FORTINET

CASE STUDY

Canadian School District Enhances Remote User Security and Drives Operational Efficiencies with FortiSASE

Operating across the city of Guelph in Ontario, Canada, the Upper Grand District School Board (UGDSB) serves more than 36,000 students through 65 elementary schools and 11 secondary schools. The district comprises approximately 4,000 employees who work across 76 sites. UGDSB's vision is to be recognized as a leader in creating unparalleled, agile, and inclusive learning experiences for all.

Defending a Dissolved Perimeter

Ryan Buhrow is the Enterprise System Engineer at UGDSB. He explains that the district's key cybersecurity challenge is to protect staff and students across an environment where the security perimeter has largely disintegrated. "We need to provide the highest levels of security to our users regardless of where they are working: in school, at home, or elsewhere," he says.

This task is made more challenging by the large number of devices supported by the district. Buhrow explains: "We maintain roughly 3,000 Windows devices, 3,000 Macs, and 4,000 iPads. Chromebook is our main platform, however, and we currently have 28,000 of these devices in service."

Given the large number of endpoints in circulation, UGDSB found certificate management a considerable challenge. As a result, the district started to consider a secure access service edge (SASE) architecture as a solution. The search was given added urgency in 2021 when Ontario's Ministry of Education issued a reference architecture to school boards requesting a cloud-based endpoint protection strategy. "That was one of the main reasons we were interested in SASE," says Buhrow. "The Ministry of Education also required us to have visibility into all traffic, including encrypted traffic, and we had to do this at scale with the least possible loss of performance for the user experience."

Putting a Fortinet Foundation in Place

The district has partnered with Fortinet for many years and has already deployed a wide range of Security Fabric solutions, including Fortinet Secure SD-WAN software-defined wide area networking, FortiGate Next-Generation Firewalls (NGFWs), FortiSwitch secure Ethernet switches, FortiMail email security, FortiAnalyzer logging and analytics, FortiManager centralized management, FortiNAC network access control, FortiExtender cellular gateways, and the FortiClient Endpoint Management Server (EMS).

Introduced in 2017, the Fortinet Secure SD-WAN is deployed across all 76 district sites and two office buildings. The solution enabled UGDSB to replace expensive
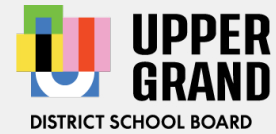
---

UPPER GRAND
DISTRICT SCHOOL BOARD

"FortiSASE has extended the highest levels of protection to remote users with secure access to school applications from everywhere with the same level of security and performance whatever the devices used. With Fortinet, we are confident that our people can work securely and effectively no matter where they are."

Ryan Buhrow
Enterprise System Engineer
Upper Grand District School Board

Details

Customer: Upper Grand District School Board

Industry: Education

Location: Ontario, Canada

Number of SD-WAN Locations: 76

Number of SASE Users: 40,000

Business Impact

- 50% reduction in staff hours for solution maintenance and operations
- 5x faster user onboarding
- SSL inspection at scale

multiprotocol label switching (MPLS) connections with cost-effective broadband internet circuits. "The Fortinet Secure SD-WAN solution enabled us to establish multiple circuits to maintain connectivity for students and allow us to meet the Ministry of Education's target of one megabit per second per student."

The district selected Fortinet Secure SD-WAN for several reasons. First, when tested against a competing solution, Fortinet Secure SD-WAN came out ahead in a number of important capabilities, including throughput and deployment flexibility.

The secure sockets layer (SSL) inspection capabilities of Fortinet Secure SD-WAN was another key benefit. Due to its lack of cost-effective internet capacity, the district had been forced to restrict which applications staff and students could use. As a result, staff and students alike had been using virtual private network (VPN) clients or moving to SSL-encrypted traffic. The Fortinet Secure SD-WAN solution gave the district the necessary visibility to ensure network security.

