



COLRUYT GEARS UP FOR GROWTH BY IMPROVING DATA CONNECTIVITY

Summary

Company:
Colruyt

Industry:
Retail

Business Challenges:
Deliver consistently excellent customer service and strengthen competitive advantage by establishing a future-proof, high-bandwidth wide area network.

- Technology Solution:**
- EX2300, EX3400, and EX4600 Ethernet Switches
 - QFX5100 line of Switches
 - Junos operating system
 - MX104 Universal Routing Platform
 - SRX5400 Services Gateway

- Business Results:**
- Supports business growth by increasing network bandwidth from 10 Gbps to 40 Gbps
 - Increases network availability by reducing risk of downtime thanks to automated failover capabilities
 - Improves profitability by keeping licensing and maintenance costs low

Colruyt Group operates in the food and non-food distribution sector in Belgium, France, and Luxembourg with approximately 600 company-owned stores and 580 affiliated stores. In Belgium, this includes Colruyt, OKay, Bio-Planet, Cru, Dreamland, Dreambaby, and Fiets!, while the affiliated stores include Spar and Spar Compact; affiliated stores in France include Coccinelle, Coccimarket, and Panier Sympa. The group is also actively involved in the foodservice business, supplying food products to hospitals, company canteens, and catering businesses in Belgium through the company Solucious. Other activities include the sale of fuel in Belgium (DATS 24), printing and document management solutions (Symeta), and the production of green energy (Eoly). The group has more than 30,000 employees and recorded €9.5 billion in revenue in 2019 and 2020.

Business Challenges

To keep customers coming back, Colruyt must provide quality goods and convenient services at competitive prices. Ensuring the smooth operation of mission-critical applications and the technological infrastructure that underpin its customer-facing services is key to retaining happy and loyal customers. That's why Colruyt is always looking for new ways to enhance its business infrastructure.

"Everything from the central back-end infrastructure supporting our e-commerce sites to the distributed point-of-sale systems and tablets used by our staff, as well as CCTV cameras, are all connected to our WAN," says Wim Derijnck, team manager, network solutions at Colruyt. "If we were to experience any issues such as high latency, reduced responsiveness, or limited throughput, our customer service could be negatively impacted directly."

"After deploying the SRX5400 next-generation firewall, we are now well on the way to upgrading our network bandwidth to 40 Gbps. The combined power of cutting-edge firewalls, routers, and switches from Juniper Networks will strengthen our overall network reliability and flexibility."

- Wim Derijnck, team manager, network solutions, Colruyt

Facing a rapid increase in demand for its products and services across the group's portfolio, Colruyt set out to upgrade its WAN and LAN to ensure that it could deal with the growth in network activity. For several years, Colruyt had operated a 1GbE network running over Juniper Networks® EX3300 Ethernet Switches to provide converged business connectivity, as well as Juniper Networks QFX Series Switches to power its data centers. In addition to the Juniper products, Colruyt had older-generation 100 Mbps Ethernet switches from another vendor installed at two-thirds of its stores.

"We recognized that our existing network firewall and switches were not geared up to handle the growth that we expect to see in the coming years," Derijnck says. "The limited throughput of the older switches that were still installed in most of our stores, and the existing Spanning Tree Protocol architecture of our network, were beginning to cause bottlenecks. Network saturations would occasionally overload switches and take locations offline. As a result, up to half of the POS (point-of-sale) and tablet devices used in our stores would be offline for a couple of minutes, potentially causing inconvenience for our customers."

"Our latest work with Juniper is helping us to simplify and enhance our network. We are gaining greater flexibility, robustness, and smarter network management capabilities without compromising on overall performance or adding complexity."

- Bert Lefevre, network infrastructure manager, Colruyt

Technology Solution

To maximize bandwidth and reduce latency while ensuring network stability and security, Colruyt decided that it was time to upgrade to a 40GbE network and refresh the network configuration. The company engaged Juniper's elite partner Orange Cyber Defense Belgium to help upgrade its infrastructure using next-generation firewall and networking solutions from Juniper Networks.

"Juniper solutions stood apart from offerings from other vendors for a number of reasons," Derijnck says. "For instance, Juniper Networks' solutions offered a much richer variety of features, including integrated support for the border gateway protocol without the need for additional routers, and enabling a much more flexible range of infrastructure designs. Plus, having worked with Juniper Networks for many years, we were confident in the reliability, resilience, and security of its solutions."

