



Customer Profile

- **Organization:** Lebanon R-III Public Schools, MO
- **Environment:** 10 school campuses
- **Users:** 4,500 students, 750 staff



Modernizing Network Infrastructure with NetAlly Tools

OVERVIEW

Lebanon R-III Public Schools in Missouri serves 4,500 students and 750 staff members across 10 buildings with a hub-and-spoke network architecture centered at their high school. Network Administrator Chris Clamme has successfully modernized the district's network troubleshooting capabilities by upgrading from legacy Fluke tools to NetAlly's EtherScope nXG, while maintaining their reliable fleet of LinkSprinter pocket network testers that have served the district for nearly a decade.

THE CHALLENGES

Legacy Tool Limitations

Lebanon Schools had been relying on aging network testing equipment that couldn't keep pace with their modern infrastructure needs. Their primary tool, an older LinkRunner AT with 1-gigabit testing capabilities, was inadequate for their 10-gigabit internal connections and multi-gigabit internet services.

"The main drive was that it only went up to a one gig fiber connection and we've got a lot of our internal connections at 10 gig," explains Clamme. "We have two different internet connections that run over a gig, so whenever we got that secondary one installed, we were having a lot of issues with it and they were having us try to test locally, but we didn't have anything that we could use."

Wi-Fi Infrastructure Complexity

The district faced significant Wi-Fi challenges stemming from a post-COVID infrastructure expansion. When implementing their one-to-one Chromebook initiative, the district installed access points in every classroom to handle the increased device load. However, this approach created new problems.

"Over the years as we've replaced APs now with stronger signals, we started having a lot of issues of overlap because there's such a dense population of APs," Clamme notes. "With so many devices in classrooms, Wi-Fi performance directly impacts teaching and learning. The district needed a way to analyze and optimize coverage without depending on costly third-party assessments." The district needed tools to analyze and optimize their Wi-Fi deployment without relying on expensive third-party vendors.

Vendor Dependency

In the past, Lebanon Schools relied heavily on outside vendors for network analysis and troubleshooting, which was often costly and time-consuming. "We invested significant resources bringing in vendors to handle tasks that we knew we could manage ourselves — if we had the right tools," Clamme explains. "Now that we have those tools in place, we're able to address many of these issues internally, saving both time and money."



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- Chris Clamme
Network Administrator

THE SOLUTION

Strategic Tool Selection

When evaluating options for modernizing their network testing capabilities, Clamme looked to NetAlly as the natural evolution of their trusted Fluke tools. "The obvious choice was to look at Fluke and then I realized that those tools were now a part of NetAlly.¹ We wanted something that could do everything that were doing currently plus 10 gig."

The EtherScope nXG emerged as the ideal solution, offering:

- Multi-gig/10-gigabit testing capabilities to match their infrastructure
- Wire mapping functionality
- Cybersecurity testing features
- Wi-Fi analysis and site survey capabilities
- Integration with Link-Live platform

Maintaining Proven Assets

Rather than replacing everything, Lebanon Schools kept their fleet of LinkSprinter testers that had provided nearly a decade of reliable service. "Being able to continuously utilize them over these... I want to say it's probably close to 10 years by now, means the return on investment that we've got is just absolutely incredible," Clamme emphasizes.

IMPLEMENTATION AND RESULTS

Immediate Problem Resolution

The EtherScope nXG quickly proved its value in resolving complex network issues. When teachers returned to school and experienced performance issues at an elementary school, Clamme was able to quickly isolate the problem after seeing the symptom: CRC errors on a fiber connection.

"I plugged a loopback in on the switch at the network closet and then connected my EtherScope on the link to run a test, and I could see the errors. When I swapped over to another fiber pair, I was able to get everything up and going quickly."

Without the EtherScope, this troubleshooting process would have been much more time-consuming. "I would have swapped SFPs. We would have still had the problem. I think it would have taken me a lot longer to figure out that it could be the fiber because you just never assume that," Clamme explains.

Enhanced Team Efficiency

The district's eight-person technology team now operates more efficiently with their combination of tools. Team members use LinkSprinters for initial troubleshooting to verify PoE delivery and connectivity, while Clamme uses the EtherScope nXG as his primary diagnostic tool.

