

The Town of Dryden Delivers Rural Broadband to Drive Economic Growth

Introduction

In today's technology driven world, how people live, work, and play is becoming increasingly dependent on reliable and fast access to information and services enabled by a high-speed broadband network.

For families, businesses, and institutions to survive and thrive, advanced broadband expansion opens key economic, social, healthcare, and educational pathways. People living in these areas also welcome the opportunity to work from home, shop, consume entertainment, and access advanced critical healthcare data online.

Approximately 10 percent of U.S. households, mostly in rural communities, do not have broadband service, defined as 25 Mb/s or greater internet connectivity. Access to high quality broadband has been historically limited in rural areas, as it is difficult for incumbent Internet Service Providers (ISPs) to build a profitable business case for fiber deployment where populations are sparse.

Recognizing these needs, the Town of Dryden in New York worked with [HUNT-EAS](#) and [Ciena](#) to create a Municipally Owned and Operated Fiber-To-The-Home (FTTH) broadband network for its businesses and residents. HUNT's engineering and information technology skills proved to be a complementary match with Ciena, an industry-leading networking systems, services, and software company.

Building the business case

HUNT worked with Dryden to determine the exact goals by which they would measure the success of the project. Subsequent research efforts resulted in identifying incumbent ISPs, their levels of service, and related costs. Furthermore, a survey was deployed that allowed the town and HUNT to analyze the current landscape and the needs of businesses and residents. Moreover, HUNT's team identified funding opportunities for which the project qualified and met with the respective funding agency.

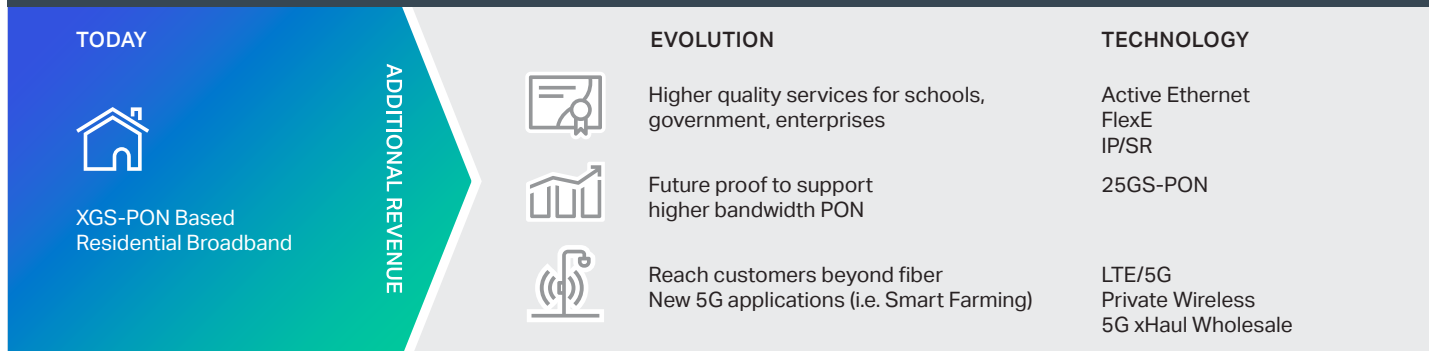
HUNT also worked with Dryden to develop a plan for construction, maintenance, and ongoing operations. Underlying this was a conceptual FTTH network plan that included potential locations for central office, feeder lines, local coverage points, distribution lines, and network access locations.

"We started this planning process not wondering if we were going to do this – but how!", asserted Dryden Town Supervisor Jason Leifer when asked about their FTTH network efforts. "Our community is a prime example of where affordable broadband services propel us into the future, undergirds our existing service providers' needs—police, fire, and municipal, provides an educational foundation for all our community members, and establishes a portal to a planet of opportunities and customers".

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Solution

Dryden's cost-benefit analysis left them convinced that they did not want to be solely responsible to provide staffing for the ISP or any of the operations or maintenance activities. Consequently, HUNT developed RFPs (Requests for Proposals) to identify local subcontractors to fulfill the workloads needed to provide the intended services. These services include but are not limited to: installation of the fiber backbone, distribution cables, subscriber drops, customer service, billing, problem work orders, new customer requests, and network outages.

Ultimately, the town and HUNT choose Ciena to deliver a complete and future-proof network for the Town of Dryden. [Ciena's Universal Aggregation \(UA\) solution](#) is compact in size and temperature-hardened for varied, remote, and often hostile environments, making it ideal for serving rural areas while supporting both residential and business services. Its ability to scale to 400G ensures that the town can support whatever services their subscribers will consume in the future. Being able to support multiple architectures was the main driver for the Town of Dryden.

Ciena's patented and customizable UA combines active Ethernet and Passive Optical Networks (PON), while allowing for the scalable adoption of future technologies down the road, such as private 5G for smart cities. The openness of Ciena's third-party interoperability capabilities will make network diversification simpler for Dryden in the future.

In addition to supporting the town's network infrastructure, Ciena offered Dryden the use of its unique Marketing as a Service (MaaS) program to help monetize their investment and accelerate time to market. The MaaS program is a collaborative and customized marketing engagement with dedicated Ciena resources.

Future-proofing initiatives

The Town of Dryden can find optimism for the success of its broadband deployment efforts on both the local and national level. By choosing to act as the initiatives guiding force, the town brings its native understanding of key community sectors and their service needs and an ability to steer capacity and the efforts of its suppliers and contractors. Although happily handing off the infrastructure development and subsequent operational processes to broadband professionals, Dryden's financial oversight will ensure a sober assessment of the initiatives' short and long-term challenges and successes.

Dryden's Planning Director Ray Burger credited both Ciena and HUNT with offering viable and easily understood business-case options. *"Our facilities team is quite capable of providing a wide variety of essential services, and we've added value to the FTTH planning process. However, in this case we thought it better to 'stay in our lane' and let the subcontractors do their thing. It really is a nice marriage of our homegrown knowledge and their technical expertise".*

Summary

Even pre-pandemic, there was a need for broadband services in rural communities. The COVID-19 pandemic has only served to accelerate the need for those services, not simply just for entertainment but also to support work at home, and to enable remote access to education and healthcare services.

Modernizing the network requires investment, so it is critical that municipalities make sure that the new backbone is capable and ready for all the services that it must carry. They must also ensure that it can scale to support residential broadband, business services, health, and educational services. Wholesale services can also be provided to support the rollout of the 5G mobile backhaul, further improving connectivity in the rural setting.

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