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Protecting Connected Schools: A K-12 Security Case Study

Benefits Offered by Symantec™ Gateway Security 5400 Series
- Offers seven security technologies in a single appliance, to maximize protection while easing management
- Stops even the most complex threats
- Helps ensure safe learning environment

Braxton County (W.Va.) Public School Authorities sought to expand a defense-in-depth computer security posture across their expanding networks. Deploying a multi-function security appliance at each campus site delivered a cost-effective, centrally managed solution easily supported by finite budget and IT staffing resources. By meeting critical mandates for data privacy, integrity, trust, and students' well being, Braxton County's information security strategy is empowering educators' ongoing adoption of technology in their classrooms.

The Challenge
The Braxton County Public School District, headquartered in Sutton, West Virginia, is comprised of nine schools scattered throughout a rural area, serving the educational needs of nearly 3,000 students. Committed to providing students the best education possible and recognizing the important role technology can play in enhancing education, the district began rolling out high-bandwidth connections. Greater transmission capacity would provide students, administrators, and teachers a more effective tool for communicating with one another, sharing information, accessing educational material, and more.

However, as high-bandwidth connections were introduced, Sterling Beane, technology director at Braxton County Public Schools, began noticing a corresponding rise in viruses and unauthorized network access. This new trend was attributed to a number of factors, including increased Internet usage within the school.

A complicating factor was the fact that all nine schools in the district were located on the same subnet, behind a single perimeter firewall that had been established years before, when the schools were part of the state government network. Behind this single "virtual fence," malicious code threats were free to spread from school to school. Even though the district 's desktop and server antivirus software, Symantec AntiVirus (Enterprise Edition) routinely caught and quarantined malicious code at the district's headquarters, intrusion attempts and worms that found a way past the boundary firewall were ricocheting across unprotected campus sites at an alarming rate.

Moreover, with high-bandwidth connections in place, school servers were a more attractive and accessible target for unauthorized users who needed a place to store their bootlegged music files, software, and other inappropriate material. While no student had yet discovered these unauthorized caches of digital paraphernalia, Beane considered it only a matter of time before someone did. And that would jeopardize the district's ability to demonstrate compliance with the Children's Internet Protection Act and, in turn, put the district at risk of losing funding.

But that's not all. Beane also knew that if intruders could deposit files on a district computer, they could also extract information from a server or use that system to gain access to highly confidential student data on state servers. Furthermore, they could use the school's computers—government assets—as drones in Denial of Service (DoS) attacks on public or private sector entities, creating a nightmare scenario for the school district.

Needless to say, the situation was unacceptable for a school district whose top priority is to provide a safe environment and deliver quality education. Consequently, Beane began considering possible solutions, recognizing that the key to protecting the district was to divide and conquer—that is, to provide each elementary, middle, and high school with its own protection against network intrusions, malicious code, and inappropriate Internet content.

And there was just one more challenge: Beane had to find easy-to-manage solutions that fit his district's limited budget.

The Solution

Beane first tried a traditional approach, considering firewall products from one vendor, antivirus from another, and so on. He quickly realized the district could not afford to purchase and support so many individual solutions. As the only full-time IT professional for the school district, Beane could not devote the time it would take to implement, configure, manage, and support such a wide array of point products.

Then Beane reviewed the Symantec Gateway Security 5400 Series, a next-generation firewall appliance providing seven integrated security technologies for maximum effectiveness, while reducing the complexity of security management. This solution integrates full inspection firewall technology, protocol anomaly based intrusion prevention and intrusion detection engines, award-winning virus protection, URL-based content filtering, antispam, and IPSec-compliant virtual private networking technology with hardware-assisted high-speed encryption.

Realizing this solution would serve his budgeting and security needs, Beane installed a Symantec Gateway Security appliance on each of the district's nine school networks. The appliances dissect and validate each incoming and outgoing network packet before allowing it to enter the network. Furthermore, the appliances securely seal each school network off from the other, providing each school with in-depth defense while also containing attacks and malicious code.

An efficient, comprehensive, and effective solution, Symantec Gateway Security provides organizations such as the Braxton County Public School District with a proactive intrusion prevention tool to stop even the most complex threats. And because all security functions are integrated into one appliance, Symantec Gateway Security is both cost-effective and easy to manage.

Braxton County can also pay for the appliance through the federal government's new E-Rate program, which provides funding for firewalls and firewall maintenance. This is good news for public schools because it enables them to afford world-class IT protection. And, with the Internet and technology playing an increasingly critical role in the classroom, an emphasis on securing and managing that technology cannot come too soon.

Customer Benefits

With Symantec Gateway Security serving as sentries at each campus—blocking hackers, detecting intrusions, halting viruses, filtering spam, and sifting out inappropriate content—the Braxton County Public School District can ensure a safe digital educational environment. Since the installation of Symantec Gateway Security, viruses are no longer popping up and being quarantined because they simply don't make it past the appliance; hackers are detected just as they begin jiggling the virtual network doorknobs; and even abnormal network activity is visible at a glance.

"Here at Braxton County, our primary goal is to provide students a safe environment in which they can learn and be successful, and Symantec Gateway Security helps us reach that goal," Beane concludes. "The Symantec Gateway Security appliance is a cost-effective solution that protects each of our schools from external and internal threats that might jeopardize student safety. It's a great solution."

About Symantec

Symantec, the world leader in Internet security technology, provides a broad range of content and network security software and appliance solutions to individuals, enterprises and service providers. The company is a l eading provider of virus protection, firewall and virtual private network, vulnerability assessment, intrusion prevention, Internet content and email filtering, and remote management technologies and security services to enterprises and service providers around the world. Headquartered in Cupertino, Calif., Symantec has worldwide operations in 38 countries.

For more information, please visit www.symantec.com

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