National Library of Latvia secures high-performance network

HP TippingPoint Next-Generation Firewalls protect world-class facility that hosted the EU Presidency

Industry
Government

Objective
Deploy and secure a high-speed network for sharing digital information and assets with citizens, guests, and dignitaries of the European Union

Approach
Implement a converged wired and wireless network and deploy HP TippingPoint Next-Generation Firewalls to improve network security without compromising network availability

IT matters
• Protect over six million digital assets with a secure, high-performance network in a newly constructed state-of-the-art library

• Provide simultaneous wireless access to up to 2,000 notebooks, tablets, and smartphones

• Deliver high-speed connectivity to about 900 users daily

• Centrally manage networking resources and firewall appliances to control costs and ensure performance and reliability

Business matters
• Build a unified wired-wireless network to support a new, advanced technology national library

• Scale security to host the Presidency of the Council of the EU, protecting against thousands of malicious sessions per day while experiencing zero downtime and zero false positives

• Secure network operations with a next-generation firewall while ensuring around-the-clock reliability

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L I B R A R Y
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Photo: Indrikis Sturmanis

"Our HP network protected by HP TippingPoint allows us to efficiently and securely share national resources and enables us to host innovative programs and activities that draw citizens, tourists, and dignitaries to the National Library of Latvia."

– Emils Klotins, CIO of the National Library of Latvia

The National Library of Latvia facilities were replaced with a new building that needed a secure, high-performance data network, and the legacy Cisco infrastructure was replaced with HP networking and enterprise firewall solutions. The National Library of Latvia recently served as the host location for the European Union (EU) Presidency, and the infrastructure was enhanced with additional HP networking equipment and four HP TippingPoint Next-Generation Firewalls to safeguard critical resources.

The mission of the National Library of Latvia is to promote the free and inventive usage of Latvia's cultural and scientific heritage to foster education, research, the development of knowledge, and the quality of life. It cooperates with many libraries, organizations, and institutions in Latvia and throughout the world with the aim of sharing professional experience and knowledge.

In 2014, ageing facilities were replaced with a new facility to serve as both an architectural symbol for Latvia and a multi-functional structure that meets the needs of a modern information-based society. This 14-floor building provides easy access to all the library's services while offering an open setting for research, study, and the exchange of ideas. Under a glass roof, it houses over 1,000 reading spaces, shelf space for the library's entire active collection of over six million literary, research, academic, and reference items, research facilities, and a modern conference center and exhibition area.

In the short time that it's been open, the new National Library of Latvia, referred to as the "Castle of Light", has become a major tourist attraction, estimated to have been visited by more than a million people. The legacy Cisco network in place in the old library facilities was insufficient to meet the performance and scalability demands of the new facility. A tender was issued, and after a careful evaluation an HP unified network and next-generation firewall solution was selected to deliver high-performance wired and wireless connectivity to the new library.

Bolstering network security to host the EU Presidency

The Presidency of the Council of the EU rotates among the EU member states every six months, and shortly after it opened the National Library of Latvia served as host of the Presidency in 2015. The Council of the EU was provided with segmented access to the National Library of Latvia network, and an HP HSR6800 Router was deployed to provide the Council of the EU with dedicated wide area network connectivity through connections to multiple Internet service providers.

"Building the National Library of Latvia was one of the major national construction projects of this century, so it was an ideal location to host the EU Presidency," states National Library of Latvia CIO Emils Klotins. "Ensuring our modern, multifunctional cultural and communications center has secure, high-performance connectivity raised the visibility of the National Library of Latvia as an appealing destination for Europeans to visit."

"We needed a network that could deliver the reliability, performance, and scalability necessary to support our long-term bandwidth requirements."

– Emils Klotins, CIO, National Library of Latvia

HP Partner Santa Monica Networks (SMN) designed and integrated the network for the Library and provides ongoing IT support. SMN has been working in the IT market since 1989, providing expertise in data transmission networks, IT security, enterprise firewall, IP communications, and data center solutions, as well as local support in Latvia. The Council of the EU required broad visibility and granular control over applications running over its network.

SMN evaluated enterprise firewall options and selected the HP TippingPoint Next-Generation Firewall (NGFW). "Santa Monica Networks is experienced with all major firewalls, and the HP TippingPoint NGFW was the best for the National Library of Latvia because it provides the visibility needed to manage the applications running over the network as well as the flexibility to set policies to block and control unwanted applications," says Uģis Bērziņš, Chairman of SMN.

