
DEFINING
THE FUTURE
NETWORK
ADTRAN

ACCELERATING THE PATH TO SD-ACCESS

A BETTER WAY TO COMPETE

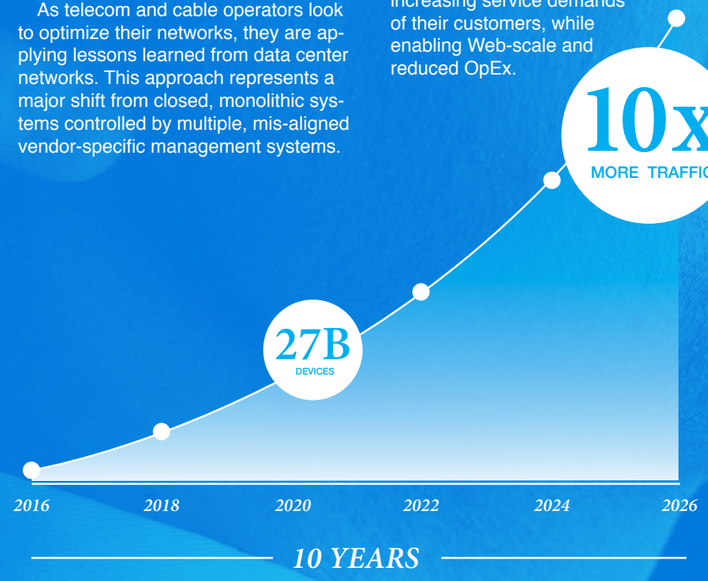
Today's traditional telco and cable broadband service providers are faced with a difficult situation. Their customers are demanding flexible user-defined services available when and where they need them. Alternative providers' Over-the-Top (OTT) and Web-based services have been successful at meeting these demands and if operators want to protect their current market share and attract new customers, they must find a better way to compete.

OPERATING AT WEB-SCALE

The application centric, platform economy that consumers live in today is disrupting many industries, flipping traditional business models to be more aligned with those used by Web-scale companies such as Uber, Netflix, Amazon and Google. The economics of "platforms" is setting the mold for the digital economy, transforming the future for businesses old and new. This will have a profound effect on health care, education, transportation, energy, financial services, food and government services. These sectors, now ripe for disruption,represent more than 50 percent of the U.S. economy.

As telecom and cable operators look to optimize their networks, they are applying lessons learned from data center networks. This approach represents a major shift from closed, monolithic systems controlled by multiple, mis-aligned vendor-specific management systems.

Therefore, they are looking to modular, component-based network architectures that are open, programmable and scalable. These Software-Defined Access (SD-Access) Networks provide the flexibility needed to address customer demands lightning fast and with greater agility. Likewise, the data center networking principles that helped spur the growth of Web-scale companies are also being embraced by major communications service providers. These principles provide the means to build programmable and scalable, on-demand communications networks, enabling service providers to meet the increasing service demands of their customers, while enabling Web-scale and reduced OpEx.



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MARKET DRIVERS

There are numerous drivers influencing service providers to take a closer look at SDNs and the positive impact they can provide as operators transition to the future network. These include:

User-Driven Service Models

The growth in Web-scale companies has given rise to a platform economy of user-driven services. Simply stated, user-driven services are available to customers 24/7. They do not require a truck roll or service technician. By logging into an app or using-voice-activated devices, users can do everything from upgrade their cable package to sign up for home monitoring or security services. The growing smart-home industry has added demand in this market. In fact, Markets and Markets recently projected that the smart home-market will grow to over $137B by 2023. The move to user-defined, user-enabled services is driving the demand for greater network flexibility, something not accommodated by today's network architectures. Service providers must adopt SDN-based architectures to be able to meet this demand with new agile service offerings and, ultimately new customers with greater revenue.

Network Traffic Growth

Network traffic is growing at a rapid pace with no end in sight. According to Cisco's VNI Global IP Traffic Forecast, 2016-2021, Internet traffic has a Combined Annual Growth Rate (CAGR) of 24 percent. This means network traffic will grow 10 fold within the next decade, further compounding operator issues. This same report projects that there will be 27.1 billion networked devices and connections globally and video will represent more than 82 percent of all traffic by 2021.

New Broadband Technologies

As networks continue to evolve, new technologies are being developed to enable service providers to meet the bandwidth demand of their customers. Whether those new broadband technologies are based on copper (Gfast), coax (DOCSIS 3.1) fiber (10 Gigabit PON) or wireless access (5G), they should be deployed using modern, software-centric SDN methodologies. This will enable operators to reduce time to market from years or months to weeks or days.

THE BENEFITS OF A SD-ACCESS NETWORK

A Software-Defined Access (SD-Access) network offers operators a number of benefits over traditional networks. These include:

Accelerates Revenue Growth

Modern networks use open services architectures that support ultra-short micro-release schedules which speed time to market. Traditional telco and cable operators must ready themselves to adopt new open services architectures and become more agile if they want to retain their current market share and compete for new services revenue.

Automates Networks

In today's service provider networks, rolling out a new service is a complicated and costly endeavor. Highly programmable SD-Access networks support the adoption of network automation and service orchestration that cut service provisioning times, human error and IT complexity, while enabling the desirable customer self-service capabilities.

Assures Consumer Experience

Leveraging highly elastic, pay-as-you-grow and hitless component-based service architectures reduce service interruption and network congestion improving the overall customer experience.

Speeds Time to Market

Typical communication networks are composed of a wide variety of disparate overlay networks having a mix of rigid legacy and next-generation infrastructure and service delivery protocols. The resulting multi-domain, multi-vendor network accounts for lengthy new service creation intervals reducing the service providers' competitiveness. For telecom and cable companies to bolster their revenue streams they must have the ability to rapidly create and activate new services. To meet this need, the future network state will offer more programmable and cloud-controlled access networks supporting SDN principles.

Creates Best of Breed Networks

SD-Access networks are built on modern architectural principles and apply lessons learned from data center networks. This approach is an architectural shift from previous networks that have historically relied on closed, monolithic systems being managed by vendor-specific management systems. This evolution enables operators to vastly lower their cost to build, operate, innovate and maintain their network.

THE ADTRAN APPROACH

ADTRAN has a unique understanding of the transition facing operators today. For over three decades, ADTRAN has been enabling service providers to deliver the services their customers need when they need it. Today is no different. ADTRAN is defining the future network with the most complete and open portfolio of SD-Access solutions on the market. These solutions are based on three principles:

Open

With an open architecture approach, service providers have the freedom to choose best-of-breed elements and control the introduction and network rollout of new customer applications and broadband technologies. This is accomplished by implementing management and control features as software applications created on top of open-source network control and service orchestration systems.

Programmable

Orchestration and automation enable service providers to simplify network and back office operations, streamlining new subscriber adds and upgrades while reducing truck rolls.

Scalable

Highly elastic networks offer service providers the advantage to quickly and efficiently scale services to any customer base. Operating your network at Web-scale streamlines service innovation allowing you to capture subscriber mindshare.

ADTRAN SD-Access solutions are natively integrated into an open microservices architecture that spans the entire network from cloud edge to subscriber edge—from data center to device. And, most importantly, this provides drastically improved operator competitiveness.

To learn more, visit adtran.com/sd-access

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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
+1 256 963 3321
+1 52 55 5280 0265 Mexico
sales.cala@adtran.com

South America
+1 256 963 3185
sales.brazil@adtran.com
sales.latam@adtran.com

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