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"Technology is an accelerator: There's a lot of buzz around personalized learning but we are putting it into action."

– Bryant Wong,
  Chief Technology Officer,
  Summit Public Schools

summit
public schools

Summit Schools is Giving Students the Tools to Succeed in the 21st Century

Summit Public Schools was founded when a group of Silicon Valley parents came together in 2000 to build a school for the new century. Now the organization spans 11 schools across two states. Its mission is to prepare a diverse student population for success in a four-year college or university, and to make its graduates thoughtful, contributing members of society.

The schools promote self-directed, project-based learning with a focus on building students' emotional intelligence. This happens in an environment where they also develop the knowledge to maximize the value extracted from technology and online resources.

Teachers at Summit focus primarily on higher-order thinking skills and other important cognitive skills. Students are empowered to become self-directed learners and develop the habits, mindsets, and behaviors that lead to academic and personal success. Each pupil is given a new Chromebook every two years which they carry with them all the time. The Internet is leveraged for students to access their Summit Personalized Learning Platform to foster the collaboration required for student projects in every subject.

Bryant Wong, Chief Technology Officer for Summit, commented, "The Internet is one of the greatest learning tools ever created and we would be delinquent if we didn't embrace it as a core component of our educational philosophy."

The education of students on the use of online resources includes instilling the skills needed to make the right choices in how they utilize the Internet. "We don't do widespread website blocking; rather, we equip our students with the skillset they need in order to determine if what they're doing is appropriate. We see this as a wonderful opportunity to teach," described Wong.

Joe Bielecki, Director of Digital Safety at Summit, elaborated, "The old 'block and tackle' method of denying access to any non-academic sites is hopelessly outdated. Students see this as a challenge and ultimately find a way to circumvent whatever gets put in place."

Details
Customer: Summit Public Schools
Industry: Education
Location: California and Washington

Business Impact
- Created a secure learning environment where students can explore and learn

- Wide-ranging access to entire Internet bandwidth

- Positioned technology as an enabler, not an impediment

The two-way flow of information into and out of the schools' infrastructure makes it critical to prevent the inadvertent introduction of malware or other harmful artifacts. "We made the decision that implementing a series of security measures, including a commercial-quality firewall, would allow our students the freedom to explore – and to make, and learn from, mistakes – while keeping our environment as safe as possible," affirmed Wong.

With an Internet-intensive curriculum and hundreds of students, Summit Schools needed a reliable, high-speed connection. Wong stated, "As our classes and curriculum grew, we needed to increase Internet speed to 150 Mbps but the old firewall was choking at 80 Mbps. We went looking for a replacement immediately."

Security Architecture
The school tested a series of firewalls with mixed results. Wong recalled, "We brought in multiple units for testing but, with all the features enabled, the only solution that could exceed 100 Mbps was the Fortinet FortiGate Enterprise Firewall. The FortiGate kept pace easily, all the way up to our maximum throughput. Since then, it has scaled as we have upgraded and it has never once let us down."

Summit deployed a FortiGate as part of a multi-tiered security strategy that also includes OpenDNS and the installation of a security extension on every student's Chromebook. The FortiGate's ability to perform content filtering adds an additional layer of protection for the students and staff.

In addition to providing the schools with enterprise-grade protection, FortiGate is fully compliant with the Children's Internet Protection Act (CIPA) and provides eligibility for E-Rate funding.

Insights Required for Personalized Learning
In addition to the security architecture, Summit is also taking proactive steps in digital safety, including the development of a digital citizenship curriculum. This curriculum will focus on awareness of digital hygiene, including password safety, cultivating constructive digital relationships, being intentional with content consumed, and understanding the concept of having a personal digital footprint.

Though each pupil is free to research and manage their own time, online activities are monitored to further develop productive digital habits. Summit uses a Fortinet FortiAnalyzer for diagnostics and for analysis of traffic patterns. Wong recalled, "When we first deployed FortiAnalyzer, we were intrigued by the websites being viewed by students. We ended up displaying the results on monitors in a common area. Students could see which of their classmates were working or whether they were distracted. For a teenager, peer-group pressure is a very powerful motivator, so this approach proved to be a very unique example of using technology to keep students focused and on track!"

Freedom and Security to Learn
Part of digital learning is understanding the difference between educational research and "edutainment" – just surfing the web for fun. In the culture of Summit Schools, a certain amount of edutainment is expected, even encouraged, to spark fresh ideas. The secure, low-latency FortiGate affords the students both the freedom and safety necessary to explore. At the same time, the Summit faculties need to stay aware of the potential negative academic consequences from spending too much time on "distracting" websites, and empower students to make good choices. When a student struggles academically, all of their metrics become a tool to turn the situation into a positive learning experience.

"If we restrict students so much, they will plug into their first college network and be overwhelmed by the world of distractions. Our intent is to cultivate the mindsets and behaviors that will prepare our graduates to succeed in college and beyond," noted Bielecki.

> *"We're using technology to create an environment that gives the freedom, the metrics, and the support necessary to thrive – this includes a space to fail safely."*

As the school continues to push further into new and exciting territories, its Fortinet solutions – all integrated by the Fortinet Security Fabric architecture – are able to accommodate an almost infinite variety of devices and future innovations; including embracing the rapidly expanding Internet of Things. "We look five years ahead to understand what's on the technological horizon," Wong commented. "It's imperative that we have the right foundation in place to support whatever direction gives us maximum benefit."

Wong concluded, "Technology is an accelerator: There's a lot of buzz around personalized learning but we are putting it into action. When people see what we are doing, they realize this model will change education and they ask how they can help."

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