"The first tool that anyone grabs is their LinkSprinter whenever they go out to troubleshoot something because they want to make sure that we're getting PoE and we're getting connectivity to a switch somewhere, and identify the port," Clamme describes.





*EtherScope nXG with
AirMapper Site Survey app*

Planned Wi-Fi Optimization

Lebanon Schools is preparing to use the EtherScope nXG's site survey capabilities (AirMapper™) to optimize their Wi-Fi infrastructure. "One of the things that is on my task list before the end of the year is to utilize the AirMapper app on the EtherScope so we can go through each building, get a good map of it and then tweak settings to improve performance."

The goal is to reduce the over-deployment of access points while maintaining coverage. "If we can cut back even 30% or something, that's still a huge budget savings," Clamme projects.

Cost-Savings and Independence

By bringing network analysis capabilities in-house, Lebanon Schools has significantly reduced their reliance on expensive vendor services. "We don't want to have to worry about spending all the money for a third-party vendor to do something that we can do with a tool that's definitely a fraction of the cost," explains Clamme.

TECHNICAL ENVIRONMENT

Lebanon R-III Schools operates a sophisticated network infrastructure that rivals many corporate environments:

- **Architecture:** Hub-and-spoke design with high school as central hub
- **Connectivity:** Dedicated fiber connections through municipal partnership
- **Internal Network:** 10-gigabit connections between buildings
- **Internet Service:** Multiple connections exceeding 1-gigabit capacity
- **Wi-Fi:** Cisco Meraki access points with cloud management
- **Switching:** Catalyst switches with multi-gigabit capabilities

This enterprise-grade infrastructure is made possible through E-rate funding, which covers 80% of eligible network infrastructure costs for the district.

KEY SUCCESS FACTORS

Long-term Reliability

The longevity of Lebanon Schools' LinkSprinter investment demonstrates the value of quality network testing tools. Nearly a decade of reliable service has provided exceptional return on investment and built confidence in the NetAlly product line.

Educational Sector Advantages

Lebanon Schools benefits from several factors unique to the education sector:

- **E-rate Funding:** Enables access to enterprise-grade equipment at reduced cost
- **Collaborative Community:** Missouri educational technology professionals share knowledge and best practices through forums and conferences
- **Lower Pressure Environment:** Network outages don't create the same financial impact as in corporate environments (though try telling that to a teacher facing thirty restless students when the lesson plan depends on internet access!)





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- Chris Clamme
Network Administrator

TOOL INTEGRATION

The seamless integration between LinkSprinters, EtherScope nXG, and NetAlly's Link-Live collaboration, reporting, and analysis platform provides comprehensive network management capabilities without requiring extensive training or process changes.

Looking Forward

Lebanon Schools plans to continue leveraging their NetAlly tools for ongoing network optimization and maintenance. EtherScope nXG's 10-gigabit capabilities ensure the district can grow with their network infrastructure needs for years to come.

"Being able to use this tool for many years to come is something that I'm excited about," Clamme concludes. "The reliability that comes with this hardware is what exactly what we expect."

The district also serves as an advocate for NetAlly tools within the Missouri educational technology community, sharing their positive experiences at conferences and through professional networks.

CONCLUSION

Lebanon R-III Schools' experience demonstrates how educational institutions can successfully modernize their network infrastructure management while maximizing the value of existing investments. By combining proven tools with cutting-edge capabilities, the district has achieved greater operational efficiency, reduced costs, and improved service delivery to students and staff.

The case highlights the importance of selecting tools that can grow with an organization's needs while providing the reliability and support necessary for mission-critical educational technology services.

Lebanon R-III Public Schools is located in Lebanon, Missouri, and serves approximately 4,500 students across 10 buildings. The district participates in E-rate funding programs and maintains partnerships with regional educational technology organizations for professional development and best practice sharing.

¹Originally developed within a business unit of Fluke, the network test product lines were initially sold in a corporate transaction to NetScout Systems, then subsequently to a private investment company, Stone Calibre. Many of the original team members from the Fluke division are now employees of NetAlly