

Leading online retailer automates infrastructure, transitions to DevOps culture



Size: 1800 employees | Industry: E-commerce | Location: Bordeaux, France

Cdiscount, a subsidiary company of the Casino Group, is a major online retailer in France. It serves 8.6 million active customers via its state-of-the-art online marketplace, which offers products from more than 10,000 partner merchants. Cdiscount strives to make everyday products and services affordable to everyone, while working hard to better understand and serve its customers' needs. For more information, visit cdiscount.com.

Challenges

- Compete with the world's most dominant retailers
- Increase business agility and scalability
- Centralize and modernize data center operations
- Deliver open source platforms and self-service tools for internal developers

Solutions

- Software-defined network fabric stretched across two data centers
- Centralized, policy-driven management and automation

Results

- Standardized and automated infrastructure deployments
- Implemented cloud-like capabilities with lower TCO
- Initiated transition to a DevOps culture of continuous service delivery and improvement
- Improved IT talent acquisition and retention

For More Information

- [Cisco® Application Centric Infrastructure \(Cisco ACI™\)](#)
- [Cisco Nexus® 9000 Series Switches](#)

Challenge: Compete with the world's largest e-commerce titans

The second largest online retailer in Europe, Cdiscount features some 40 million products and facilitates roughly 100,000 orders on its website every day. On special occasions like Black Friday, daily unique visitors can swell to eight million.

But it's not enough. Not when you're competing with the world's largest and most powerful retailers. Not when you're in the thick of the high-stakes, high-volume e-commerce market.

"We must continually grow to compete," says Romain Broussard, IT director at Cdiscount. "And because e-commerce has low margins, we must also expand into other business areas."

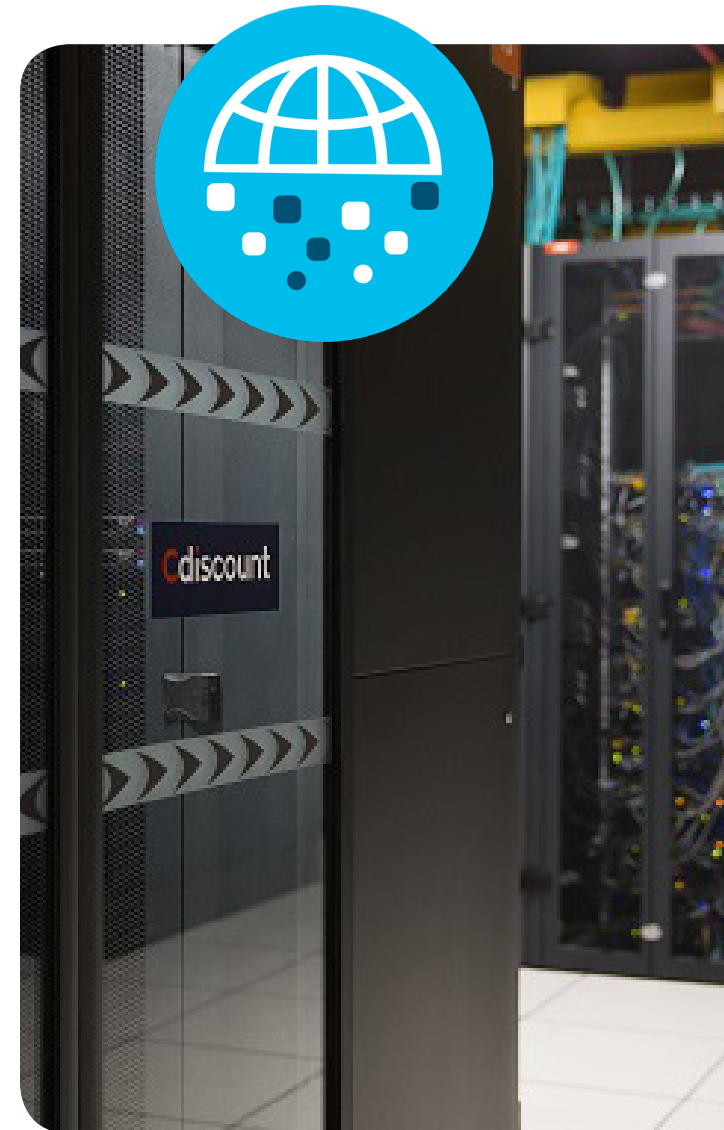
True to its ambitions, Cdiscount has been growing at a rapid clip for years, but as a consequence, its IT infrastructure was under increasing strain. In addition to facilitating extremely high transaction volumes—up to 10 orders per second during peak selling periods—the company's data center supports an ever-changing catalog of products, each with associated imagery, descriptions, merchant details, and available offers or discounts. What's more, Cdiscount tracks all customer activity—from searches and product views to comments and chat activity to cart updates and orders—logging up to 100 million "events" every day.

This massive, constantly evolving matrix of products, images, events, and transactions was becoming too much for Cdiscount's data center and its IT staff to manage.

