just to surf the Internet; they are using it to better their lives in this economically depressed area. In a survey of Sunset's most recent 271 customers, 29 percent said they used their new broadband service either for distance learning – to earn degrees that would make them eligible for better-paying jobs – or in home-based businesses. These work-from-home employees and owners of cottage industries include an interior designer using broadband to search for design inspirations, people managing health insurance programs for a national health insurance company, a person managing orders for a national floral service over the Internet and a toolmaker selling wedges for leveling mobile homes. Local successes, along with large companies and government entities that have shown interest in the network, have truly changed the capability of Southwest Virginia to compete in the world arena. **BBP**

Contact Masha Zager at masha@broadbandproperties.com if you would like Broadband Properties to feature your municipal fiber deployment.