

# Amazing Gigabit Communities.

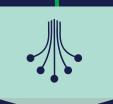
## Challenge of Rural Broadband

The difficulty in delivering broadband connectivity to rural and remote locations requires recognizing and addressing the following challenges:



#### **01** Limited Resource pool

As hundreds of service providers begin to rollout fiber networks, access to skilled resources will key to timely network rollouts.



#### 02 Technology

To ensure broadest coverage across challenging environments, you need the right mix of broadband technologies.



#### **03** Return on Investments (ROI)

You need to invest in the right architectures and business models that deliver faster and sustained payback on taxpayer dollars.



#### **04** Supply Chain Security

Service providers need to ensure the infrastructure they deploy is secure. The only way to avoid this issue is to "Buy American."

For over 35 years, ADTRAN has partnered with service providers to build best-in-class broadband networks and world-class operations that scale to meet the needs of both today and tomorrow. ADTRAN offers you the advantage of:











#### 1.000+

gigabit communities

### **ADTRAN – Your Partner in Success**

American Engineering: Solutions engineered in America that are RUS and USDA "Buy American" compliant, providing you the assurance of a secure supply chain while investing in American iobs.

Turnkey services: Comprehensive services to plan, design, engineer, and build your best network, and deliver the highest levels of customer experience.

End-to-end Gigabit Services Platforms: Best-in-class next-generation access, connected home and Al-driven automation platforms that allow you to confidently deploy a network that delivers 10+ years of ROI.

500+

service

providers

A Unique approach: An established and financially secure vendor with a global presence, yet focused on providers like you to help support the multidecade lifespan of broadband network rollouts.

ADTRAN is Partnering with 450+ US Service Providers to Deliver Fiber Broadband

ADTRAN offers you a roadmap to rural broadband success, allowing you to invest scarce resources in connecting your communities, building your brand, and monetizing your fiber networks.



**70M**+

Devices Managed



**Global Design Centers Certified Secure** 



# Plan, Design, and Build Your Best Network

The first step is to plan and design the network that offers the most reach, scale, and operational efficiency while ensuring it delivers the committed performance and low latency.

Maximize your network investments with ADTRAN's turnkey services to help you plan, build and extend your wired or wireless network. We provide the services and capacity to make deployments simpler, allowing you to generate revenue faster, including:



Industry Leading Engineering: Industry-leading expertise to streamline network deployments from design to execution.



Seamless Project Management: Orchestrate resources and project data while seamlessly connecting team members and partners to the information they need.



Dedicated Logistics Team: A dedicated logistics team that ensures materials for your network build arrive at the right location and on time.



Installation, Test, and Turn-up: An expert team that ensures efficient and effective network installation, with the capacity for future arowth.

75,000+

Network Implementation Projects

> 600+ Services professionals

175+ Services Partners Globally

# **Build for the Future** with Fiber and 10 Gig

A highly scalable access network built on fiber and 10 Gigabit Passive Optical Network (10G PON) is the foundation for a future-ready network.

allow you to:

୍ଟ

КЛ



ADTRAN's portfolio of 10G fiber access solutions are purpose-built to deliver and scale gigabit broadband connectivity using rapidly deployable, fiber-efficient PON technologies. ADTRAN's solutions

> **Deliver Gigabit Broadband**: Start with cost-effective GPON-based residential gigabit services to speed customer acquisition and time to revenue.

**Scale Gigabit Broadband**: Seamlessly upgrade to XGS-PON and offer multigigabit residential and business services to differentiate yourself from the competition, while growing ARPU and margins.

> Maximize ROI: Deliver a full range of residential, municipal, enterprise, 5G backhaul, and rural broadband applications.





50% Lower Capex



20% More Coverage







# Accelerate Rollout with Fiber Extension Technologies

Fiber is the first choice to deliver gigabit services, but rural locations present challenges such as difficult terrain, man-made obstacles and low population densities that may limit the case for fiber.

Offer rapid and reliable connectivity in underserved rural and urban markets with ADTRAN's gigabit-capable Fixed Wireless solutions. ADTRAN's solutions enable:



**MDU Capture and Public Safety** : Expand fiber connectivity and Gigabit service coverage in dense urban areas with mesh mmWave backhaul and access.



**Rural Broadband Expansion** : Speed broadband expansion in remote or rural locations with mmWave and CBRS fixedwireless solutions combined with existing fiber.



