



ENABLING COMMUNITIES CONNECTING LIVES

ADTRAN

THE DEMAND FOR BANDWIDTH IS INFINITE.

THINGS ARE CHANGING

The rate of change is constantly accelerating. This is evident when you look at the network and realize that in less than a decade we have seen the emergence and domination of smart phones, tablets and a wealth of connected devices. Where only a few short years ago having an Internet connection was a luxury, today it is a necessity. This is true not only at home or work – but anywhere at any time. The demand for bandwidth is infinite, and networks must evolve to meet this need. That leads us to the Gigabit network.

THE NEED FOR GIGABIT

Gigabit networks are still in their infancy. Many question the need for Gigabit speeds, when we have not fully utilized the bandwidth available today. But others have embraced the vision for Gigabit services, and are using it as a force for change within the communities they serve. Gigabit services connect the citizens of a community and enable growth and prosperity. Areas that were once desolate or dying have found new life through the emergence of Gigabit services. These ultra high-speed broadband networks are also serving as a catalyst for the future, bringing new jobs, new innovation and new beginnings.

“Communities around the globe — from dense urban to sparse rural and everywhere in between — have determined that affordable high-speed broadband is no longer a nicety, but a requirement for economic prosperity and quality of life...”

“Deploying fiber rich Gigabit broadband is the logical way to go. It gives the network operator great flexibility to serve business and residences with a range of cost-effective options. We know that when broadband rates increase the global innovation engine creates new compelling applications that drive economic development and improve our lives.”

Greg Whelan, Principal, Greywale Insights

DRIVERS FOR GIGABIT COMMUNITIES



Education



Business and Job Growth



Improved HealthCare



Civic Life



Connected Homes



Municipal Services

Recent surveys have shown the momentum is just beginning. NTCA-The Rural Broadband Association released a survey stating 85 percent of responding service providers indicate they have long-term fiber deployment strategies. In the past

12 months, ADTRAN has witnessed firsthand the positive impact communities have enjoyed from these deployments. Some key benefits include:



Economic Development

The availability of Gigabit throughout towns and cities has proven to attract new businesses to the area, stimulating local economies. According to a Fiber-to-the-Home (FTTH) Council study, communities with widely available Gigabit broadband access experience a 1.1 percent higher per capita GDP than areas without Gigabit. Cities in Mississippi are seeing this first hand as they transform from sleepy college towns to hubs for future business investment, attracting global companies creating thousands of local jobs.

Education

Gigabit broadband is providing school districts with the necessary bandwidth to enable online education creating more personalized learning experiences as well as maximizing the benefit of E-rate funding projects. Schools throughout 15 Ohio districts are using Gigabit service to meet local educational mandates while transitioning from a structured to individualized learning experiences in the classroom. The technology is allowing networks, schools, administrators, teachers and students to communicate in new, innovative ways while learning at their own pace.

Real Estate

A recent FTTH Council study showed that communities with access to fiber-delivered Internet can increase home values by up to 3.1 percent, or nearly \$5,500 on a median priced home of \$175,000. According to real estate agents in Oregon, this holds true as they are seeing a rise in Gigabit popularity in neighborhood criteria. Agents have

reported an increase in homebuyers looking for properties specifically in areas currently deploying Gigabit, or expecting to in the near future.

Telecommuting

Gigabit is opening the doors for increased work flexibility by allowing employees to work remotely. Residents located just outside the tech hub of Silicon Valley are oftentimes experiencing faster speeds at home vs. their workplace. As a result, telecommuters are able to enjoy a more affordable, higher quality of life without having to give up big city jobs. All the time saved in not commuting also translates to a lower carbon footprint.

