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Hillstone Networks Secures the Network for Purmerendse Schools Group (PSG) with High Performance Intelligent Next Gen Firewalls

The Customer

The Purmerendse Schools Group (PSG) provides a wide range of education and training courses in secondary education for the Waterland region, in the Netherlands. It consists of six schools with an active enrollment of approximately 4000 students. The schools provide public or special education, and each location uses a diverse pedagogical-didactic approach.

The Challenge

The PSG faced two specific challenges common to many in the Education vertical: smooth access to vital online educational resources, as well as cyber threat prevention and unauthorized online behavior. These challenges were exacerbated by lack of visibility and control over their network.

Most the students at PSG and their 400 staffs have computers, with many operating other devices, such as smartphones. The school is home to a state-of-the-art fiber optic networking and a ubiquitous wireless network. Bandwidth throughput, network responsiveness, and prioritizing application usage by users were challenges while its Internet demands were growing exponentially. Students and teachers couldn't always get to the websites and vital online educational resources they needed.

The customer also has typical security challenges that faced by all education providers, namely, prohibiting access to inappropriate sites, and thereby protecting schools from cyber-attacks from high-risk websites.

The Solution

To address their multiple challenges, the PSG decided to replace their legacy solution with Hillstone Networks. The PSG deployed four Hillstone Intelligent Next Generation Firewall (iNGFW) T1860 in two sets of highly available (HA) configurations. Each HA setup consisted of two Hillstone T1860 appliances, connected to two different internet connections. One of the HA setup protects their largest location and the other protects multiple locations connected with a private Fiber. There is a wireless P2P (point-to-point) connection between the two locations. All iNGFW appliances are configured with antivirus, intrusion prevention system (IPS), URL filtering, intelligent quality of service (iQoS) as well as Stoneshield service, which consists of

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Abnormal Behavior Detection (ABD) and Advanced Threat Detection (ATD) features.
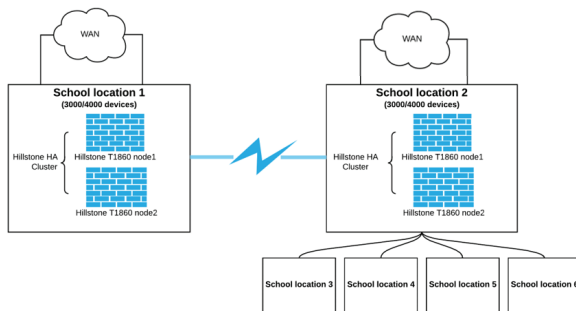
Better Network Connectivity and Experience

With Hillstone Networks patented enhanced iQoS and application based PBR (policy based routing), PSG has eliminated its performance problems. Hillstone iQoS provide two-layer, eight-level embeded tunnel traffic shaping with flexible bandwidth managemnt, as well as fine granularity in network traffic segmentation. Application based PBR divide school traffic into two connections. One of the internet connection is used for "educational" applications and the other for "entertainment" application traffic such as Facebook and Instagram, which is an integral part of every student and staff's daily life today. In addition, iQoS provided dedicated bandwidth to a sub-section of the school. iQOS made it possible to allocate resources to a specific department or location that shares buildings and infrastructure without the need for purchasing separate lines or firewalls. Improving iQoS, allows the school to replace books with hosted/digital materials, saving the school money as well as making the delivery of training more efficient and accessible.

In the past, there were a lot of IT Support cases that consisted of troubleshooting performance issues. "We spent an inordinate amount of time and effort troubleshooting and fighting fires. Now that we have the Hillstone Networks platform in place, everything works beyond our expectations. It has allowed IT to get back at

least 20 percent of our time to work on more strategic projects that bring value to our students, staff, and parents," said the IT Manager.

Better Security with Easy Management

Policy management also improved dramatically. After setting up policies on its legacy solution, PSG still had problems with students getting through to sites they shouldn't or being denied access to approved sites. "One of our main goals in IT is to make it as easy as possible for our users to be productive while being secure," the IT manager stated. "We experienced ongoing issues with our previous firewall, but with Hillstone Networks, you just plug it in and it works. The platform provides a very intuitive interface that lets us easily set up policies and know they'll be enforced properly."

In addition, to address potential vulnerabilities in the network and to comply with education services regulations, the Abnormal Behavior Detection (ABD) and Advanced Threat detection (ATD) features in the Hillstone solution protects the school's network from advanced threats. Following image shows that Hillstone security engines detected stealth http post activities (the internal host visits URL http://ciscobinary...) and suspicious PE file download activity (the internal host downloads .zip file from this URL), and notified the admin that this is a strong indicator that the internal host is infected by malware.
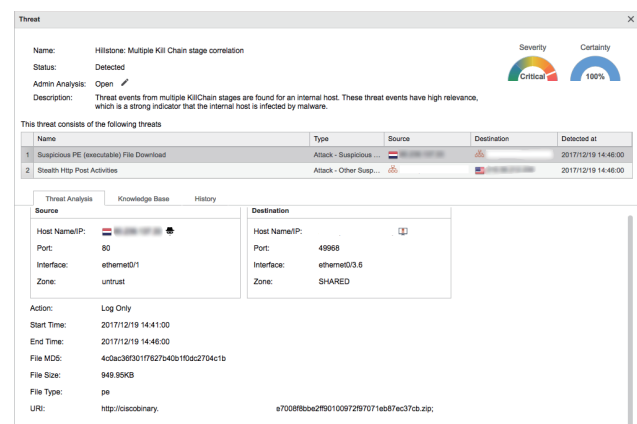
The Conclusion

Nothing is more critical than providing a safe and secure environment for students to learn and for staffs to teach in an educational institution. Moreover, security should not constrain the students, nor the staffs, by limiting or delaying access to critical applications and resources. The Hillstone solution delivered the right set of security and services that addressed the specific challenges faced by the Purmerendse Schools Group.

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How to contact Hillstone Networks

www.hillstonenet.com
EMAIL: inquiry@hillstonenet.com