**4G and 5G Densification** : Multigigabit mmWave mesh fixed-wireless backhaul and access solutions speed 5G densification and offer faster ROI.

#### 3X Reach

Gigabit connectivity up 1/3rd of a mile (600m)

#### **2X Capacity**

Node capacity 15+ Gbps

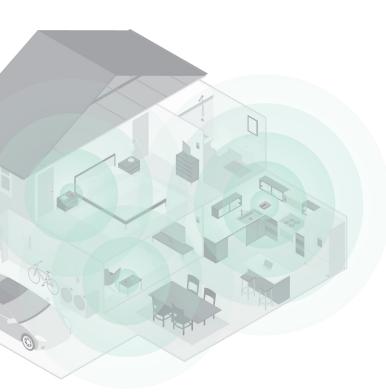
#### <15 min Install

Intelligent, Selforganizing, self-healing mesh fixed wireless

#### 80% Greener

Lower power consumption per gigabit connection

# **Extend the Gigabit Experience Throughout the Home**



Poor in-home Wi-Fi that is neither gigabit-capable nor offers coverage across the home can result in a poor gigabit experience.

ADTRAN's managed mesh Wi-Fi and service delivery gateways (SDGs) support advanced smart-home services to deliver an endto-end gigabit experience while reducing operational complexity. ADTRAN's solutions allow you to:

- Extend Gigabit across the home with Al-driven, self-organizing adaptive mesh Wi-Fi eliminating costly truck rolls.
- Put the subscriber in control by offering app-based Wi-Fi self-care, parental controls, and usage reports.
- Offer proactive care with real-time, remote diagnostics and alerts, eliminating costly support calls and reducing churn.
- Grow revenue with a suite of smart-home services, including managed Wi-Fi and home security, increasing lifetime customer value.



\$10 Higher Monthly ARPU



27% Reduced Churn



67% Reduced Truck Rolls

# **Gain Passionately Loyal Customers**

With broadband becoming the fourth utility, subscriber expectations of network reliability is higher than before. Many service providers are becoming aware that a poor in-home Wi-Fi or poor customer support experience impacts customer satisfaction and results in stalled Net Promoter Scores (NPS). Service providers need to recognize issues before they become a problem and proactively resolve subscriber issues.

ADTRAN offers intelligent Cloud-delivered, Software-as-a-Service (SaaS) applications in Mosaic One Cloud for Marketers, Customer Success and Operations teams. ADTRAN tools offer:



Boost ARPU and minimize churn by precisely targeting subscribers with the right offers, at the right time on the right channel



(٤̈́;

Proactively address network issues, increase network capacity and minimize costly truck-rolls with plug-andplay provisioning and Al-driven network automation

Trouble-shoot customer issues with end-to-end network and Wi-Fi gateway visibility, enhancing customer experience and NPS.

