



## Customer Profile

- **Organization:** Lowndes County Schools, GA
- **Environment:** 12 school campuses, 3 support sites
- **Users:** ~10,000 students, 1,200 staff
- **Devices:** ~8,000 Chromebooks plus staff laptops, IP phones, security cameras, and IoT devices
- **Network:** 10 Gbps backbone to each school, 4 Gbps state Internet uplink

# Keeping 10,000 Students and 1,200 Staff Connected with NetAlly

## OVERVIEW

For Lowndes County Schools, technology is woven into every lesson and every test. Nearly every student has a Chromebook, every classroom runs on Wi-Fi, and online testing days see thousands of students logging in simultaneously.

In this high-density environment, even small issues can escalate into major disruptions. Typical challenges included:

- **Performance complaints during testing:** Thousands of students logging in for state-mandated assessment testing creates extreme, short-term demand spikes, stressing DHCP services, sometimes exhausting address scopes.
- **Wi-Fi blame:** Teachers and students often assume the wireless is at fault, even when the problem lies upstream.
- **Limited staff, multiple sites:** Two core network staff manage 15 sites, leaving no margin for time-consuming trial-and-error troubleshooting.
- **Unseen issues:** Fiber damage, misconfigured VLANs, or rogue devices could degrade performance – but without visibility, root causes were hard to find.
- **Device Sprawl:** Chromebooks, IP phones, security cameras, IoT devices, and guest devices require precise VLAN segmentation to keep networks secure and manageable.

## WHY BASELINING IS ESSENTIAL

For Network Technician John Sexton, using NetAlly tools to baseline the network is the single most important step in keeping the district's systems running smoothly. Baseline means documenting what “normal” performance looks like across the network - so when something goes wrong, IT knows exactly what's changed.

### Why It Matters in K-12

- **High-Stakes Days:** During state testing, thousands of Chromebooks go online at once. Without baseline data on throughput and latency, every user complaint becomes guesswork.
- **Diverse Environments:** Schools vary - different access points, firmware, layouts. Baselines capture these differences and create a reference for each location.
- **Elusive Issues:** Some problems come and go. Without knowing what “good” looked like, it's hard to spot or reproduce an intermittent slowdown.
- **Preventative Action:** Baseline reveals small performance dips - like a damaged fiber cable - before they cause real disruptions.





## THE SOLUTION: ETHERSCOPE NXG AND LINKRUNNER 10G

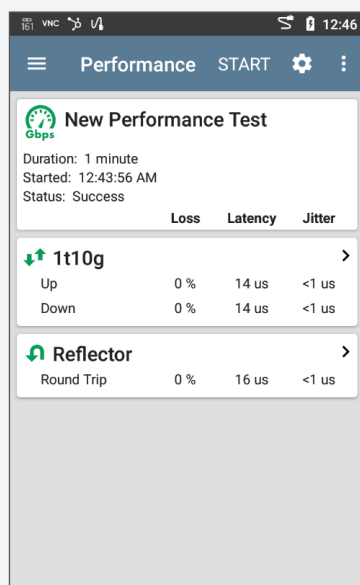
When the district's legacy OptiView® network analyzer reached end-of-support, Sexton adopted NetAlly's EtherScope nXG and LinkRunner 10G handheld testers. These tools enabled a systematic approach to baselining and troubleshooting across the district.

### How NetAlly Helps Baselining

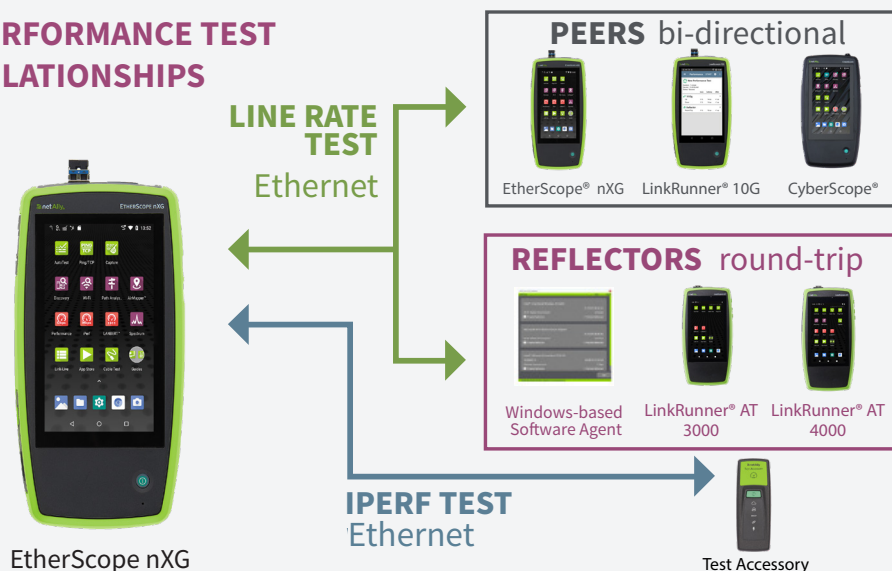
- **Portable classroom testing:** Sexton measures throughput with classrooms empty, then again with 30 students connected, to create realistic performance expectations.
- **Performance Testing:** Running a performance test between EtherScope and LinkRunner 10G pinpoints bottlenecks. In one case, it exposed a fiber patch cable bent just enough to cut throughput from 1 Gbps to 400 Mbps – diagnosed and fixed in under an hour.
- **Baseline storage in Link-Live:** Every test result is stored in the cloud, so Sexton can compare results year after year, test after test, in the same classrooms.

