



Solving the Network Puzzle: How a Complete Extreme Networks Solution Simplifies Management for a Renowned National Library

INDUSTRY: Education

CHALLENGE:

One of the largest libraries in the Netherlands relies on extensive technical infrastructure to support its collection, storage, and delivery on the web of virtually any text related to the country — whether originally published on paper or digitally. In addition to the massive databases required to support this collection, the library needs the infrastructure and systems to handle the numerous document types and formats to make this information accessible to staff members who work daily to prepare it for publication.

To support normal office requirements for a team of more than 500 employees, as well as students and other visitors to premises, the library also requires office connections as well as a comprehensive Wi-Fi network for private and public use. Network infrastructure extends beyond the walls of the library, connecting to server rooms in other cities and maintaining data connections to a national network of universities. Security across all of these networks is essential, as is relative simplicity in day-to-day management and in adapting to address the evolving demands of aggregating, preparing, and publishing content.

SOLUTION:

Seeking an integrated portfolio of solutions and services that could address all of its challenges and requirements, the library began working 20 years ago with Extreme Networks to deploy the infrastructure to support its work. In 2010 Black

Box became the Extreme Networks partner responsible for the relationship, continuing to provide every piece of the complete puzzle that ensures data streams move through the network securely and reliably.

Today, this solution includes databases situated within multiple data centers located in another city, with a dozen switches based on Extreme Networks Fabric technology, which boasts powerful embedded automation capabilities that simplify the deployment and provisioning of network services without any costly or complicated external controllers. The main building houses 22 data rooms, each equipped with Extreme Networks access switches, delivering data connections to various systems, including PCs, printers, CCTV cameras, physical security systems, building management systems, and Wi-Fi access points. As such, the network supports not only data for the library's continuous collections work but also the operational signals that keep all systems running smoothly.

Additionally, the Wi-Fi network — with high-density Wi-Fi 6E coverage and aggregate data rates up to 3.9 Gbps — is installed to provide about 180 access points across the building for an expansive network with two central controllers. The Wi-Fi network delivers wireless connectivity to library employees, BYOD, visitors, and library season ticket holders. An Extreme XIQ Site Engine with ExtremeControl helps to ensure security throughout, including all applications, devices, and users on the network. Offering a highly automated solution for switch configuration, ExtremeControl reduces the burden on administrators even as employees move between workstations and work places. ExtremeAnalytics provides visibility into the



network, allowing administrators to see how the network is performing and whether it is being used appropriately.

With all these puzzle pieces being part of a larger Extreme Networks solution, the library can easily remove or change any component within it without affecting other components. Monthly site visits from the Black Box team help administrators check the systems, update hardware, and look ahead to any new changes required. In addition to working with managers over the long term to maintain the best solution for the library, Black Box engages with operators to be sure that the technical infrastructure in place supports their daily work the way it should.

RESULT:

Over the past two decades, a great deal has changed about how this national library collects, maintains, and shares content with the public. In the early 2000s, for instance, about 95% of its content was still on paper, compared to just about 2% today. That's why the organization needed a trusted partner that could help it adjust to accommodate evolving technologies and the changing needs and expectations of the community.

Working with Black Box and Extreme Networks over the years, the library has had access to exceptional technical solutions and a partner it could turn to for advice in deploying the right component or solution for the right job. With those pieces in place, the library has been able to solve complex technical challenges and focus more of its resources on acquiring, preserving, and publishing content reflecting the nation's heritage.

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