mos	5aicone								), Administrator 🗸
P	Promote Subscri	ber Behavior	Upgrade Candid	Churn Su	uspects	Revenue Leak	age	Campaign	Manager
	Subscriber Type		Subscri	ibers in Plan		Ke	y Applica		Jeremy Klein .cct. #: JKLE03830691
	$\frown$	Gamers	12000 10000 10000 10000	Tarpet Plan Tutar     Tarpet Plan		90% 80% 70% 60%		Î	Video Streaming
		Surfers	4000 2000			50% 40% 30% 20% 70% 0%			Shopping Messaging File Sharing Gaming
	Experience Scor			Gamers Streamers S	urlers Others				Others 😑
	Experience 304	re		Warning					
	Behavor Usage Filters						JMNS		
	Behavor Usage Filters		All Gustamers 📿 Re		Employee			wnload	Heatmap Q
	Behavor Usage Filters		All Gustomers 💽 Re Account Number	sidential 🧹 Business				wnload Bandwidd	~
	Behavor Usage FILTERS From (202022) (5) To (2) Full Name Timmy & Kay Cooky	(31/2021 fif) V Subscriber Type Gamer	Account Number TCOO14075799	sidential 💽 Business Site Name CO NI Brainerd	Speed 20M/5M	Ref Bandwidth 3,863.37	Bandwidth 3,128.58	Bandwidt 734.79	th Upload Percent
	Behavor Usage FLITERS From 270/2021 (2) To 27 FUI Name Timmy & Kay Cooley Jeremy Klein	ray2021 👔 💟 Subscriber Type Gamer Gamer	Account Number TCOOI4075799 JKLE03830691	sidential  Business Site Name OO NI Brainerd BX-3-12 Baxter Active	Employee Speed 20M/SM 60M/30M	Ref Bandwidth 3,863.37 3,12196	Bandwidth         3,128.58         2,541.80	Bandwidt 734.79 580.16	th Upload Percent 23% 23%
	Behavor Usage FILTERS From 700/202 0 2 7 FUR Name Timmy & Kay Cooley Jeeren Viden Carol Johnston	Caly2023 (E) 2 Subscriber Type Gamer Gamer Streamer	Account Number TCOO14075799 JKLE03830691 CJ0H32548271	idential 🕑 Business Site Name CO NI Brainerd BX-3-12 Baster Active Brainerd Adtran GPON	Employee Speed 20M/5M 60M/30M BB2SR2S	Ref Bandwidth 3,863.37 3,121.96 2,861.16	Image: Press	Bandwidt 734.79 580.16 45.77	th Upload Percent 23% 23% 2%
	Behavor Usage FILTES Free: 70/0021 10 10 10 10 10 10 10 10 10 10 10 10 10	(3)/2021 👔 💟 Subscriber Type Gamer Gamer Streamer Streamer	Account Number TCO014075799 JKLE03830691 CJ0H32548271 MPAR68592942	stdential  CO Hi Brainerd Brainerd Adram GPON Brainerd Adram GPON	Employee Speed 20M/SM 60M/30M BB2SR2S BB1GR1G/27SM	Ref Bandwidth 3,863.37 3,12196 2,86116 2,818.32	Bandwidth           3,128,58           2,541,80           2,815,39           2,753,40	Bandwidt 734.79 580.16 45.77 64.92	th Upload Percent 23% 23% 2% 2%
	Eehavor Usage FLITERS From (70(2020)) to (7) FUI Name Timmy & Kay Cooky Jerremy Klein Carol Jehrston Machael Parrisch Jackie Frederick	(3)/2021 😥 💟 Subscriber Type Gamer Gamer Streamer Streamer Gamer	Account Number TCOO14075799 JKLE03830691 CJOH32548271 MPAR68592942 JFRE73426637	eidential 💽 Buriness Site Name CO NI Brainerd Brainerd Adatum GPON Brainerd Adatum GPON Brainerd	Employee Speed 20M/SM 60M/30M BB2SR2S BB1GR1G/27SM 1SMB/IMB	Ref Bandwidth 3,863.37 3,121.96 2,861.16 2,818.32 2,476.64	Bandwidth         Do           3,128.58         2,541.80           2,815.39         2,753.40           1,969.98         1	Bandwidt 734.79 580.16 45.77 64.92 506.66	Upload Percent           23%           23%           2%           2%           2%           2%           2%           2%           2%           2%
	Hehavor Usage Furtes Fare (201222) (2014) Fare (201222) (2014) Furmy & Kay Cooley Furmy & Kay Cooley Jerrery Klein Carol Johnson Marshall Paraén Jackie Fiedrick Veronica Park	Cit/2021 (E) (C) Subscriber Type Gamer Gamer Streamer Streamer Gamer Gamer	Account Number TCOOI4075799 JKLE03830691 CJOH32548271 MPAR68592942 JFRE73426637 VPAR89348935	edential 💽 Reiners Site Name CO Mi Brainerd Brainerd Adram GPON Brainerd Brainerd Movile AE	Employee Speed 20M/5M 60M/30M B825R25 B81GR K0/275M 15MB/1MB 120M/60M	Ref Bandwidth 3,863.37 3,12196 2,86116 2,818.32 2,476.64 2,238.23	Bandwidth         3,128,58           2,541,80         2,815,39           2,753,40         1,969,98           1,821,60         1,821,60	Bandwidt 734.79 580.16 45.77 64.92 506.66 416.63	Upload Percent           23%           23%           23%           2%
	Eehavor Usage FLITERS From (70(2020)) to (7) FUI Name Timmy & Kay Cooky Jerremy Klein Carol Jehrston Machael Parrisch Jackie Frederick	(3)/2021 😥 💟 Subscriber Type Gamer Gamer Streamer Streamer Gamer	Account Number TCOO14075799 JKLE03830691 CJOH32548271 MPAR68592942 JFRE73426637	eidential 💽 Buriness Site Name CO NI Brainerd Brainerd Adatum GPON Brainerd Adatum GPON Brainerd	Employee Speed 20M/SM 60M/30M BB2SR2S BB1GR1G/27SM 1SMB/IMB	Ref Bandwidth 3,863.37 3,121.96 2,861.16 2,818.32 2,476.64	Bandwidth         Do           3,128.58         2,541.80           2,815.39         2,753.40           1,969.98         1	Bandwidt 734.79 580.16 45.77 64.92 506.66	Upload Percent           23%           23%           2%           2%           2%           2%           2%           2%           2%           2%

# **Establish World-Class Operations**

ADTRAN services deliver:



G,

Broadband demand is growing exponentially and technology is evolving at faster intervals. ADTRAN understands the challenges faced by service providers as you introduce new solutions and services.

