MLGC Powers Past Competition With Ultra-Fast 10-Gigabit Fiber Network From Calix

CHALLENGE

A fourth-generation, family-owned rural local exchange carrier (RLEC), MLGC has served North Dakota for more than a century. Today the company connects around 2,500 premises in rural areas via a full fiber network, providing services such as voice, cable TV, and high-speed internet to both residential and business subscribers. In 2020, BroadbandNow ranked MLGC as one of North Dakota's fastest small internet and cable providers[1].

Like many broadband service providers (BSPs) across the United States, MLGC saw a surge in data traffic during the COVID-19 pandemic as subscribers relied on their networks to support remote working, online learning, entertainment streaming, and other high bandwidth use cases. To address this tremendous appetite for bandwidth, the provider migrated all its 1-Gigabit subscribers to 2.5-Gigabit service free of charge during this period. In December 2020 it doubled its speed offering again—to 5-Gigabit—using XGS-PON equipment from Calix[2].

To fend off competitive advances from regional cable providers, MLGC is accelerating its plans to upgrade to a 10-Gigabit service to retain its position as one of the fastest providers in the state.

To achieve this ambition, MLGC needed to build an advanced network capable of supporting next-generation services such as AR/VR and online gaming, while maintaining a superior subscriber experience. The desired network was to also deliver enhanced time-to-market and time-to-revenue capabilities by automating service provisioning as well as ongoing operational workflows.

The upgrade also had to avoid adding significant complexity and cost to the network at a time when MLGC is investing in expanding its fiber footprint. The BSP is on course to extend its network with an additional 300 miles of fiber in 2021.

SOLUTION

As part of its upgrade to 5-Gigabit broadband, MLGC worked with Calix to overlay its GPON access network with XGS-PON fiber-to-the-home (FTTH), which can deliver upstream and downstream 10-Gigabit symmetrical[3] speeds. Delivering 10-Gigabit in the future—and the new services these ultra-high speeds will enable—required MLGC to simplify the access edge of the network, both in terms of its architecture and from an operational point of view. This meant that MLGC needed to develop a software-defined access network that was highly agile, simplified service orchestration, and reduced provisioning times.

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The answer was the Calix Intelligent Access EDGE solution, built on the award-winning Calix Network Innovation Platform (AXOS®) software platform[4]. The versatile Calix solution implements a foundational software defined access platform that is highly agile, simplifies service orchestration, and reduces provisioning times from minutes to seconds. This means you can easily optimize operations within the access network and accelerate your business transformation.

The Network Innovation Platform enables this with its architecture of software modules that operate on top of a hardware abstraction layer to preserve software independence from the underlying hardware. The platform allows for faster service adoption and deployment with consistent methods of procedures (MOPs) and workflows that span the entire network regardless of technology or set of systems supported. This dramatically simplifies your network operations while helping you scale efficiently to meet subscriber demands.

Another key consideration was the need for MLGC to isolate specific functions for upgrades while keeping the rest of the network running as normal and in line with service level agreements (SLAs). Thanks to its modular architecture---which can target individual software

modules for upgrades---AXOS is able to deliver this 'Always On' connectivity with zero downtime during in-service upgrades5 while also eliminating the need for maintenance windows. On the hardware side, the network uses the E7-2 Intelligent Modular System in the cabinet, in conjunction with the AXOS Services Management Connector (SMx). In the premises, MLGC is initially leveraging the Calix GigaPoint® GP1100X unit, which is capable of delivering 2.5-Gigabit Ethernet speeds, with plans to deploy the recently launched 10-Gigabit GigaSpire® BLASTu6x in the second half of 2021.

RESULTS

The successful rollout of its 10-Gigabit-ready FTTH access network is allowing MLGC—which is today mainly a rural provider—to build into more urban areas. It has given MLGC the ability to target new urban customers with a 5-Gigabit (and soon 10-Gigabit) service, allowing it to compete more effectively with regional cable providers. At the same time, it is closing the digital divide by expanding into new rural communities in eastern North Dakota via funding from the Rural Digital Opportunity Fund (RDOF)[6].

MLGC is now able to market its service not just as a broadband internet offering, but capable of supporting

a full suite of smart home services including security systems, connected appliances, and utilities. The Calix Intelligent Access EDGE solution running on AXOS has allowed MLGC to realize a range of benefits, including reducing total cost of ownership by as much as 40 percentand dramatically shortening the time it takes to deploy new services. In terms of subscriber provisioning, the Calix SMx has been able to remotelyprovision and activate customer accounts and terminals (ONTs) up to80 percent faster than before.

The flexibility of AXOS has also enabled MLGC to take advantage of Calix's 'everyPON' approach. This means that the platform is able to support the same systems and services on the network, regardless of the PON technology being used, spanning everything from GPON to NG-PON2.[7]

Most importantly, the deployment of the Calix Intelligent Access EDGE solution on AXOS has enabled MLGC to future-proof its network, providing a network architecture that will allow it to optimize its capital investments for years to come while strengthening its overall market position.

For more information on the Intelligent Access EDGE solution powered by AXOS, visit our website.

ABOUT CALIX

Calix, Inc. (NYSE: CALX) – Calix cloud and software platforms enable service providers of all types and sizes to innovate and transform. Our customers utilize the real-time data and insights from Calix platforms to simplify their businesses and deliver experiences that excite their subscribers. The resulting growth in subscriber acquisition, loyalty, and revenue creates more value for their businesses and communities. This is the Calix mission; to enable broadband service providers of all sizes to simplify, excite, and grow. Follow us on LinkedIn.

[1] https://broadbandnow.com/MLGC
[2] https://mlgc.com/2020/12/mlgc-5g/
[3] https://www.calix.com/press-release/2021/04--april-/mlgc--one-of-north-dakota-s-fastest-networks--ups-the-ante-with-.html
[4] https://www.calix.com/solutions/intelligent_access_edge.html
[5] https://www.calix.com/press-release/2021/02--february-/calix-delivers-the-world-s-only-always-on-network-platform--elim.html
[6] https://www.fcc.gov/auction/904
[7] https://www.calix.com/solutions/technologies/10g-pon-solutions.html