Community Broadband

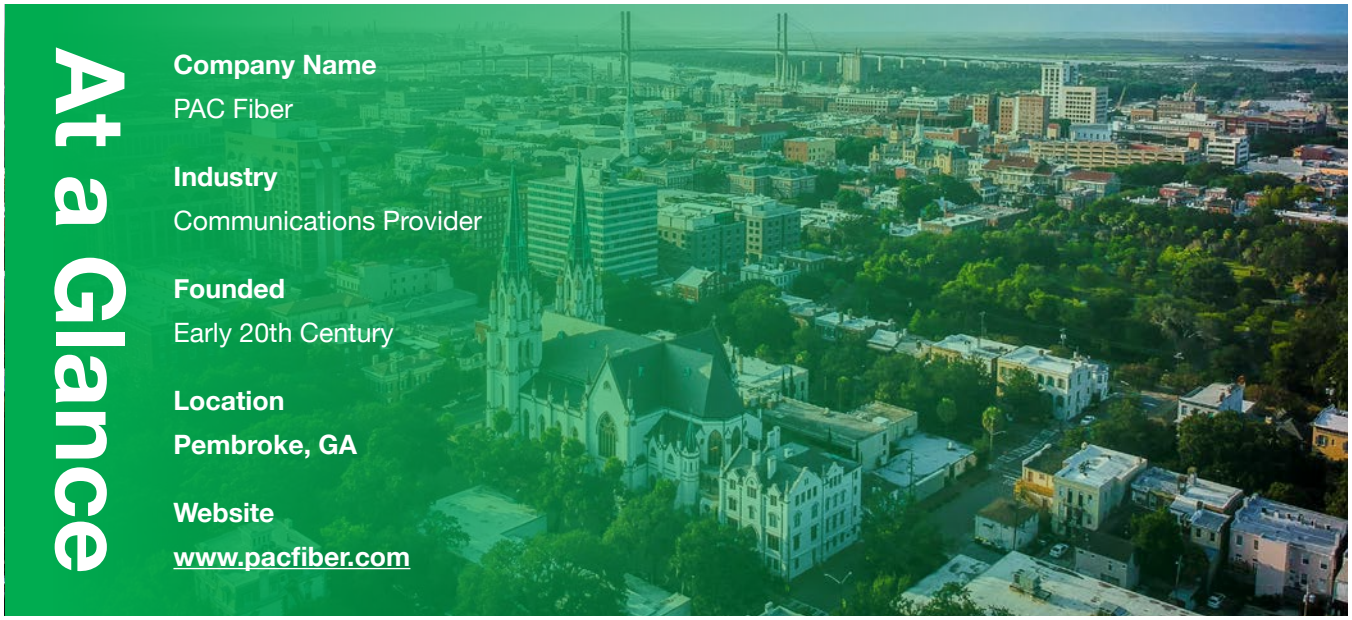
Case Study

PAC Fiber Brings High-Speed to a Broadband Desert

Gigabit Services Delivery

ADTRAN®

ADTRAN & PAC Fiber



At a Glance

Company Name
PAC Fiber

Industry
Communications Provider

Founded
Early 20th Century

Location
Pembroke, GA

Website
www.pacfiber.com

About

PAC Fiber , founded in the early 20th Century, is a full-service communications provider offering high-speed broadband internet, digital HD TV, cell and landline phone services to both residential and business customers.

Based in Pembroke, GA, PAC Fiber is no stranger to rural deployments. The town of Pembroke is roughly an hour west of Savannah's urban landscape. Despite its proximity, PAC Fiber's network covers exclusively rural regions, predicating the management of hundreds of miles of fiber. Its FTTH network covers 150 square miles, bridging the digital divide for over 6,000 inhabitants in their footprint. Part of PAC Fiber's expansion includes neighboring Evans County, historically known to locals as being a broadband desert.

Evans County is well known for a few other things, one being a production center for Vidalia onions. Unlike other onion varieties, Vidalia onions are grown exclusively in a 20-county region in Georgia and require precision agriculture—the use of computers and technology to set schedules for watering and proper caretaking. Without proper access to broadband, Evans County Vidalia Onion farmers were forced to drive into town to utilize Wi-Fi hotspots at fast-food restaurants to interact with their data.

The Challenge

PAC Fiber had a goal of expanding its network to underserved and unserved rural areas of central Georgia to better meet the needs of students enrolled in online classes, professionals working from home, and farmers trying to maintain their crops with precision farming.

