FORTINET®

SECURING ONE OF AMERICA'S LARGEST SCHOOL DISTRICTS

"While data security remains part of our daily thought processes, we're assured that it's being managed by security experts at Moasic451 capitalizing on best-in-class security with the Fortinet FortiGate 5000s."

– *Troy Miller*
   Director of Technical Resources
   Clark County School District

CCSD
CLARK COUNTY
SCHOOL DISTRICT

DETAILS

CUSTOMER: Clark County School District

INDUSTRY: Education

LOCATION: Nevada, USA

PARTNER: Platinum MSSP Mosaic451

SOLUTION

- FortiGate 5000 Series

BUSINESS IMPACT

- Protects students' online identities

- Enables staff to access resources needed to deliver their classes

- Manages increasing volume of data traffic without constant hardware upgrades

- Keeps data traffic flowing smoothly with data shaping

- Quickly identifies and responds to infected devices

As the fifth-largest school district in the U.S., Clark County School District (CCSD) encompasses 8,000 square miles of southern Nevada, including the greater Las Vegas area. It educates 320,000 students across 357 schools and employs more than 40,000 staff. 75% of all students in Nevada come through the CCSD system.

DEVICE PROLIFERATION ESCALATES CYBER RISK

In recent years, government funding has enabled the purchase of tablets and notebooks for educational purposes and consequently the number of individual devices connecting to CCSD's network has increased significantly. In addition, under a 'bring your own device' (BYOD) program, students, teachers, and staff also access the network with personal mobile devices. On any given day, the infrastructure is supporting around 400,000 endpoints and 120,000 unique IP addresses.

The district's legacy firewall was failing to handle some of the network's challenges. Troy Miller, CCSD's Director of Technical Resources, recalled, "Every day, we experienced what amounted to distributed denial of service (DDoS) attacks. The incoming packets were fragmented and the firewall couldn't handle it, and would just die. The vendor was sending us on a 'wild goose chase' every time we called for support; we never came close to fixing the issue."

He continued, "This created a major impact on the teaching staff and pupils: Access to teaching materials was impossible, online resources for class assignments and homework couldn't be reached, and none of the district's computer-based admin functions performed correctly. Given the vast number of people effected, this was a totally unacceptable situation."

NETWORK SECURITY WITH HONORS

Miller turned to Mosaic451 – the district's Managed Security Service Provider partner for IT security – and it recommended CCSD install Fortinet FortiGate next-generation firewalls as replacements for the failing devices. Miller was eager to mitigate the risk swiftly, he noted, "Mosaic flew in Fortinet consultants immediately. They were here racking equipment the very

next day! I was impressed by the way they went above and beyond the call of duty to protect the children and our staff expeditiously."

Two FortiGate 5000 series firewalls were deployed with active and passive failover, located directly behind CCSD's edge router. Normally utilized for high-speed service providers or telecommunications carrier networks, the 5000 series is ideal for the district because it integrates flexible carrier-class hardware components with an advanced Security Processing Unit (SPU) for enhanced throughput, and leverages consolidated security from the FortiOS operating system.

"These FortiGates are the front wall to our 'castle'," Miller quipped. "The 5000 series supports 46 million concurrent sessions. This gives us the capacity to handle ever-increasing volumes of network traffic without having to worry about frequent hardware upgrades."

SECURITY WITH SO MUCH MORE

In addition to providing protection from external threats, the FortiGates help the district configure traffic shaping to enable optimal performance and appropriate prioritization of resources. "This capability is very useful when a large number of devices are receiving the same data," noted Miller. "For example, there are over

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100,000 Microsoft Windows endpoints connected to the network and the FortiGates enable us to control traffic when a Windows update gets issued."

The FortiGates also facilitate VPN tunnels for employee access to the intranet and mainframe applications, as well as process traffic for CCSD's cloud-hosting platform. Miller's team leverages them to proactively monitor network traffic and locate any infected BYOD endpoints for the immediate dispatch of a user support technician to mitigate the risk.

"Today, we have a safeguarded perimeter. While data security remains part of our daily thought processes, we're assured that it's being managed by security experts at Mosaic451 capitalizing on best-in-class security with the FortiGate 5000s. The technology behind these firewalls is superior; being able to leverage capabilities far beyond those of our legacy firewall is enabling us stay ahead of CCSD's network growth rate. Most importantly, we now have peace of mind that the children's online identities are being appropriately protected and our staff are able to securely and efficiently access the resources they need to deliver their classes," concluded Miller.