Cirrinity Optimizes FCC Testing Process and Achieves a 19% Performance Improvement with the Calix Broadband Performance Testing Service

CHALLENGE

The Wittenberg Telephone Company has been providing high-quality communications services to homes and businesses in North Central Wisconsin since 1921. The company currently serves 3,650 subscribers in the communities of Antigo, Pickerel, Wittenberg, and Elderon, providing gigabit residential broadband, voice, and streaming TV, as well as a variety of broadband and managed IT services for its business customers.

In 2021, celebrating its 100-year anniversary, Wittenberg announced a new name—Cirrinity—and continued executing on an aggressive plan to complete its fiber network buildout which will bring vital high-speed broadband to people living and working in underserved rural areas. As well, beginning in 2021, Cirrinity was required to begin submitting speed and latency pre-test data to the FCC as part of its obligations for funding received from the Universal Service Administrative Company (USAC) for building out to underserved rural areas.

When Cirrinity General Manager and CEO, Scott Nyman was informed by USAC in late 2020 of the pre-testing requirement, he was concerned that the pre-testing process would put additional strain on the company's already constrained resources. He also realized that his team lacked the specific expertise and experience needed to ensure success.

According to Nyman, "when we pre-tested the pre-test, we quickly realized that the testing process is a little more difficult than we thought."

The biggest risk for Cirrinity and for Nyman was the possibility of missing its pre-test deadlines and losing some of its funding. While the company considered hiring one or more people to lead the testing effort, it decided that engaging with an outside third party with the right expertise and experience was the best way to de-risk the process.

COMPANY
Cirrinity

TYPE
Local telephone company

WEBSITE
cirrinity.net

LOCATION
Wittenberg, Wisconsin

SERVICES
High-Speed Internet, Voice, Streaming TV, Managed IT Services

SUBSCRIBERS
3,650

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SOLUTION

A Calix customer since 2012, Cirrinity sought the help of Calix Professional Services and the Broadband Performance Testing Service to meet FCC testing requirements.

The Broadband Performance Testing Service offering helps broadband service providers (BSPs) like Cirrinity deploy and operate the Calix FCC Performance Testing Solution. It provides them with the implementation know-how to put all the necessary equipment, systems and procedures in place to successfully complete performance testing and report their results at the intervals specified by the FCC. BSPs leverage the experience and expertise Calix Professional Services has gained in working with many other FCC funding recipients.

Implementation Workshop

To kick off the engagement, a Calix Professional Services Engineer conducted an implementation workshop with the Cirrinity team to gather all the relevant information. This included which FCC funds were providing support, what the specific testing deadlines were, and any preparatory steps Cirrinity had taken to date. During the workshop, the Calix Professional Services Engineer also stepped the Cirrinity team through the best practices approach that Calix uses to set up the broadband testing framework, conduct monthly pre-testing, and analyze and prepare test results for submission.

Building a Robust Testing Framework

With the workshop complete, the next step was guiding the Cirrinity team in the creation of a robust testing framework, a process which included identifying the right endpoints, configuring the Calix Support Cloud to establish period testing and reporting, and executing the pre-tests. Vetting and ranking the test servers in the FCC-designated Internet Exchange Points (IXPs) based on upload and download speeds and average latency was another critical part of the process. Since the performance of these test servers often depends on testing volume, which tends to ebb and flow over time, the Calix Professional Services Engineer continued to evaluate test server performance throughout the pre-test phase, and switched servers when required to ensure that Cirrinity's results were not negatively impacted.

Analyzing Pre-Test Data and Identifying Problems

The pre-testing process generated millions of fields of data each month. Calix Professional Services helped Cirrinity analyze and make sense of this data using the Calix data visualization tool, which is only made available to customers of the Broadband Performance Testing Service. This tool makes it possible to quickly identify any endpoints experiencing latency and speed failures, which then provides BSPs with the ability to drill down to determine the root cause. The Professional Services Engineer would then recommend potential areas for resolution based on the monthly findings, as well as identifying other areas of concern that the BSP should further review that may require corrective action to be taken before the test results are submitted to USAC.

RESULTS

By working with Calix Professional Services, and taking advantage of the Broadband Performance Testing Service, Cirrinity was able to successfully complete its ACAM and ACAM Revised pre-testing requirements on time and avoid any reduction in its funding. The company also saw substantial month-over-month improvements in its test results. Between January and February of 2021, for example, Cirrinity achieved a 19 percent improvement in its 4/1 Mbps tests and an 8 percent improvement in its 25/3 Mbps tests.

In addition to achieving these results, Cirrinity realized an indirect benefit from the data analysis conducted by the Calix Professional Services Engineer. This analysis uncovered a variety of issues in the network that weren't directly related to broadband performance testing results, but by being made aware of them, Cirrinity was able to troubleshoot these issues proactively before they could have an impact on broadband quality of service (QoS) for its subscribers.

The Broadband Performance Testing Service helped Cirrinity overcome resource constraints and a lack of FCC testing experience to get the job done with the desired results, which is why Nyman is an enthusiastic proponent of the benefits of the service "I absolutely would recommend the Calix Broadband Performance Testing Service," he said. "I can't say enough about how it's helped us."