John McCormick, Associate Chief Information Officer for UGDSB, says: "Many vendors approach the SD-WAN space from a network-centric standpoint, but Fortinet takes a security-first perspective and combines it with strong network capabilities. In our environment, it is imperative for us to protect student and staff personal information, and Fortinet's stronger security play was another key factor in our decision process."

The school board also uses Fortinet FortiManager centralized management and FortiAnalyzer logging and reporting solutions to complement the FortiGate deployments. The FortiManager solution's single-pane-of-glass interface has made managing and deploying FortiGate NGFW devices more efficient and has improved the district's ability to respond to security incidents.

Building on Fortinet Secure SD-WAN

The Fortinet Secure SD-WAN solution has now evolved to integrate FortiSASE, which provides a full set of networking and security capabilities delivered from the cloud, including secure web gateway (SWG), zero-trust network access (ZTNA), cloud access security broker (CASB), and Firewall-as-a-Service (FWaaS), all managed through a single user interface. Buhrow comments: "FortiSASE is the evolution of our SD-WAN. It enables us to move away from the concept of teaching only in schools to allowing students to securely learn from anywhere in the world."

The district has met the Ministry of Education's reference architecture requirements by evolving its security stack on Fortinet. This includes deploying a cloud-based infrastructure and providing the ability to carry out SSL inspection at scale without impacting network performance.

Buhrow comments: "With Fortinet, we could meet the Ministry of Education's requirements simply by adding a security layer rather than bolting something on the side. FortiSASE is just an extension of the existing Fortinet Security Fabric, with the same policies and consistent operations."

The Benefits of a Single-Vendor Approach

The upside of taking a single-vendor approach to SASE includes a shorter learning curve for UGDSB's IT team, leading to five times faster user onboarding than our previous VPN solution. "It took just two weeks to move all Windows users over to FortiSASE," adds Buhrow.

Business Impact (cont.)

- Ministry of Education architecture evolution alignment
- Smooth migration and integration
- Consistent security across schools, staff, and students, wherever their location
- Superior user experience and secure access to corporate applications

Solutions

- FortiSASE
- Fortinet Secure SD-WAN
- FortiSwitch
- FortiGate Next-Generation Firewall
- FortiClient EMS
- FortiMail
- FortiManager
- FortiAnalyzer
- FortiNAC
- FortiExtender

Services

- Cloud Delivered SSE with FortiSASE

"With Fortinet, we could meet the Ministry of Education's requirements simply by adding a security layer rather than bolting something on the side. FortiSASE is just an extension of the existing Fortinet Security Fabric, with the same policies and consistent operations."

Ryan Buhrow
Enterprise System Engineer
Upper Grand District School Board

The high level of integration between the FortiSASE and the district's broader Security Fabric is also seen as a key benefit. "It is highly important that we can add security solutions to our environment without having to reconfigure everything for third-party vendor software," says Buhrow. "The simplicity of use is also a major benefit with Fortinet. Everything on the Fabric has a similar feel and interface, which makes things very easy for my team."

As hoped, FortiSASE has also made it easier to manage device certificates by making them available on a single client. Overall, the FortiSASE solution has delivered a 50% reduction in staff hours for solution maintenance and operations, enabling the IT team to focus on other value-adding tasks.

Empowering Staff and Students

Ultimately FortiSASE is helping the district to provide a better service to staff and students alike. "FortiSASE has extended the highest levels of protection to remote users with secure access to school applications from everywhere with the same level of security and performance whatever the devices used. With Fortinet, we are confident that our people can work securely and effectively no matter where they are," says Buhrow.

The district predicts that it will work with Fortinet long into the future. Buhrow concludes: "It is important for the Upper Grand District School Board to be able to have solutions provided by Fortinet so that we can continue to leverage our existing Fortinet infrastructure to provide our staff and students a secure learning environment where they can learn from anywhere." Ultimately, the district aims to completely replace VPN connections for remote working with secure private access from FortiSASE for all 36,000 students and 4,000 staff.

FORTINET

www.fortinet.com