ADTRAN's Services allows you to outsource network operations, so you can focus more on business growth and subscriber experience.

> **Predictable Costs**: Business models that ensure operational costs are aligned to network and subscriber growth.

Established Operations: Leverage ADTRAN's expertise, mature processes and tools to reduce ramp-up time and drive operational excellence.

Focus and Control: Service providers can control and direct operational focus through defined SLAs and governance structure.





#### **Professional Services**

- Network Design and Capacity Planning
- Installation, Test and Turn-up
- Field Services (On-site Support)
- Spare Parts Management (Warehousing & Logistics)

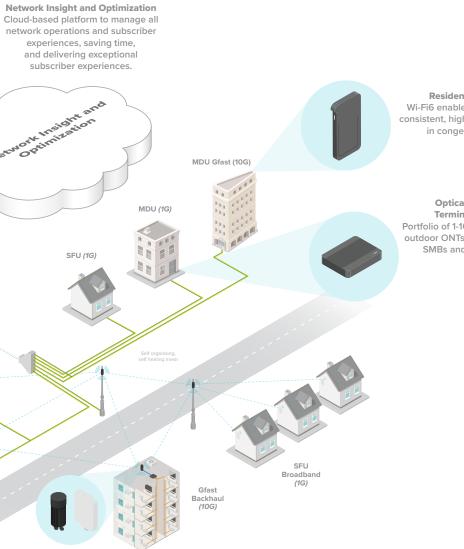


#### **Cloud Services**

- Network and Services Analytics and Insights
- Network Audits
- FCC Performance Testing
- Automation

End-to-End Gigabit Portfolio

Fiber Access OLTs (GPON/XGS-PON) Market-leading fiber access solutions simplify delivery of gigabit to homes, businesses and infrastructure backhaul. SFU (1G) Remote OLT (Microcabinet) Purpose-built, weather-hardened rural broadband access solution for low-density deployments. 60GHz mmWave **CBRS/LTE Fixed Wireless** Fixed Wireless High-capacity (up to 3Gbps) Multi-gigabit mesh mmWave integrated CBRS/LTE nodes for self-organizing, self-healing fixed wireless backhaul, rural broadband access and backhaul solution. and Private LTE networks.



Residential Gateways Wi-Fi6 enabled gateways deliver consistent, high-speed performance in congested networks.

Optical Network Terminals (ONTs) Portfolio of 1-10Gbps indoor and outdoor ONTs for SFUs, MDUs, SMBs and enterprises.



Gigabit Communities



Service Providers in 60+ Countries



Broadband Subscribers





Devices Managed



#### ADTRAN, Inc. 901 Explorer Boulevard Huntsville, AL 35806

General Information 800 9ADTRAN 256 963 8000 www.adtran.com/contactus

**Canada—Montreal, Quebec** +1 877 923 8726 +1 514 940 2888 sales.canada@adtran.com

Mexico and Central America +1 52 55 5280 0265 Mexico sales.cala@adtran.com

AD11165B July Copyright © 2021 ADTRAN, Inc. All rights reserved. ADTRAN believes the information in this publication to be accurate as of publication date, and is not responsible for errors. Specifications subject to change without notice. ADTRAN<sup>2</sup> and the other trademarks listed at www.adtran.com/trademarks are registered trademarks of ADTRAN, Inc. or its affiliates in various countries. All other tademarks mentioned in this document are the property of their respective owners.

ADTRAN warranty duration and entitlements vary by product and geography. For specific warranty information, visit www.adtran.com/warranty.

ADTRAN products may be subject to U.S. export controls and other trade restrictions. Any export, re-export, or transfer of the products contrary to law is prohibited. For more information regarding exportation of ADTRAN items (e.g. commodities, technology, software), please visit www.adtran.com/exportlicense.