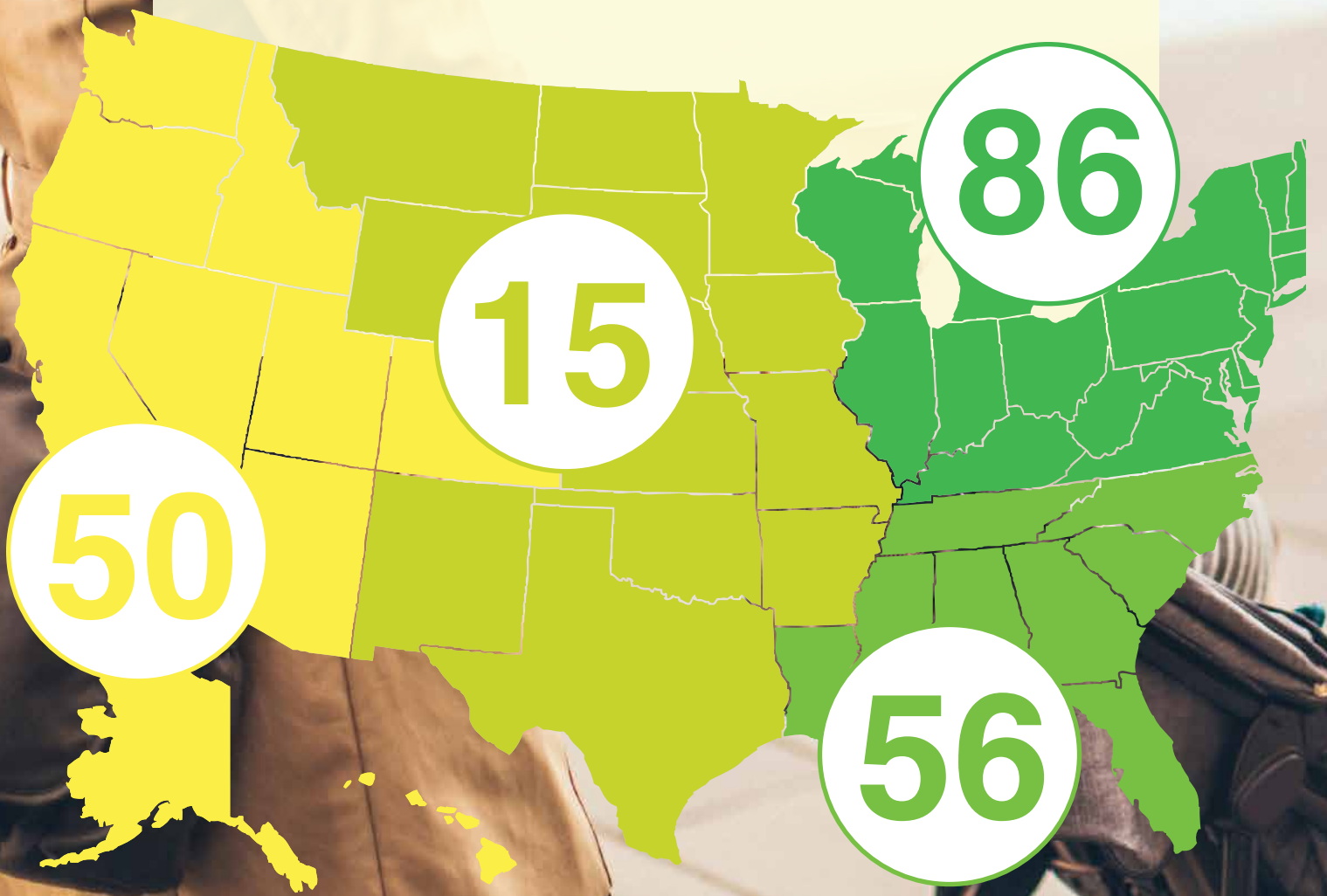
Agriculture

The delivery of Gigabit speeds is helping streamline crucial agriculture processes and enable new services. In Indiana, a dairy farm is using Gigabit broadband to remotely monitor milk production and processing. The farm is also delivering remote and on-site educational experiences by supporting connected, interactive learning centers for children.

Healthcare

Hospitals and healthcare facilities are deploying Gigabit broadband as they look to boost the quality of patient care. For those with ultra-fast broadband speeds, doctors, specialists and nurses are able to work efficiently with colleagues on-site and remotely. In Tennessee, doctors are able to provide care that previously wasn't available, with a local knee surgeon using Gigabit broadband to assist with 3D printing for developing patient-specific knee replacements.

ADTRAN ENABLES GIGABIT SERVICES IN OVER 200 COMMUNITIES



WHERE WE ARE

In January 2013, former Federal Communications Commission Chairman Julius Genachoski issued the Gigabit City Challenge, calling for all 50 states to have at least one community with gigabit Internet access by 2015.

ADTRAN is doing its part helping service providers, cable operators, municipalities and rural carriers to deploy the ultra-fast broadband services that are changing the game for community revitalization across the United States. When we launched our Enabling Communities Connecting Lives - campaign in August 2014, we envisioned that every community, regardless of size, could realize the transformative benefits of Gigabit broadband. In just over one year, more than 200 communities have partnered with ADTRAN and are now reaping the benefits of Gigabit broadband.

GETTING THERE FROM HERE

So, the question remains, "How do we get there?" Gigabit service delivery has traditionally meant building FTTH networks which require fiber to be pulled throughout the home. ADTRAN understands the common concerns for service providers evaluating Gigabit deployment options such as the overall cost to build an all-fiber network and how to keep up with subscriber activations and subsequent service or network upgrades in light of growing demand. Technology breakthroughs now offer lower deployment costs, improved time to market and doubled network longevity all while supporting new service creation benefits.

There are new technologies and techniques that support Gigabit speeds in a more cost-effective and timely manner. G.fast, DOCSIS 3.1 and 802.11ac are access technologies that respectively enable operators to extend their Gigabit services via existing phone wire, coax cables and Wi-Fi. With these deployments, fiber is typically deployed to the building basement or street curb, and then any of these new technologies carry the Gigabit services to the customer device.

Current FTTH solutions support a finite number of true Gigabit broadband customers and are simply not designed to support premium symmetrical business and backhaul services. Next-generation symmetrical 10 Gbps Broadband solves this issue by supporting many more Gigabit services and even offer multi-Gigabit services. This technology uniquely enables both existing residential FTTH customers and early business adopters to be supported on a single, common-access architecture.

New software-defined networks (SDN) and virtualized services are allowing operators to rapidly create and automatically activate new services. This allows for the acceleration of new revenue streams providing additional investment return for their new Gigabit broadband networks.

ADTRAN is the perfect choice. ADTRAN offers the most open, programmable and scalable Gigabit broadband access portfolio on the market today. ADTRAN solutions are designed to maximize your existing network, while enabling the migration to Gigabit and new software-based deployment models. We not only offer the latest in technologies, but we have world-class service and support to meet both your needs and the needs of your customer.

To find out more about our solutions for Gigabit services, visit www.adtran.com/gigabit or to learn more about Gigabit services deployment, visit www.gigcommunities.net

Gigabit broadband transforms communities,
rebuilds urban centers, revitalizes schools,
stimulates economic growth and delivers
innovative residential and business services.



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