

HEAnet

Fortinet Secures Ireland's 4,000 Primary and Secondary Schools Against Web-Based Threats

Case Study

Situation

Established in 1984 with the support of Ireland's Higher Education Authority, HEAnet is dedicated to providing high quality Internet services to students and staff in Irish universities, technology institutes and other tertiary education and research organisations. HEAnet manages a high-speed national R&E (Research and Education) network with direct connectivity to networks in Europe, the USA and the rest of the world. Since its formation, the HEAnet user community has grown five-fold to include almost every Irish tertiary institution, independent research organisations and, most recently, Ireland's vast national estate of primary and secondary schools. Today, HEAnet stands as one of Ireland's largest Internet service providers.



Security on an Almighty Scale

In 2005, as part of an Irish government initiative, HEAnet were tasked with building and managing a Schools Network backbone. Interconnecting with six broadband providers that present a range of access technologies including DSL, wireless, satellite, and other access technologies, HEAnet is providing the country's 4,000 primary and secondary schools with content-safe connectivity to the Internet and other educational networks.

In this regard, HEAnet were tasked with finding a security solution that could deliver the protection and performance the network needed on an almighty scale.

Ronan Byrne, Special Programmes Manager at HEAnet, headed up the project; "With schools encouraging the use of technology from an early age it was vital that the correct security measures were in place prior to allowing schools access to the Internet."

"There are millions of potentially harmful sites harboring illegal or inappropriate content and we needed to ensure that schools connecting to our network would be protected with the most advanced Web filtering and anti-virus technologies, however, we also knew that finding a security solution that could cope with the network demands on such a large scale would be tough."

Solution

HEAnet conducted an in-depth review of the security market in order to find a security solution with the scalability to protect the entire network, whilst keeping management overheads down. Byrne explains, "Performance and scalability were key criteria, and to ensure ease of management we looked to implement a centralized filtering approach, rather than deploying thousands of identical devices out in the field."

After a competitive public tender and rigorous evaluation process, Fortinet's FortiGate™-5000 series network security platform was chosen as the solution for Web-based content filtering and antivirus on the basis of its outstanding protection capabilities and its ability to process large throughputs of traffic without diminishing performance.

Byrne explains, "The chassis-based Fortinet solution demonstrated the resilience and capacity needed to cope with the enormity of our project. At the same time, its multi-threat security approach meant we were able to implement two crucial security functionalities (antivirus, Web content filtering) using the same platform. As an alternative to deploying a large number of servers in order to fulfill our needs, we could just deploy two FortiGate-5000 using up less rack space, therefore requiring less power and cooling in the datacenter environment."

Deployment:

2 x FortiGate-5140 Chassis
8 x FortiGate-5001 blades
2 x FortiManager -3000

Industry:

Education

A Safer Online Environment

With consultation and advice from trusted IT service partner, Lan Communications, HEAnet implemented a chassis-based FortiGate-5140 in two of its datacenters to perform integrated antivirus and Web content filtering across the entire network of 4,000 schools.

All the school traffic is routed via two PoPs for increased resilience. Each contains one FortiGate-5140 with four FortiGate-5001 blades to ensure that in the event of a PoP failure, HEAnet can re-route traffic to ensure very high levels of availability.

With the project commencing in July 2005, HEAnet and Fortinet faced fierce time constraints in order to ensure that the Fortinet solution would be ready to protect pupils returning to schools in September of that same year. With the centralized Fortinet solution in place HEAnet successfully completed an aggressive roll-out connecting approximately 500 new school broadband connections per month. Each school required comprehensive Web filtering and antivirus protection from the outset.

Designed with maximum processing power and speed in mind, the FortiGate-5140 has the high performance and robust capabilities required to provide HEAnet's 800,000-user community with real-time network protection.

Success

With the Fortinet products in place, HEAnet is successfully blocking a plethora of inappropriate or harmful Web content and protecting the schools' network and its users from harmful viruses and malware.

Byrne explains: "There is no doubt that we have succeeded in offering a far safer online environment for all the students across the country than heretofore. We believe the scale of this security deployment is unique and our fellow national education networks across Europe show great interest in how we provide filtering and security on this scale".

In a recent survey conducted by HEAnet, 96% of those primary and secondary schools surveyed considered the Fortinet solution was offering a safer online environment for staff and students, whilst over three quarters of those surveyed stated that they were more inclined to use the Internet following the introduction of Fortinet-powered Web content filtering.

"The antivirus and Web filtering is working in tandem to successfully safeguard the school network from rising Web threats and illegal content. With high throughput capacity plus the high availability features of the FortiGate solution, we have the capacity we need to support the high levels of traffic on our network," continued Byrne.

"In just one school week, for a sample size of just over 100 of our schools, the Fortinet solution blocked 6 million URLs. When we extrapolate this number across all 4,000 sites, the traffic volumes that we have to manage are clear and the associated processing power that we're now able to harness is extremely high."

Byrne concludes, "This has been an incredibly demanding project, and we are pleased we have been able to work with Fortinet in order to achieve such great success. To complete a security project on such a large scale and gain this positive feedback from schools is a great testament to the project."

"HEAnet is an excellent example of how the FortiGate-5000 series takes real-time network security processing on multi-Gigabit networks in its stride," said Andre Stewart, vice president of EMEA at Fortinet. "Nearly a million users' daily Internet excursions are protected by the power and accuracy of this platform."

About Fortinet

Fortinet is the pioneer and leading provider of ASIC-accelerated unified threat management, or UTM, security systems, which are used by enterprises and service providers to increase their security while reducing total operating costs. Fortinet solutions were built from the ground up to integrate multiple levels of security protection--including firewall, antivirus, intrusion prevention, VPN, spyware prevention and anti-spam -- designed to help customers protect against network and content level threats. Leveraging a custom ASIC and unified interface, Fortinet solutions offer advanced security functionality that scales from remote office to chassis-based solutions with integrated management and reporting. Fortinet solutions have won multiple awards around the world and are the only security products that are certified eight times over by ICSA Labs (firewall, antivirus, IPSec, SSL, IPS, client antivirus detection, cleaning and antispysware). Fortinet is privately held and based in Sunnyvale, California.