Innovator Gets Scalability on Demand

Lonza underpins business continuity and global expansion with Nexus capabilities such as FabricPath and Virtual Port Channel

EXECUTIVE SUMMARY

Customer Name: Lonza

Industry: Pharma

Location: Headquartered in Basel, Switzerland

Number of Employees: More than 10,000

Challenge

· Transform data center network agility, bandwidth, resilience, and scalability to support 24-hour global business model

Solution

· Cisco Nexus 5500 series platform with new capabilities such as FabricPath, In-Service Software Upgrades, and Virtual Port Channel

Results

· 30 percent performance improvement for key business applications

· Ability to rapidly scale up and add ports

· New back-up data center can be connected faster and with less risk

Challenge

From modest beginnings, Lonza has grown into a leading supplier to the pharmaceutical, healthcare, and lifescience industries worldwide. It provides chemical and biological active pharmaceutical ingredients to companies in health and hygiene, personal care, water treatment, industrial preservation, wood treatment, and materials protection. This expertise includes cell-based research, endotoxin detection, and cell therapy manufacturing as well as agriculture, nutrition, and microbial control.

Based in Basel, the company has 45 major production and R&D sites worldwide. With such a diverse product portfolio, Lonza has to manage a large and fast-changing intellectual property database. Also vital is global collaboration, particularly for research, production, marketing, and partnerships with the many companies that depend on its products. With growth rates in decline and blockbuster drug patents coming to an end, big western healthcare companies are looking toward emerging markets. Likewise, Lonza is seeking to diversify into smaller segments, requiring a more tailored approach.

Twin data centers in Visp, Switzerland, are central to this strategy. Used around the clock, they have to support various time zones and the growing demand for core applications such as SAP and Microsoft Exchange, along with NetApp storage technology and VMware virtualization software. As an early adopter of advanced technologies, Lonza was keen to transform these critical facilities, not only to meet growing network traffic and storage requirements, but also to improve performance and make them fully future compatible.

"The primary driver for this project was attaining 10Gbps bandwidth, both to prepare for future growth and to introduce the newest data center optimization technologies," says Fabian Reber, IT network manager at Lonza, "while an immediate priority was to reduce latency and increase port availability."

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Fabian Reber
IT Network Manager
Lonza

Solution

A new network was needed to provide robust interconnection with a planned back-up data center, as well as providing the needed boost to performance and scalability. The solution had to be simple to install and operate by removing the need to agree service windows for maintenance and software upgrades, for example. After considering several proposals and reaching a shortlist of two, Lonza chose a solution based on the Cisco Nexus® 5548UP Switch.

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Cisco® FabricPath, a crucial element in the Cisco Unified Fabric data center network architecture, is a Cisco NX-OS Software innovation that combines the flexibility of Layer 2 switching with the reliability and scalability of Layer 3 routing. With the plug-and-play simplicity of Ethernet, FabricPath helps enable very large, scalable topologies without having to build multiple tiers. It also eliminates Spanning Tree Protocol issues that sometimes block links and restrict potential traffic pathways.

Cisco Virtual Port Channel (vPC) technology allows links that are physically connected to two different Cisco Nexus 5500 Series devices to appear as a single port channel to a third device. That third device can be a Cisco Nexus 2000 Series Fabric Extender or a switch, server, or any other networking device or end system. Through the provision of Layer 2 multipathing it also boosts redundancy by helping enable multiple parallel paths between nodes and load balancing of traffic where alternative paths exist.

Lonza was already benefiting from Cisco In-Service Software Upgrades (ISSU), an industry-first that allows the data center to remain operational without interruption during essential software upgrades. "Using the ISSU feature ensured smooth migration to the Nexus platform," says Reber, "and was a major factor in keeping our global business processes on a stable and resilient footing throughout the Nexus implementation."

Results

Lonza is an example of best practice in cost effectively transforming data center operations. By introducing Cisco Nexus technologies, it has optimized IT performance and simplified operations, while lowering total cost of ownership. Exceptionally low latency has also enhanced operational efficiency and customer responsiveness.

"Application performance has improved with Cisco Nexus, mainly because of the injection of greater bandwidth with a low-latency lossless fabric," says Reber. "In our VMware virtualized environment, for example, we're experiencing far fewer bottlenecks for resource-intensive applications, resulting in an overall performance improvement of up to 30 percent."
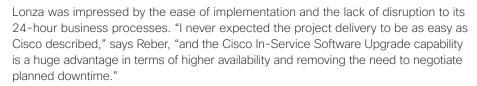
With Cisco FabricPath, Lonza has a foundation for building massively scalable and flexible data centers. When deployed across multiple Cisco Nexus chassis, the FabricPath switching system creates a flat data center fabric that delivers operational efficiencies through network simplification, faster provisioning, and reduced power needs.

Reliability has also improved. Deploying vPC increases Layer 2 stability by allowing all links to operate in forwarding mode and reducing Spanning Tree complexity. Thus no service disruption caused by ports changing state can occur.

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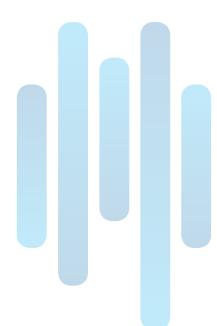
Fabian Reber
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Lonza was impressed by the ease of implementation and the lack of disruption to its 24-hour business processes. "I never expected the project delivery to be as easy as Cisco described," says Reber, "and the Cisco In-Service Software Upgrade capability is a huge advantage in terms of higher availability and removing the need to negotiate planned downtime."

Because the NX-OS solution provides a more transparent flat topography, as opposed to a traditional hierarchical design, it is also easier to maintain. Lonza now has the flexibility and functional simplicity to scale its network quickly in response to changing needs, with an agile environment fully attuned to extending its virtualized application portfolio.

Next Steps

The company is now planning to bring its third data center online. One reason for choosing Cisco FabricPath was the need to interconnect all three data centers, a proposition that was unfeasible without a solution to prevent looping. Thanks to its new Cisco network, the company will be able to consolidate all back-up functions within the new facility, instead of continuing to use one of its existing data centers in a mixed production and back-up mode.

For More Information

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

www.cisco.com/go/datacenter
www.cisco.com/go/nexus
www.cisco.com/go/fabricpath

Product List

Routing and Switching

· Cisco Nexus 5500 Series Switches, with FabricPath and Virtual Port Channel technology

Main Applications

· SAP enterprise suite
· Microsoft Exchange
· VMware virtualization
· NetApp storage

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