The Solution

To bring reliable, high-speed broadband internet to the Evans County Community, PAC Fiber trusted ADTRAN's Combo PON technology as a simplified means to simultaneously deliver both traditional and next-generation FTTH technology to Evans County residents without placing any additional burdens on its existing fiber plant or central office facilities. PAC Fiber knew it wanted to prepare for consumer demand long into the future without disrupting today's services, so the choice was simple.

The Benefit

Leveraging the ADTRAN 10G fiber access platform, the Total Access 5000, PAC Fiber achieved its goal of bringing broadband access to the communities of rural Evans County. Not only did ADTRAN's Combo PON technology mean its old GPON and new XGS-PON based services could be deployed on the same fiber, but it also guaranteed that the residents of Pembroke would be able to grow their network capacity for many years without Pembroke having to take part in costly disruptive upgrades.

Evaluating the Needs of a Broadband Desert

Evans County has long been known as a broadband desert. Once off the main highway, there was not a service provider willing to deliver broadband access to local residents—even cell service was quite poor, eliminating the possibility for utilizing personal Wi-Fi hotspots as an alternative. That lack of access made life difficult for students and professionals alike, which was only exacerbated during the COVID-19 pandemic.

As one of only 20 counties able to produce Vidalia Onions, Evans County farmers have long struggled through lack of internet access to leverage the full potential afforded by advanced precision agriculture. The sweet variety of onion is local to Georgia but loved around the world. Part of its rarity is the precision agriculture needed to grow Vidalia Onions, but unfortunately, local Evans County farmers' operating practice of driving into town to find the internet required to set their watering schedules was inefficient, failure-prone, and simply not a realistic way to run a reliable business upon which their global customers depended.

In recent years, the county has attracted new residents, like retirees, drawn by its scenic rural setting and low cost of living. However, the lack of a high-speed internet connection proved to be a setback as grandparents wanted to video chat with their grandkids and do more than just send emails— which many discovered was the extent of the internet connections abilities throughout the rural Evans County area.

Like the rest of the world, residents' need for reliable - high-speed internet heightened when the COVID-19 pandemic pushed stay-at-home orders into effect. To accommodate, PAC Fiber set up hot spots in parks across Bryan County where kids could stay safe and warm in their cars while connecting to the internet to do schoolwork. But even with those hot spots in place, students from grade school all the way up through college struggled to find and maintain a decent connection to attend remote classes and complete necessary schoolwork.

Deploying Resident-Centric Networks

PAC Fiber wanted to improve the capacity and reach of its network to adequately support its community's need for high-speed broadband. To help reach this goal, PAC Fiber applied for and won USDA ReConnect grants and RDOF funds. When it came to choosing the right technology to achieve its goals, PAC Fiber already had a friend in ADTRAN.

For more than 10 years, PAC Fiber has utilized ADTRAN's GPON products in Pembroke. As an effort to expand that coverage, PAC Fiber leaned on ADTRAN's Combo PON technology to contin-ue service delivery for their current GPON customers and the to target XGS-PON solutions to better suit the more demanding residents of rural Evans County.

"For a small company like us, it is good to standardize our architecture," said Noah Covington, PAC Fiber's Director of Operations. "That way, we don't have to change, rework or figure out a new platform. It is just an upgrade."

> *"ADTRAN helps keep our prices competitive. But more so, ADTRAN has kept us reliable. Response times are so important, and if I call ADTRAN, they answer every time*

Supporting multiple technologies on a single fiber from a single port allows PAC Fiber to easily merge its existing GPON network with next-gen 10G XGS-PON technology to save 66 percent in energy costs and provide 20 percent further service reach versus operating two separate GPON and XGS-PON network modules, while avoiding expensive equipment space increases in the central office location.

Building for the Future

By operating on the same fiber plant, PAC Fiber avoids having to build out additional feeder fibers; change the fiber plant; add space, power, and cooling; or make complex OSS/IT changes. As a result, PAC Fiber was able to reach its goal of delivering high-speed broadband across Evans County's broadband desert while also providing special pricing to ensure that all residents could afford to have access to broadband.

"ADTRAN helps keep our prices competitive. But more so, ADTRAN has kept us reliable. Response times are so important, and if I call ADTRAN, they answer every time," said Covington. "The fact we can get someone on the phone that knows me and understands my business and can give me answers is incredibly valuable. ADTRAN's customer service allows us to give the right level of customer service to our subscribers."

Not only do today's students, professionals, farmers, and more have access to reliable broadband, but with the help of ADTRAN, PAC Fiber constructed a future-proofed network, ready to meet the demands of tomorrow's consumers.

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