Bert Lefevre, network architect at Colruyt, adds: "Unlike offerings from other vendors, Juniper Networks' solutions enable us to tailor the configuration of devices to meet our precise requirements. This is a very attractive feature for us, as we are always keen to avoid being locked into inefficiently sized standard appliance solutions and prefer to retain a significant degree of flexibility at the implementation stage. The competitive licensing offered by Juniper Networks was another key attraction, as we only needed to buy a one-time license for our new solutions—eliminating the need to renew annual or monthly licenses."

As the first step, Colruyt implemented the latest-generation Juniper Networks SRX5400 Services Gateway, providing the retailer with a scalable, resilient firewall equipped with integrated threat intelligence, an intrusion prevention system, and a powerful routing engine.

In the coming months, Colruyt plans to replace the remaining 100 Mbps Ethernet switches and routers with the new Juniper Networks EX3400 Ethernet Switch, which will provide 1GbE access and 40GbE uplinks.

A critical stage in the network upgrade will involve re-architecting Colruyt's in-store network switches and routers. The team will replace the existing Spanning Tree Protocol (STP) architecture with a more modern stacked design based on Juniper's Virtual Chassis technology.

Virtual Chassis technology will enable Colruyt to operate and manage up to 10 Juniper Networks EX Series Ethernet Switches as a single, logical device, eliminating STP, maximizing throughput, and reducing operational costs. In the event an individual device in the Virtual Chassis were to fail, the other devices in the stack will step up to handle its traffic; if the whole stack fails, Colruyt can configure the system to automatically failover to a backup stack or quickly reconfigure a new stack.

"Moving to a stacked arrangement that takes advantage of the latest virtualization technologies will significantly simplify our network topology and make it much easier for us to manage and control traffic," Derijnck says. "What's more, the failover capabilities provided by this Virtual Chassis will help to minimize downtime for the routers that handle all store-related traffic."

Business Results

Once it has deployed the EX3400 switches, Colruyt expects to see dramatic improvements in throughput, preparing the company for increases in network traffic caused by continuing business growth.

“After deploying the SRX5400 next-generation firewall, we are now well on the way to upgrading our network bandwidth to 40 Gbps,” Derijnck says. “The combined power of cutting-edge firewalls, routers, and switches from Juniper Networks will strengthen our overall network reliability and flexibility. Also, Juniper Networks’ EX Series switches and QFX Series data center switches give us the ability to add new nodes into our network quickly. With this extensible configuration, we will be able to meet any future peaks in traffic caused by further growth or seasonal shopping periods.”

By redesigning the architecture of its network switches and routers, Colruyt anticipates fewer and less severe disruptions to the core applications used by staff in its stores.

“Our latest work with Juniper is helping us to simplify and enhance our network,” Lefevre says. “We are gaining greater flexibility, robustness, and smarter network management capabilities without compromising on overall performance or adding complexity. Thanks to the smart stacking capabilities provided by the Virtual Chassis solutions, our in-store POS and tablet devices will be significantly less likely to go offline if a stack encounters issues, ensuring a smoother, more responsive experience for customers.”

“We look forward to working with Juniper Networks and SecureLink to complete our network upgrade in the coming months,” Derijnck adds. “Once we have established a more secure, stable, and scalable infrastructure, we will begin exploring further ways to optimize our network.”

For More Information

To find out more about Juniper Networks products and solutions, please visit www.juniper.net.

About Juniper Networks

Juniper Networks brings simplicity to networking with products, solutions and services that connect the world. Through engineering innovation, we remove the constraints and complexities of networking in the cloud era to solve the toughest challenges our customers and partners face daily. At Juniper Networks, we believe that the network is a resource for sharing knowledge and human advancement that changes the world. We are committed to imagining groundbreaking ways to deliver automated, scalable and secure networks to move at the speed of business.

Corporate and Sales Headquarters

Juniper Networks, Inc.
1133 Innovation Way
Sunnyvale, CA 94089 USA
Phone: 888.JUNIPER (888.586.4737)
or +1.408.745.2000
Fax: +1.408.745.2100
www.juniper.net

APAC and EMEA Headquarters

Juniper Networks International B.V.
Boeing Avenue 240
1119 PZ Schiphol-Rijk
Amsterdam, The Netherlands
Phone: +31.0.207.125.700
Fax: +31.0.207.125.701

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