Executive Summary

Industry

- Transportation and logistics

Environment

- Municipal transit system
- 39.9 kilometers (24.8 Miles)
- 69 stations, 4 metro lines, 3 premetro lines
- 417.6 million annual ridership

Technology Needs:

- Updated and purpose-built network solution
- Ensure 24x7x365 critical operational uptime
- Support of extensive ip-based video surveillance system
- Automation for increased efficiencies and transit capacity

Extreme Solution Components:

- Extreme Fabric Connect™
- Extreme Management Center™
- ExtremeAnalytics™

Results

- Network Virtualization: Video surveillance network with up to 15,000 IP cameras supporting real-time virtual machine mobility
- Real-time automated control of metro traffic
- Full integration of manual and automated transit system management

Automated Network Solutions from Extreme Networks Keep Brussels' Metro on Track

Operated by the Brussels Intercommunal Transport Company (or STIB), Brussels' metro is a rapid transit system serving a large part of the Brussels-Capital region of Belgium. STIB runs over 850,000 metro, tram, and bus journeys every day for commuters, visitors and the 1.14 million residents of the Belgian capital.

The Brussels' metro system faces some unique challenges as it pertains to their current and future business goals. The organization is nearly a 24x7x365 operation, meaning the environment and its connected systems cannot afford a disruption or drop in service. The number of passengers using public transportation in Brussels is growing exponentially with year-over-year demographic growth. As a result, during peak periods the system has hit the ceiling in terms of what manually controlled operations can achieve. The Brussels' metro systems required a solution that would leverage automation to maximise the efficiency of its current and future capacity.

A Mission-Critical Network Solution

After evaluating their short-term and long-term goals, STIB concluded that an update to their IT network solution would meet the critical needs today, and by utilizing network-powered automation effectively, Brussels' metro would see an estimated increase in capacity of 33%.

As such, STIB issued a formal RFP to collect and review potential options. The proposed network solution, labelled by STIB as the "Mission Critical Network," had to allow for real-time automated control of metro traffic. For safety and security reasons – for STIB staff and its travellers – automating transit services also required a large video surveillance

environment. However, to power this connected system, network performance, reliability, and scalability were must-have competencies.

Lastly, integrating manual and automated management of the transit system was key to the new strategy for increased capacity. STIB needed to maintain human oversight but also wished to alleviate (or eliminate all together) the potential for human error. Optimizing system availability, incorporating system and service resiliency, and enhancing network visibility were central requirements as part of the overarching solution.

Identifying the 'Right' Partner and Solution

After an extensive evaluation process, STIB chose to partner with Extreme Networks to design and deliver the 'Mission Critical Network' for the Metro Brussels transit system. STIB selected Prodata Systems not only for consulting and implementation services but also to manage the entire network on behalf of STIB. Throughout the entire process of installation, implementation and testing, Extreme Networks and Prodata Systems worked in close partnership to ensure that the solution put in place would meet the high requirements of STIB.

A Purpose-Built Solution to Meet the Unique Requirements of the Environment

With Extreme Networks chosen for STIB's 'Mission Critical Network,' the combined teams designed and implemented the approved solution for Metro Brussels, which included Extreme Fabric Connect, Extreme Management Center, and ExtremeAnalytics.

Making use of Extreme's Fabric Connect network virtualization technology, STIB now have the flexibility and agility to provision services, physically and logically, where they are needed for optimal efficiency. The Fabric Connect technology allowed STIB to run a robust and scalable video surveillance network with up to 15,000 IP cameras and enable seamless extension of Layer 2 services within and between data centers, supporting real-time virtual machine mobility.

Elimination of complex protocols enabled scalable IP multicast deployments for critical systems like Brussels' metro video surveillance system. It also provided the right foundation for secure guest access services, in addition to secure BYOD, with simplified provisioning. Elimination of the overlay wired, and wireless network model delivered a truly unified converged solution. This meant STIB's ability to evolve to a next-generation virtualized network – without wholesale disruption to ongoing operations – so STIB can implement changes at their own pace.

An Efficient, Automated, Seamless Business Environment

With STIB's new 'Mission Critical Network,' Brussels' metro has a solution that meets the specific requirements of their business today and positions their organization advantageously for the challenges and initiatives of tomorrow.

The updated solution ensures network performance, reliability, and scalability in the Brussels' metro environment, utilizing automation to offload routine tasks traditional supported manually by STIB staff and infusing greater efficiencies into the organizations day-to-day operations. Nearly 15,000 high-definition, IP-based video surveillance cameras are now supported by the network, which will keep the riders and staff of the transit system safe. Ultimately, Extreme Networks and Prodata Systems have improved system uptime for their customers and freeing up IT resources to focus on creating new services.

A Strong Platform to Build-Upon

Today, STIB enabled real-time automated control of metro traffic, improving system uptime for our customers and freeing up IT resources to focus on creating new services. Future expansion of the network could include additional fabric nodes to multiple depots and buildings for video surveillance, and new services such as IP voice and public addresses. For STIB, ultimately the goal is an autonomous enterprise where architecture, automation, and human intelligence operate in harmony. The network was a critical first step in making this happen.

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