



# CAF SOLUTIONS

## Broadband Services for Rural and Remote Areas

### OVERVIEW

The Federal Communications Commission's (FCC) strategic initiatives, such as the Connect America Fund (CAF) and Alternative Connect America Cost Model (A-CAM) funding, present a significant opportunity to expand broadband coverage in rural and remote areas. However, delivering profitable broadband services to this underserved segment presents major challenges due to low population density, varied and difficult terrain and long loop lengths. In addition, service providers are challenged to deploy services within the FCC service obligation timeframes, while at the same time managing the on-going operations of their existing network, all with limited IT staff.

For service providers looking for a partner to rollout broadband services, ADTRAN provides turnkey solutions including a complete portfolio of SD-Access technologies, full lifecycle professional services and an entire ecosystem of partners to accelerate services rollout.

### ADTRAN CAF2 At-A-Glance

- Majority share in CAF2 solution deployments
- Completed turnkey turn up of 10,000 access nodes (over 1 million homes passed)
- Automated service activations resulting in 10x less back office/support tasks
- Over 10 million vectoring ports deployed worldwide
- Extend 25/3 DSL services up to 18,000 feet
- Primary supplier for two country-wide G.fast deployment

# DELIVERING BROADBAND SERVICES



## DELIVERING COMPETITIVE BROADBAND: A TOOLKIT APPROACH

Delivering fiber all the way to the customer device (e.g., FTTH) can be both cost-prohibitive and time-consuming. ADTRAN offers a comprehensive Fiber-to-the-x (FTTx) toolkit that enables service providers to utilize existing copper assets and deploy an optimal mix of access technologies that match Capital Expenditure (CAPEX), and Return-on-Equity (RoE) and competitive needs. The following matrix shows a comparison of these technologies, architectures and costs:

	VDSL2 17a	VDSL2 17a (Vectoring)	VDSL2 35b (Super-Vectoring)	G.fast (212 MHz)	FTTH
Deployment Model	FTTN / FTTB	FTTN / FTTB	FTTN / FTTB	FTTB/FTTdp	FTTB/H
Physical Medium	Copper	Copper	Copper	Copper / Coax	Fiber
Typical Rate (downstream)	25 Mbps*	100 Mbps*	300 Mbps*	Up to 1.8 Gbps**	1 Gbps
Ideal Range	<18 kft*** (5.5 km)	<3 kft (900 m)	<2 kft (600 m)	<1.5 kft (450 m)	<25 miles (40 km)
Deployment Costs	\$	\$	\$	\$\$	\$\$\$

\* To achieve typical rate at maximum range requires 2-pair bonding

\*\* To achieve "up to" rate requires <<100m loop lengths

\*\*\* Leverages a DMT mid-node



## MODERNIZING SERVICE TURN UP AND BACK-OFFICE OPERATIONS

Our unique service orchestration and automation solution is enabled by combining modern software defined access (SD-Access) techniques with our vast domain knowledge. ADTRAN has implemented orchestration and service activation automation with extremely positive results. Service providers have realized substantial Operational Expense (OPEX) and time savings within both the customer's home and business services, as well as the back office, resulting in faster time to revenue and improved customer experience.

## COMPREHENSIVE PROFESSIONAL SERVICES

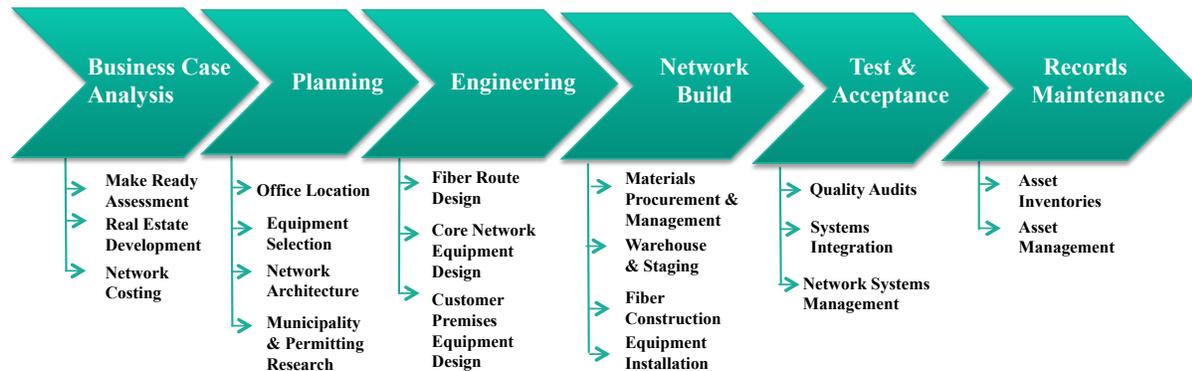
One of the biggest challenges service providers face when scaling residential services for CAF requirements is the time and resources associated with planning, pre-provisioning and deploying access equipment. With majority share of CAF2 network deployments, ADTRAN has partnered with service providers to successfully operationalize broadband access projects in multi-vendor networks. ADTRAN Professional Services programs are:

- Designed around each customer's specific needs—from programs that augment existing network build-outs to complete turnkey implementations
- Focused on monetizing network investments by accelerating new technology/network rollouts
- Focused on ensuring reliable, predictable costs



## NETWORK INTEGRATION MADE EASY

ADTRAN offers comprehensive network integration services that enable service providers to accelerate broadband network implementations, rollout new services to gain market share, and, at the same time, increase customer satisfaction. Network integration services offer complete turnkey system integration—planning, engineering, network build-out, product, material, labor, and project management for inside plant (ISP) and outside plant (OSP) projects.



## A COMPLETE ECOSYSTEM

Building a broadband access network is a complex task and involves multiple third-party vendors to ensure a successful rollout. ADTRAN has partnered with leading telecommunications logistics companies to provide the complete ecosystem of products required to build a broadband network.





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