"We can't be a bottleneck," says Pierre Erraud, head of platforms at Cdiscount. "So we needed more speed and scalability in the data center. And we needed to automate everything, including the network."

"We must deploy new products and services every day, we must facilitate the company's expansion into new markets, and we must deliver the same level of service as a cloud provider but at a lower cost. The combination of Cisco ACI and Nexus 9000 is helping us on all of those fronts."

Romain Broussard
IT director, Cdiscount



Move to the cloud, or become cloud-like

Cdiscount considered moving its IT resources to the cloud, but the amount of compute and storage required and the high volume of daily transactions rendered a wholesale move cost prohibitive. Instead, the online retailer decided to implement cloud-like capabilities internally.

“We decided to build two new data centers with two ideas in mind: centralization and modernization,” Broussard explains. “We needed to completely rebuild our centralized platforms to deliver containers, virtual machines, and bare metal servers for both modern and legacy applications, following public cloud standards in terms of agility, scalability, and security.”

At the heart of the new data centers are the Cisco Nexus 9000 Series switches and Cisco ACI. The Nexus 9000 switches provide the speed and capacity required to support Cdiscount’s traffic and transaction volumes. And Cisco ACI has improved the efficiency and agility of the retailer’s IT operations via software-defined automation and centralized policy control.

“It’s a much simpler architecture,” Erraud says. “We can define network, application, and security policies from a central console and then push them to both of our data centers with an API request. As a result, our configurations are more standardized and secure, and making changes to the environment is much faster and easier.”

The two data centers are managed as one operational domain using the Cisco Application Policy Infrastructure Controller (APIC), he explains, but divided into two availability zones for security and resiliency purposes. Each data center features 50 racks, two spines, and 94 leaves, and Erraud says new switches, spines, and leaves can easily be added for near unlimited scalability.



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Creating a DevOps culture, attracting top talent

With an agile, highly automated network infrastructure in place, Cdiscount is now in the process of deploying new open source platforms, self-service tools, and on-demand resources for its internal developers. The online retailer is working to establish a DevOps culture of continuous service delivery and improvement, which will help it maintain pace in the dynamic e-commerce market and move into new business areas.

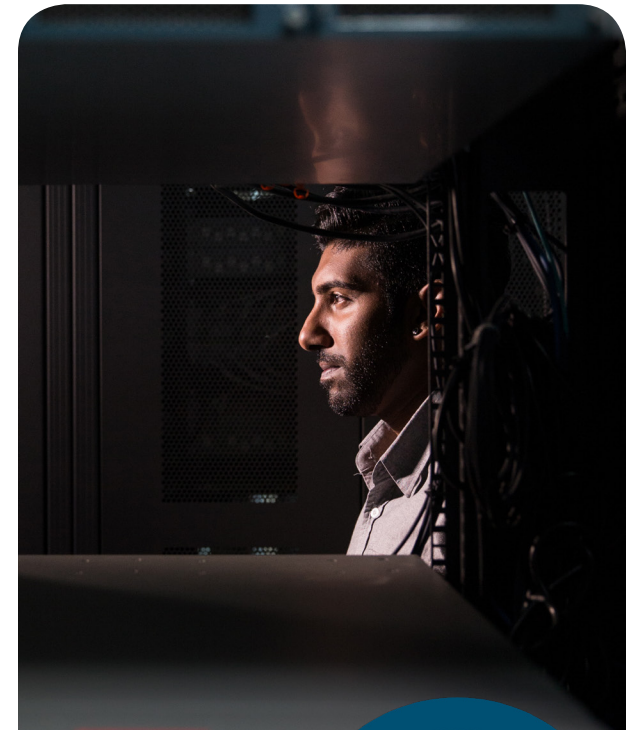
“Cisco ACI is supporting our transition to DevOps, with a REST interface that can be requested directly by Ansible, Terraform, or Python,” Erraud says. “Our code is versioned in our Git, so we can roll back to any version at any time, and the DevOps tools ensure the configuration is consistent among all the servers. This allows our infrastructure and security teams to dedicate their time to business-critical platforms and services instead of configuring server ports.”

Employing the latest open source tools, DevOps techniques, and software-defined technologies has provided additional advantages—such as attracting, hiring, and retaining top IT talent.

“Recruiting software developers and IT specialists is very challenging,” says Broussard. “But it’s less challenging when you’re using the latest tools and best-in-class infrastructure.”

Best of all, the company’s new cloud-like capabilities have not come with cloud-like costs. According to Broussard, the cost of a virtual machine in Cdiscount’s data center is half the cost of a virtual machine in the public cloud.

“We have to compete with Amazon externally, and because the business won’t wait for us, we have to compete with public cloud providers internally,” he explains. “We must deploy new products and services every day, we must facilitate the company’s expansion into new markets, and we must deliver the same level of service as a cloud provider but at a lower cost. The combination of Cisco ACI and Nexus 9000 is helping us on all of those fronts.”



Products

- Cisco Application Centric Infrastructure (Cisco ACI)
- Cisco Nexus 9000 Series switches

