

Smooth Migration for Belgian ICT Shared Service Organization

Customer Case Study



Cisco Nexus switching platform with FabricPath gives Smals greater data center availability and efficiency with less risk

EXECUTIVE SUMMARY

Customer Name: Smals

Industry: Public Sector

Location: Belgium

Number of Employees: 1700

Challenge

- Reduce costs and minimize risks by consolidating and virtualizing legacy data centers
- Create infrastructure to serve company for foreseeable future

Solution

- Cisco Unified Data Center architecture based on Cisco Nexus switching platform with FabricPath and VDC
- Cisco Services for design validation and implementation support

Results

- Less than three-year return on investment in switching infrastructure expenditure
- Eight-fold reduction in energy costs, with improved business resilience
- Trouble-free deployment with Cisco Services

Challenge

Smals is a Belgian ICT shared service organization specializing in infrastructure and applications for public institutions in social security and healthcare. It hosts more than 300 custom-built applications, including DmfA, the quarterly multifunctional declaration of labor and wages for 270,000 employers and 3.5 million workers, and the eHealth platform facilitating secure electronic exchange of medical data for 350,000 medical practitioners and 11 million citizens. These applications used to run on 1700 servers across legacy data centers in Brussels, so a project was started to consolidate the infrastructure into two new data centers, linked by multiple fibre uplinks.

As part of this initiative, the organization decided to review data center switching, with a view to introducing new technology that would serve its needs for the foreseeable future. Kenneth Claes, network infrastructure manager for Smals, says: "We need to plan five to 10 years ahead, so the change was driven not by any shortcomings, but rather a process of natural evolution."

At the same time, like many public sector institutions across Europe, Smals was facing budget restrictions and was eager to standardize on a technology that would deliver greater efficiency and cost savings. A final requirement, given the mission-critical nature of many of the applications, was to help ensure the transition could be made without negative operational impact. "We were migrating live data centers, so it was crucial to minimize downtime," says Claes.

Solution

Over the years, Smals had developed a heterogeneous server estate, with vendors usually chosen on the basis of competitive pricing. But, when it came to the switching platform, the service provider was keen to apply an end-to-end Cisco® approach. Claes says: "We not only had favorable prior experience with Cisco, but also my colleagues and I have good knowledge of its technology."



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Kenneth Claes
Network Infrastructure Manager
Smals

Following workshops and further testing and design work, Smals settled on the Cisco Nexus® family of data center switches enabled with Cisco FabricPath. A Cisco NX-OS software innovation, FabricPath combines the simplicity of Ethernet with the reliability and scalability of Layer 3 routing. This advance means that network managers can build highly-scalable Layer 2 multipath networks without needing Spanning Tree Protocol.

At its data center core, Smals has deployed a total of four Cisco Nexus 7000 10-slot switches with 10Gbps Ethernet (GE) interfaces and F2-Series modules for integrated Fibre Channel over Ethernet. The data center network meanwhile comprises 10 Nexus 5596UP and 12 Catalyst® 6500 Series switches, with an access layer made up of 100 Nexus 2248TP GE and 2232PP 10GE fabric extenders.

Smals uses the Cisco NX-OS software to create Virtual Device Contexts (VDCs), which partition a single physical device into multiple logical devices that provide fault isolation, management isolation, and address allocation isolation. To help ensure security and high-performance connectivity, the infrastructure also features Cisco ASA 5580 and 5540 Adaptive Security Appliances as well as Check Point firewalls plus HDS, EMC, and HP storage.

Results

With up to 70 percent of the previous server estate virtualized, the new data centers support a wide range of applications, including VMware for virtualization, Oracle and MySQL databases, OpenNebula cloud tools, mail services, management systems, and Linux-based software for healthcare and social security services. Smals installed the switching infrastructure with support from Cisco Services.

Claes says: “One of the things that attracted us to Nexus and FabricPath was the potential for even higher availability, and this expectation has been borne out in practice.” Smals is also getting better utilization and therefore greater return on investment from its switching infrastructure. “FabricPath gives you equal-cost load balancing,” says network administrator Luc Robalo Marques. “For each Nexus 5000, we have 10Gbps uplinks, and they are all used.”

The ability to create VDCs has helped Smals improve efficiency and flexibility, while reducing maintenance costs and improving performance. “For example, the backplane capacity is much higher,” says Robalo.

Some of the main improvements have been around cost savings and sustainability, however. “Compared to before, we estimate the new switches only use an eighth of the amount of energy,” says Robalo. And, having installed a Nexus fabric extender on the top of each rack, cabling is greatly reduced whenever a new server is deployed. Says Claes: “Implementing Cisco Unified Fabric allows us to do more with the same number of people.”

Smals calculates that it will be able to make a return on its Nexus investment in less than three years. “Cisco Services provided extra assurance and validation,” says Claes. “You cannot deploy a new platform without confirmation that it’s all correct and deployed in the right way. In the event, the migration went very, very smoothly.”

Next Steps

The new data center facilities offer a black-box cloud model for application delivery, and are configured for disaster recovery across two data centers as an active-active system. Smals is interested in adding features such as load balancing along with IPv6 capabilities. “Nexus is a future-ready platform,” says Claes. “One of the things that attracted us to Nexus and FabricPath was the potential for even higher availability, and this expectation has been borne out in practice.”

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Luc Robalo Marques
Network Administrator
Smals

The service provider is also thinking of implementing Cisco Identity Services Engine to help improve IT security through context awareness and network-based policy enforcement. Smals may also soon require a third new data center, and the company has no qualms about which switching platform it will use. “People should not be afraid to migrate to Nexus and FabricPath; it is simple plug-and-play,” adds Robalo.

For More Information

To learn more about the Cisco architectures and solutions featured in this case study, please go to:

www.cisco.com/go/nexus

For more on Cisco Services, see: www.cisco.com/go/services

Product List

Data Center Routing and Switching

- Cisco Nexus 7000 Series Switches
- Cisco Nexus 5000 Series Switches
- Cisco Nexus 2000 Series Fabric Extenders
- Cisco FabricPath
- Cisco Catalyst 6500 Series Switches

Security

- Cisco ASA 5580 Adaptive Security Appliance
- Cisco ASA 5540 Adaptive Security Appliance
- Check Point

Storage

- EMC
- HP
- HDS

Software

- VMware
- Oracle
- MySQL
- OpenNebula

Services

- Cisco Services for design validation and implementation support



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