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Four HP TippingPoint NGFWs were deployed for advanced security protection to block vulnerabilities without impacting network performance, and the TippingPoint Security Management System (SMS) provided visibility into network security and security policy control. The Council of the EU relied on weekly DVLabs updates to stay ahead of threats and protect its network by stopping exploits and blocking emerging attacks.

During the six-month period that the National Library of Latvia hosted the Presidency of the Council of the EU, malicious sessions blocked by TippingPoint NGFW reached up to thousands per day. TippingPoint NGFW detected and blocked attacks from all over the world.

The network segment of the National Library of Latvia supporting the EU Presidency experienced no downtime and no identified false positives, and while there were a significant number of malware attempts, none were successful. The National Library of Latvia has completed its six-month hosting of the Presidency of the Council of the EU, and as host the National Library of Latvia has achieved its security goals of ensuring service availability, protecting against denial of service attacks, and identifying and protecting against known attack vectors.

Building a high-performance network

The additional network and security infrastructure deployed to support the needs of the EU Presidency will soon be redeployed to augment the new National Library of Latvia network that was installed when the facility opened. According to Bērziņš, "As it was being built, it was clear that the National Library of Latvia needed an integrated networking solution to support this new, modern infrastructure. Performance and reliability were crucial, and the ability to cost-effectively support video and enable converged wired and wireless connectivity throughout the library facilities was essential to meeting the goals of the new library."

The HP 10500 Switch Series was deployed in the core of the network to support high-performance, rich media switching and enable a flat, agile network. HP 5800 and HP 5900 Switch Series platforms provide aggregation, and HP 5400R zl2 Switch Series platforms were deployed at the edges of the network to provide access to PCs and other IP devices over the wired infrastructure.

HP 870 Unified Wired-WLAN Appliances were deployed to deliver high-performance wireless connectivity throughout the library, which is essential for supporting research and educational programs.

"We have enough wireless spectrum to support all of our employees and visitors, and during major events we've connected up to 2,000 wireless devices—many of them used by journalists from all over the world," explains Klotins.

Customer at a glance

HP Security Solution
- HP TippingPoint Next-Generation Firewall
- HP TippingPoint Security Management System

HP Networking Solution
- HP 10504 Switch
- HP 5900 Switch
- HP 5800 Switch
- HP 5400R zl2 Switch
- HP 870 Unified Wired-WLAN Appliances
- HP Intelligent Management Center
- HP HSR6800 Router

"A single conference room can have as many as 400 users requiring wireless connectivity, and we have several conference rooms and other high-density areas where large numbers of users often require simultaneous access and we've never had a problem meeting demands."

"HP was the best fit for our needs in terms of price, performance, and network management capabilities."

– Emils Klotins, CIO, National Library of Latvia

The network is segmented and carefully monitored, and the National Library of Latvia supports the connectivity needs of about 900 computers each day. Many of the employees are focused on digitizing Latvian literature so it can be preserved and shared electronically, and many of the activities and programs available at the library rely on rich media and high-performance networking.

"Video is increasingly used in presentations and displays, and we needed a network that could deliver the reliability, performance, and scalability necessary to support our long-term bandwidth requirements," says Klotins. "HP was the best fit for our needs in terms of price, performance, and network management capabilities."

IT manages the wired and wireless network centrally using the HP Intelligent Management Center (IMC) Enterprise Software Platform for optimum network performance. In addition, IT uses the HP IMC Network Traffic Analyzer Software to provide real-time and historical reporting on network application usage, the IMC User Access Management Software for centralized support, authentication, and accounting management of endpoints that connect and use network services, and the HP Wireless Services Manager Software for wireless network configuration and performance monitoring.

Enhancing library security

The TippingPoint NGFWs will soon be redeployed to provide application visibility and control for the library network, and IT will leverage weekly DVLabs updates to prevent attacks. The IMC management solution will be complemented by the TippingPoint SMS, providing IT with greater visibility into network security and policy control.

"The infrastructure that we've put in place is allowing us to develop innovative new methods, services, and programs that improve operations and better serve the community."

– Emils Klotins, CIO, National Library of Latvia

"We'll be able to re-use the security solution so all library traffic will be behind a firewall, allowing us to provide even stronger security for our network," says Klotins. "HP has been a strong partner in building and securing our network, and Santa Monica Networks has not only planned and implemented our state-of-the-art infrastructure, they've advised us on better ways to operate. The infrastructure that we've put in place is allowing us to develop innovative new methods, services, and programs that improve operations and better serve the community."

Visit the National Library of Latvia at lndb.lv

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