5 ways to make

K-12 networks

easier to manage

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School district IT staff need tools and strategies to help them easily support a wide array of technologies, including high-speed networks that are becoming increasingly complex.

Virtual workspaces allow students to learn and collaborate with each other across vast distances. Modern learning tools help personalize education by targeting instruction to students' precise needs. AI, machine learning (ML) and more are having a transformational effect across nearly all industries, teachers and administrators are now integrating it into their workflows as well.

These new technologies are improving the student experience, while also supporting the work of teachers and administrators. However, they also create additional challenges for IT staff, who must install, support and manage new systems and the networks that enable them — often without a corresponding increase in personnel.

As a result, many school district IT employees are pushed to their limits in maintaining and supporting their existing technology systems. According to the Consortium for School Networking (CoSN), 45% of districts struggle to implement new technologies because their IT departments are stretched thin.[1]

Fortunately, there are solutions available that can help K-12 IT staff do more with less. Here are five key strategies for making school district networks easier to manage.

1. Modernize your IT infrastructure

Modern network technology can simplify network operations and management dramatically through built-in automation and other innovative features that might not have existed the last time you upgraded your IT infrastructure.

For instance, software-defined networking allows you to centralize management of your network, making changes quickly across multiple sites with a few simple commands. Driven by AI and ML technology, intelligent automation enables network components to adapt dynamically to changing traffic patterns or conditions, removing the need for manual intervention or administration. Modern plug-and-play components with dynamic configuration can easily be swapped out for new ones without requiring hours of installation and setup.

In many cases, it's possible for school systems to bring entire networks into a single platform. These all-in-one solutions are ideal for IT-lean teams currently tasked with maintaining multiple network solutions at one or more school locations. Many integrated networking platforms can include routers, switches, WiFi, SD-WAN and security that, individually, would compound the organization's network maintenance.

A modern network infrastructure is also typically more secure. Security breaches cannot only be quite costly — according to one report, the average cost of a K-12 data breach can exceed $2 million[2] — but they can also occupy several hours of staff time in restoring systems to their original state and tracing the source of the attack. With a modern network infrastructure, including security features like advanced firewalls, anti-malware, URL content filtering and DDoS protection, attacks are less prone to succeed.

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2. Consolidate service providers

The network architecture in many K-12 school systems consists of a patchwork of solutions created over the years to meet expanding needs. The resulting network often relies on multiple vendors providing services or hardware with little to no knowledge of how their particular components contribute to the organization's IT operations as a whole.

If there's a network outage or performance issue, IT personnel must hunt down the part of the network at fault before they can contact the right vendor for a resolution. Likewise, when hardware replacements or firmware upgrades are required, it's up to the IT team to make sure these changes won't interfere with existing integrations that keep the network running.

Transitioning to a single provider for networking and connectivity services cuts down on this administrative complexity. With a single, trusted partner delivering networking, connectivity and security services, there is just one number to call for support. What's more, network solutions are designed from the outset to work together, with simplified processes for maintaining components and adding new locations. Just as important, a single provider of multiple services can help you discover cost efficiencies in network design and ensure that your solutions can adapt to support future innovation.

3. Make the network visible

Your IT team should have full visibility into information such as how much traffic is on your network, how much bandwidth is being consumed, what applications are being used, which devices and users are connected, traffic throughput speeds and signal coverage for wireless access points.

Having real-time insight into these aspects of your network is critical for managing its health, performance and security. It allows you to manage your network more efficiently as well as proactively, making troubleshooting much simpler and even addressing potential problems before they occur.

It's much easier to make effective decisions when you can view all of this information in one place, using a single dashboard that captures data from both your wired and wireless network infrastructure. This allows you to monitor the health of your network, establish effective policies and adjust configurations and settings as necessary to optimize performance. For instance, you can leverage capabilities such as traffic shaping to prioritize critical applications for faster and more reliable performance.

A single, centralized view also makes it easier to manage network security. It simplifies the administration of firewalls, unified threat management and intrusion detection, offering comprehensive reporting for a holistic view of network threats. Managing your network from a central portal that collects information across multiple components gives you greater control of your network in less time — and unifying your network services under a single provider makes this easier to accomplish.

4. Have a scalable network

The demands on K-12 networks are growing exponentially. According to the nonprofit organization EducationSuperHighway, traffic on school district networks is growing between 50% and 100% year over year.[3]

If your network isn't designed to scale easily, then you'll have a hard time keeping up as your needs expand — and your IT team will spend countless hours adding, installing and configuring new network components to increase capacity. This piecemeal approach to network expansion often results in a network that is haphazardly designed rather than carefully planned, creating additional complexity that becomes even costlier and more time-consuming to manage.

With a scalable network, expansion is much simpler and takes less time. Plug-and-play components can be added to the network and provisioned automatically without the need for manual configuration, and capacity can be increased in many cases using a simple programming interface.

5. Opt for managed services

Managed network services can tremendously reduce the burden on overextended IT departments. With a managed solution, knowledgeable and highly qualified experts are available 24 hours a day, seven days a week to maintain, support, troubleshoot and replace network infrastructure. This allows K-12 school systems to keep their networks running smoothly without having to commit their own IT personnel to the task.

A managed services provider can ensure that firmware and security updates are scheduled and automated across the network, keeping all systems secure and up to date. A managed services partner also installs and maintains the hardware for WiFi, firewalls and routing without any capital investment required. Co-managed services give organizations centralized control over network policies and configuration options, while expert support remains available 24/7/365.

This results in improved network performance, faster problem resolution and a smarter allocation of limited resources that can enhance the user experience. With managed services, school district IT staff are freed up to support students and faculty more effectively in using technology to transform teaching and learning.

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29%

of K-12 school systems don't have enough IT staff to adequately maintain their networks.[5]

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This is important, as 29% of K-12 school systems don't have enough IT staff to adequately maintain their networks.[6] As school districts struggle to support an expanding range of IT services, more and more are discovering that managed network services provide an ideal solution.

Find the right approach to streamline network management

As K-12 school systems continue to adopt new technologies, the IT teams supporting these systems take on additional responsibilities. By rethinking the design and management of their networks and adopting these five strategies, school districts can streamline IT operations and meet the needs of stakeholders more effectively.

Discover how Spectrum Enterprise® can help you simplify network management.

Learn more

1. "2023 State of EdTech Leadership," Consortium for School Networking (CoSN).
2. Roger Riddell, "Nearly half of K-12 providers hit by ransomware paid to have data restored," K-12 Dive, August. 7, 2023.
3. "K-12 Bandwidth Goals," EducationSuperHighway.
4. Ibid.
5. "2023 State of EdTech Leadership," CoSN.
6. Ibid.

About Spectrum Enterprise
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