Calix

Case Study

O-NET Drives 50 Percent Reduction in Truck Rolls with Calix Remote Network Diagnostics Solution

Canada's Community-Owned Provider Deploys Advanced Fiber Network

Formed in 2004 in Olds, Alberta, O-NET is Canada's first community-owned fiber provider. As a municipally controlled corporation, O-NET is 100 percent owned by the town of Olds and operates as a public body under the laws and regulations of the Province of Alberta.

O-NET first partnered with Calix in 2012 when it began constructing its state-of-the-art fiber-to-the-home (FTTH) network. A decade later, the broadband service provider (BSP) reaches every resident, business, and municipal facility in Olds with high-speed internet services—bridging the digital divide often seen elsewhere in rural Canada. In addition to serving subscribers directly, O-NET is also a wholesale provider for several other service providers. As a result, its footprint now expands well beyond Olds—covering multiple locations across Alberta.

CHALLENGE

The Challenge of Costly Truck Rolls in Rural Communities

As O-NET continued to grow beyond its original service area, it needed to find new ways to remotely activate new subscriber sites or to address problems at subscriber premises. Because its technicians were all based at O-NET's headquarters in Olds, dispatching trucks to new locations that could be hundreds of miles away was becoming prohibitively costly and time-consuming.

O-NET wanted to secure a remote diagnostics system that would provide extensive network visibility and troubleshooting without having to initiate a truck roll. It also needed to reduce service outages and honor service-level agreements for its wholesale customers. Meanwhile, operations personnel needed access to the tool wherever they were—including when they were working from home during the COVID-19 pandemic.

O-NET Fresh Locally Grown

COMPANY
O-NET

WEBSITE
o-net.ca

COMPANY TYPE
Community-owned fiber provider

LOCATION
Olds, Alberta, Canada

SERVICES
High-speed internet, TV, voice, business

SUBSCRIBERS
4,000 (2,000 direct, 2,000 via wholesale)

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SOLUTION

Calix AXOS Diagnostics Toolbox Gives O-NET "Virtual Technicians" in the Field

O-NET helps other BSPs provide services over its end-to-end Calix network—spanning both its GPON and XGS-PON networks, and customer premises equipment (CPE). O-NET provides management and support for other providers in launching and deploying Calix E9-2 and E7-2 systems in the central office, data centers, and remote cabinets. The E-series systems, and the supporting software-defined capabilities, are all based off of the Calix Intelligent Access EDGE™ Platform.

In the home, O-NET leverages the Calix Revenue EDGE™ solution, including GigaSpire® BLAST u6 systems, EDGE Suites, and the CommandIQ® mobile app. It does this by delivering mesh nodes to other service providers and helping them manage and deliver the ultimate Wi-Fi service to their subscribers.

The Intelligent Access EDGE Platform enables O-NET to keep pace with technology innovation, and deploy new revenue-generating services quickly and easily—all while driving operational efficiencies in an agile, "software-first" environment. A key differentiator for O-NET has been the software-defined Diagnostics Toolbox, a software application inherent within the Network Innovation Platform (AXOS). This software platform is the engine and foundational pillar behind the Intelligent Access EDGE platform. The Diagnostics Toolbox serves as a "virtual technician" for O-NET. It is available 24 hours a day, helping eliminate unnecessary truck rolls and providing instant visibility of network-related issues.

The AXOS Diagnostics Toolbox combines four main elements:

- **AXOS Local Packet Capture (LCP):** A command line packet analyzer (tcpdump) that displays and inspects TCP/IP and other data packets, verifying data delivery and integrity.
- **AXOS Remote Packet Capture (RPC):** A tool to capture packet streams and redirect that data to remote servers running the open-source Wireshark network protocol analyzer.
- **AXOS Video Channel Analyzer (VCA):** A tool for troubleshooting remote subscriber IPTV services, including the ability to isolate network and set-top box issues.
- **AXOS Always On Upgrade:** Applies self-diagnosis, self-healing, and process auto-start capabilities to minimize unplanned downtime. Its modular nature also reduces the need for maintenance releases.

"The AXOS Diagnostics Toolbox from Calix provides a great experience for technicians. It's designed by people who understand the challenges faced by technicians and the role of network operations and support teams. It improves the quality of life for technicians by making things easier, quicker, and smoother."

Daniel Andres, Manager, Special Operations, O-NET

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RESULTS

Calix Solution Delivers Innovative Remote Diagnostic Capabilities that Drive a 50 Percent Reduction in Truck Rolls

O-NET has seen a 40 to 50 percent reduction in truck rolls as a direct result of using the AXOS Diagnostics Toolbox. The BSP estimates that it has been able to cut as many as four truck rolls per day using the Calix Intelligent Access EDGE solution. This resulted in total cost savings of up to C$1,800 (US$1,380) per day.

With its end-to-end Calix network—and by taking advantage of the powerful capabilities in the AXOS Diagnostics Toolbox—O-NET has seen improvements across its operations, including:

- **Activating new nodes or subnets five times faster.** With the Intelligent Access EDGE Local Packet Capture feature, O-NET can activate new nodes within two hours, compared to 10 hours previously.
- **Resolving ONT and CPE issues faster than ever before.** O-NET can quickly resolve common problems on new installs, such as the inability to generate IP addresses from set-top boxes, in record time.
- **Troubleshooting at E-LAN environments up to 98 percent faster than before.** With the AXOS Diagnostics Toolbox, O-NET can address issues remotely rather than making costly site visits. This is allowing the BSP to slash resolution times from three days to just one hour.
- **Delivering up to 70 percent better network uptime.** Compared with competitive solutions, the AXOS nodes deliver a 60 to 70 percent improvement in uptime performance.
- **Reducing Wi-Fi issues by up to 70 percent.** Using BLAST u6 systems has helped O-NET reduce reported Wi-Fi-related issues by 60 to 70 percent. Calix Support Cloud has also enabled the O-NET support team to remotely diagnose and troubleshoot subscriber issues via automated cloud applications—even further reducing truck rolls.

In all cases, diagnosis and resolution are performed by a technician who could be working at the central office, working from home—or even on the move. With the AXOS Diagnostics Toolbox, O-NET enables its remote operational teams to troubleshoot network connectivity issues seamlessly, leading to fewer truck rolls, lower costs, and a better subscriber experience.

Schedule a consult to learn how the Calix AXOS Diagnostics Toolbox can act as your virtual technicians in the field.

Reduction in Truck Roles

Faster Troubleshooting at E-LAN Environments

Better Network Uptime

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