For a large school district in Canada, education looks much different today than it did several years ago. That’s why the district is increasingly focused on putting new technology in its schools: tablets, Chromebooks and laptops for students, and interactive technology and video conferencing for teachers. For the district’s IT team, that means focusing more on providing a high-performing, stable infrastructure to support access to devices.

But providing such an infrastructure was becoming more challenging for the IT team. As the number of devices grew and new technologies were added, the demand on the district’s networks — wired and wireless — increased significantly. For example, the previous networking switches did not provide enough Power over Ethernet (PoE) or throughput for the existing access points.

And the existing wireless infrastructure didn’t have adequate performance. For instance, when the IT team deployed 3,000 new Google Chromebooks, it immediately noticed a spike in utilization as far as bandwidth on the wireless access points. Additionally, the controller-based wireless solution was sometimes unreliable.

To address these challenges, the district decided it was time to upgrade its wired and wireless networking solutions.

**Delivering stronger performance with Dell wired and wireless technologies**

Although the board evaluated multiple network solutions from several vendors, it was most impressed with Dell networking technologies. The district had used Dell servers, laptops and desktops for more than 10 years and was impressed with the reliability of those solutions. For example, Dell PowerEdge T630 tower servers with Intel® Xeon® processor E5-2600 v3 product family were already in use. Also, the IT team liked the performance, low latency and command-line management capabilities of the Dell Networking N-Series switches. Specifically, Dell Networking N1524P and N1548P switches were chosen to support the wireless network. The Dell Networking switches have 24 ports, and the N1524P switch has a 600-watt power supply, which meant the district

**Business need**

A Canadian school district wanted to offer better performance and higher reliability for student and teacher devices.

**Solution**

The district implemented Dell Networking switches and an Aerohive wireless infrastructure to improve classroom network performance.

**Benefits**

- Supports classrooms focused on web-based instruction with modern wired and wireless networking solutions
- Empowers students and teachers with reliable connectivity for laptops and mobile devices
- Simplifies access point configuration and centralizes wireless infrastructure management
- Improves network troubleshooting

**Solutions at a glance**

- Networking

“Our students and teachers get stable wireless access at all times with the Dell and Aerohive solution, which is critical because they’re relying on their devices everyday in the classroom.”

*School District Administrator*
could put 20 access points on one switch if needed.

Next, while the district evaluated different wireless technologies, it learned that Dell was now selling and implementing wireless solutions from Aerohive Networks. The IT team liked the features and simplified management of the Aerohive solution, and it chose to deploy Aerohive AP230 and AP130 802.11ac access points and the HiveManager NG cloud management platform. 802.11ac technology was specifically chosen because of its scalability and better bandwidth.

The district deployed more than 500 Aerohive access points in 12 schools, and it has plans to increase that number to more than 2,000 access points.

**Supporting the needs of the modern classroom**
The newly installed network supports current and future classroom requirements. The N-series switches and the Aerohive wireless solution support the ongoing shift to web-based learning, virtual and remote teaching, and student devices in the classroom.

With the deployment of the Aerohive AP230, full 802.11ac functionality and strong WiFi performance was realized without the need to replace the entire networking infrastructure. So far, teachers and principals have said that they are seeing a significant wireless access performance increase in the classroom.

**Giving students and teachers reliable access to their tools**
The school district can now deliver a more reliable connectivity experience for students and teachers who use laptops and other devices powered by Intel technology for instruction and learning. "Our students and teachers get stable wireless access at all times with the Dell and Aerohive solution, which is critical because they’re relying on their devices every day in the classroom," says a school district administrator. The increased reliability will also enable IT to more easily deploy Google Chromebooks in more classrooms.

**Simplifying configuration and speeding deployment**
Because IT administrators can take advantage of the controller-less architecture in the Aerohive solution, configuring and deploying wireless access points are easier and faster than before. During initial deployment, the district used a single network policy to push the same configuration to all 500 access points in 12 schools. Because of the simplified configuration and auto-provisioning capabilities of the Dell and Aerohive solution, the IT team expects to save time and effort as it implements the wireless network in additional schools.

**Improving network troubleshooting through centralized management**
The school district is also taking advantage of the centralized management and monitoring features in HiveManager NG, which provides better visibility into the wireless infrastructure. As a result, troubleshooting is easier for the IT team. For example, if users are having WiFi issues, the team can use the management interface to search for specific users or devices to determine which access points they are connected to. The previous multicontroller solution made that difficult.

In the coming months, plans call for the Dell networking technologies to be implemented in additional schools and classrooms. The district is just beginning its journey to transform learning through technology.