



Extreme Networks Data Center Solution Passes the Test with Austrian Federal Ministry of the Interior

Solution Ensures Data Center Reliability

The Austrian Federal Ministry of the Interior (known as Ministry of the Interior, or MoI) oversees 40 areas of responsibility, from the Alpine police and civil defense department to the communications infrastructure. In 2004, the federal security guards and federal police merged and with this union came the need to integrate the two organizations' networks, data centers and server infrastructures. According to IT department head Reinhard Schwab, the MoI needed to make a "complete reorganization of the core IT infrastructure for the roughly 31,000 people who make up the security and executive branches."

Seeking Solutions and Specialists

The MoI's first priority was to find an integrated server and network architecture for the data centers of the police and security departments throughout eight federal states and in two locations in Vienna. As part of its project, the organization planned to virtualize the majority of servers with Microsoft Hyper-V Server 2008 R2 in order to reduce the number of physical machines and add new NAS systems to centralize storage resources that were available at every location. The NAS systems would also be cost-effectively connected with the physical and virtual servers via iSCSI.

"The modern operating system, server environment and conversion of Direct Attached Storage to iSCSI naturally had an impact on our network," explained Schwab. "So in the framework of this project, we also had to rethink our LAN infrastructure to

continue to satisfy the new requirements of availability, throughput, stability and ease of administration."

In the search for a suitable network component supplier, the MoI, along with its longstanding system partner NextiraOne, first listed its prioritized criteria. "For our organization, among the decisive selection criteria for data center and the network were high availability and stability, performance and energy efficiency, as well as easy maintenance and user-friendly operation for technical staff," said Schwab. "We also wanted a supplier that could present us with a viable roadmap for its solution. Above all, that means that the products have sufficiently long life cycles."

Finding the Fit

After an extensive evaluation of products from leading manufacturers, the MoI ultimately decided on a solution from Extreme Networks. In addition to the benefits of the products, the Ministry of the Interior was also able to take advantage of a supplier contract for Extreme Networks with Bundesbeschaffung [Federal Procurement] GmbH to purchase the solution.

"Extreme Networks has always provided very flexible support for past projects with its sales and pre-sales team," adds Martin Bitzinger, Key Account Manager at NextiraOne in Vienna. "With Extreme Networks products, the MoI gets an integrated and stable operating system for all network components and can also leverage the knowledge the technicians already have with new components."

The Challenge

The Austrian Federal Ministry of the Interior (MoI) was looking for new network components for eight of its federal state data centers and two locations in Vienna.

The Solution

The MoI selected a data center solution from Extreme Networks featuring a redundant design for each network, built on BlackDiamond® and Summit® top-of-rack switches connecting servers and iSCSI Network Attached Storage (NAS) components.

The Benefits

- 10 Gigabit Ethernet connectivity ensures adequate bandwidth in the core.
- Extreme Networks Ethernet Automatic Protection Switching (EAPS) provides fault tolerance and ensures continuous network operation even in the event of a fiber ring outage or interruption.
- Common operating system plus EPICenter® simplifies management and saves time for small and busy staff.

Extreme Networks, with the help of NextiraOne, provided the MoI with a comprehensive data center and network solution featuring a mix of Summit fixed switches, including Summit X450a switches and Summit X480 switches. Uplink to the top-of-rack switches is provided via multiple Gigabit Ethernet connections to a central BlackDiamond 8810, which forms the local core of each state data center. This uplink can be easily upgraded at a later date, as needed, to 10 Gigabit Ethernet.

For maximum network reliability and availability, all servers are also connected to the top-of-rack switch in the next rack. Both the Summit switches and the BlackDiamond 8810 switch are further linked to each other via an Extreme Networks Ethernet Automatic Protection Switching (EAPS) ring. EAPS is Extreme Networks network resiliency protocol providing loop-free operation and sub-50-millisecond ring recovery of network services. This guarantees the MoI a switch-over of less than 50 milliseconds in case of failure or line cut.

“With redundant connections and the Extreme Networks EAPS ring, we achieve maximum system stability in the network components,” says Schwab. “The same applies to the iSCSI switches, because an unplanned loss of connection here would be inexcusable too.”

“Normally, something goes wrong and seizes up somewhere with projects of this magnitude. But in our pilot project, the new architecture with the Extreme Networks components fulfilled all our expectations straightaway, and it is running absolutely problem-free.”

**– Reinhard Schwab, IT Department Head,
Austrian Federal Ministry of the Interior**

Test First, Then Go Live

To be absolutely certain of the network’s reliability, redundancy and availability, the MoI had a final audit of the network architecture conducted by Extreme Networks Professional Services. In the process, the network experts on the Professional Services team vigorously tested the new design before confirming its suitability. In addition, before the network would be brought into production use in all the state’s separate data centers, it was first tested extensively at a central location in Vienna. It was then given the green light.

“Normally, something goes wrong and seizes up somewhere with projects of this magnitude,” said Schwab. “But in our pilot project, the new architecture with the Extreme Networks switches fulfilled all our expectations straightaway, and it is running absolutely problem-free. We are very happy and are now looking forward to bringing the new national data centers into service without any worries.”

Network Simplification

The new data center networks built with Extreme Networks make daily work for the IT staff easier because of the common software architecture, ExtremeXOS® across all Ethernet switches. For example, integrated policies for quality of service in IP telephony can be easily implemented by simply clicking on the EPICenter graphical user interface.

MoI technicians across the board also praise the user interface of EPICenter, a full-featured network management tool that simplifies configuration, troubleshooting and status monitoring. Offering a comprehensive set of network management applications for the network and its elements, EPICenter delivers the essential requirements of network management while adding valuable and intuitive features that help save time by streamlining common tasks. Administrators also can’t say enough about the ExtremeXOS command line, which is simple to learn and use.

Overall, Reinhard Schwab is very happy he decided on Extreme Networks. But he had difficulty calculating a return on investment for this major project: “We don’t make products, just security for the citizens of Austria. That makes an ROI inherently difficult to quantify. For me, what counts above all is that we can depend completely on our network and our partners at all times, because only then can we fulfill our mission at the high level our citizens justifiably expect of us.” It’s safe to say, they can.

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