### ADDITIONAL KEY USE CASES

- **Wi-Fi surveys with AirMapper™:** While their infrastructure vendor's management system provides a good "from the AP" perspective, AirMapper (NetAlly's site survey app) with its visual heatmaps shows coverage and capacity from the perspective of the users. It ensures that AP deployments in new construction or high-use areas align with real-world needs. This was especially valuable when adding a new wing to a school—providing performance and coverage confirmation. These surveys also play a key role in baselining their Wi-Fi networks.

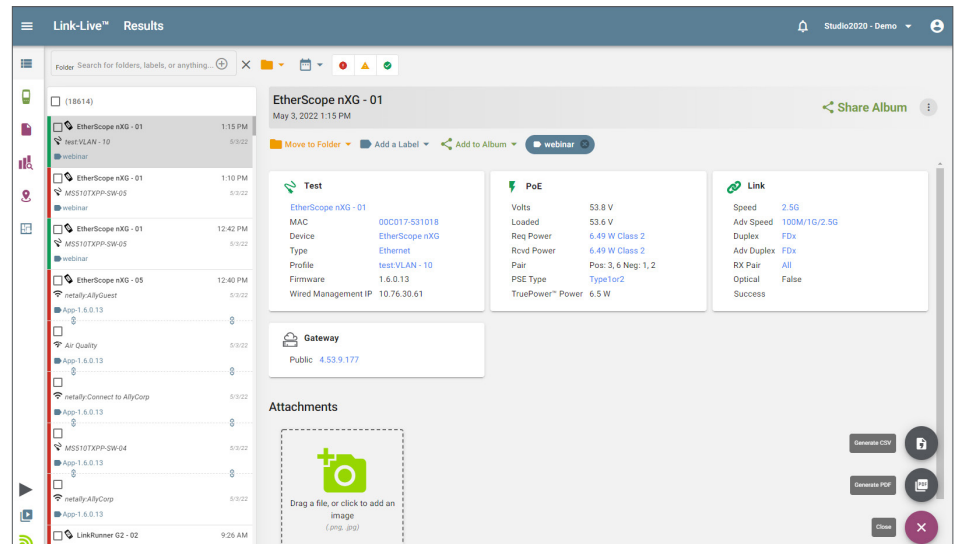


### PERFORMANCE TEST RELATIONSHIPS



*EtherScope nXG can conduct performance tests through various end-points.*

- **Smarter Asset Tracking and VLAN Validation:** EtherScope's discovery and Link-Live topology mapping make device identification simple, even in tricky cases like detecting and finding swapped Chromebooks between siblings (it happens!) VLAN validation ensures devices are on the correct network without needing IP address cheat sheets.
- **Historical Data and Cloud Collaboration:** With results stored in Link-Live, the team can compare performance data year over year. For example, throughput in the same classroom across three years of state testing can be reviewed instantly, enabling data-driven network planning.



*Link-Live historical data and test results*

## OUTCOMES: TURNING GUESSWORK INTO PRECISION

The impact of baselining and troubleshooting with NetAlly tools has been profound:

- **Confidence on testing days:** Instead of wondering whether the network can handle thousands of students logging in at once, the IT team knows what performance should look like – and when issues are external.
- **Faster root cause identification:** By comparing current results against baselines, Sexton can skip 10 steps of basic validation and go straight to the real problem.
- **Time savings:** Problems that once consumed an entire day are now resolved in minutes.
- **Smarter planning:** Historical baselines allow the district to measure the impact of AP upgrades, firmware changes, and new classroom wings.
- **Less finger-pointing:** With data in hand, IT can show when the network is healthy, shifting attention to other systems or external providers when necessary.

Sexton sums it up, “You don’t want to start from zero every time. Baselining means when I show up, I already know what should be happening – and I can get straight to what’s wrong.”





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- John Sexton  
Network Technician

The combination of proactively gathered baseline data (stored in NetAlly's Link-Live collaboration, analysis, and reporting platform) along with instant live test results is a huge time-saver. Problems that once took a day or more of guesswork are now resolved in minutes. This allows the team to focus on more strategic tasks and planning, and less time firefighting.

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## WHY NETALLY FOR SCHOOLS?

For schools, reliability isn't optional. Students depend on Chromebooks for learning, and entire grade levels may test online simultaneously. With limited IT staff, districts cannot afford inefficiency or trial-and-error troubleshooting.

NetAlly's EtherScope nXG and LinkRunner 10G give K-12 teams the ability to:

- Establish clear **performance baselines** across classrooms and campuses.
- Rapidly compare live results against "normal" to **quickly isolate problems**.
- Capture and store data in Link-Live for **year-over-year analysis**.
- Resolve issues – wired and wireless – **proactively** before they impact students and staff.
- **Free up limited IT staff** for proactive, strategic work instead of repetitive firefighting.

For Lowndes County Schools, EtherScope nXG and LinkRunner 10G are not just troubleshooting tools – they are the foundation of a disciplined **baselining and network management practice** that keeps their 10,000-student network running smoothly every day.

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