

## Securing The Future: Manchester School District Makes Security a Top Priority

### CHALLENGE

The Manchester, New Hampshire School District encompasses 2 schools in Manchester, a city located roughly 50 miles from Boston. As with other New Hampshire schools – and in most other states – IT security is a growing concern.

That's particularly true since the passage of NH House Bill 1612 mandating standards for the privacy and security of student and employee data. Among the cyberattacks that precipitated passing that legislation was an incident involving one school district that had its \$3 million payroll transferred to a hacker's account.

Stephen Cross, the Chief Information and Cyber Security Officer for the Manchester School District, was concerned about the vulnerability of students and identity theft, particularly given the district's outdated network infrastructure and the number of multiple access points.

"Kids are easy targets," says Cross. "If a hacker gets their home address, names, and contact info, matched with their social media profile, they can put it together and easily steal their identity and ruin their credit."

### SOLUTION

That prompted Cross to find a network security solution that could help secure and modernize the district's infrastructure. FirstLight was already a proven vendor with Manchester Schools, supplying them with Internet, voice, and firewall service. FirstLight proposed its DNS Protection solution, based on Cisco Umbrella, along with customized support. FirstLight's DNS solution combines multiple security functions into one solution, extending protection to devices, remote users, and distributed locations. It also provides threat intelligence and context in helpful dashboards.

"We get reports about what threats have been identified and stopped," explains Cross. "With FirstLight's DNS, we have visibility into our network that we didn't have before."

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### EXECUTIVE SUMMARY

#### INDUSTRY: K-12

#### LOCATION: MANCHESTER, NEW HAMPSHIRE

#### CHALLENGES:

- The district had a patchwork of disparate Internet connections, firewalls, and endpoints – with no centralized system of monitoring and securing its infrastructure
- Schools had to comply with a state law to ensure that student and staff data was protected and secure
- The district had 23 firewalls – a logistical challenge to maintain and secure – that were also potentially vulnerable endpoints for cyberattacks with outdated switches
- Each of the district's 22 schools had its own separate Internet connection with limited bandwidth and no redundancy
- Due to having 180 different wireless network SSIDs across multiple campuses, network interference and device disconnects were commonplace

#### SOLUTIONS:

- Using FirstLight's expertise and DNS solution, the Manchester School District's infrastructure now has modern threat protection and security features for users and devices, along with visibility into its entire system
- By creating a redundant loop with FirstLight's fiber, a single provider allowed the district to consolidate its firewalls from 23 to just four
- FirstLight will consolidate Manchester's SSIDs from 180 to four
- Manchester will soon replace 81 aging switches with new switches, further securing its network

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One significant vulnerability was the number of distinct networks and firewalls that existed throughout the district's various schools. Most of the schools were on separate networks from different providers, and had 23 different firewalls. "That's 23 devices to manage, 23 potential points of failure, and 23 devices that could be hacked or compromised in some way," says Cross.

First, the district eliminated having multiple Internet providers, and used FirstLight's fiber connectivity to create a single, redundant loop connecting the three major high schools with dedicated Internet circuits, and having the remaining schools connect to one of those three circuits. As a result, they can now reroute traffic when necessary. They also upgraded from a 1 Gbps connection to a 10 Gbps link and transitioned from needing 23 firewalls to having only four.

Firstlight was also selected through a Request for Proposal (RFP) bidding process to consolidate the schools' wireless network IDs (known as Service Set Identifiers, or SSIDs) from 180 down to four. Once completed, the project will reduce device disconnects and significantly improve wireless service within Manchester schools.

"When we select a vendor in the RFP process, we look at pricing, how much infrastructure work the vendor has completed, whether they have experience with Manchester and know our systems, and how much experience they have with the e-rate funding process," explains Cross. (E-rate is a program overseen by the Federal Communications Commission that allocates funds to schools for various IT connectivity projects.) "FirstLight had all those qualities."

Additionally, Manchester will soon turn to FirstLight to replace 81 of the district's network switches—nearly half of them—which are at end of life and have been for several years.

As a result of the enhancements, students now have dramatically faster connectivity, and the district has a safer infrastructure, fewer endpoints to maintain, and a much more organized system to support and safeguard. They also anticipate saving significant staff hours.

## EXECUTIVE SUMMARY

### RESULTS:

- Manchester schools now have substantially faster connectivity, lower latency, and dedicated fiber access, allowing the school to stream content faster and better accommodate home schooling
- Having a single fiber provider with redundancy, a modern firewall structure, and a sophisticated security management solution, Manchester School District is now confident in its ability to keep student and staff data and apps safe and comply with state mandates
- Having increased its bandwidth from 1 Gbps to 10 Gbps, the Manchester School District now has more bandwidth than any other school system in New Hampshire
- Staff can now spend time on higher-level projects and priorities instead of managing multiple endpoints, networks, and firewalls, ultimately saving tax dollars, staff time, and potential non-compliance fines

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### ABOUT FIRSTLIGHT

FirstLight provides a full complement of cost effective, high quality, scalable telecommunications services, including high speed Internet access, data center, monitoring, cloud, managed and voice services to retail and wholesale customers throughout the Northeast and Mid-Atlantic.