CloudVerse Switching for Competitive Advantage

Customer Case Study

Slovakian Internet Exchange improves platform to make customer experience potent differentiator

EXECUTIVE SUMMARY

Customer Name: SITEL s.r.o

Industry: Internet Exchange Point operator (data center and dark fiber network provider)

Location: Bratislava, Slovakia

Number of Employees: 102

Challenge

- Upgrade service delivery platform and enable new services
- Make customer experience competitive differentiator

Solution

- Low latency, shortest path, non-blocking design and Cisco Nexus 7000 switching platform enabled with FabricPath technology
- Solution future proofed with Cisco CloudVerse architectural roadmap

Results

- Attractive new service offerings and service level agreements (zero downtime experienced to date)
- Improved application performance and customer satisfaction
- Greater efficiency; provisioning times cut by 10 percent with 15 percent productivity improvement

Challenge

SITEL is at the forefront of the digital economy. Its dark fiber optic network and data centers connect the Slovakian Internet generation with the world, and currently carry about a third of the country's total data traffic. Many of the world's leading service providers use it as a central exchange for managing peer-to-peer traffic. This outsourced arrangement helps enable them to lower operating costs while giving their clients the assurance of locally and securely hosted data center services.

Just as the Internet service provider market has evolved, so too has SITEL expanded its ambitions. Although telehousing and colocation propositions still remain central to its strategy, increasingly the company has been seeking to create value-added offerings within a more robust service level framework.

"With competition continuing to intensify, we saw several challenges," says Lubo Cheben, sales director for SITEL. "We wanted to strengthen our brand and improve the customer experience, but we could only achieve this by modernizing our network and changing the way we deliver services. Both goals were intrinsically linked."

Eager to develop new service offerings, while protecting its investment in Layer 2 network technologies, SITEL realized that spanning tree protocol (STP) limitations were obstructing its targeted improvements. STP makes the network loop-free by blocking ports. That limits scalability and creates bandwidth barriers, disrupting applications traffic. STP also adds management complexity. As a business heavily judged on its service stability and availability, SITEL had to find a way to overcome these limitations. In need of a fast, cost-effective solution, the company turned to Cisco, its trusted partner.

Solution

SITEL decided to adopt the Cisco Nexus® 7000 switching platform enabled with the latest Cisco FabricPath technology. As well as meeting the company's immediate needs, the platform provides an important pillar for future development and can be easily extended to the full Cisco CloudVerse solution.

"Network availability has risen from three-nines to four-nines. That's a significant competitive advantage and means we can offer our customers more favorable service level agreements for downtime and disaster recovery."

Lubo Cheben
Sales Director
SITEL

Marian Okres, project manager for SITEL, says: "Nexus with FabricPath was an easy choice. It provided high-density data transport, virtualization across our two data centers, and close to maximum availability."

A suite of technologies that includes TRILL and other Layer 2 Multipath protocols, FabricPath accelerates the transition of data centers to the scale and agility offered by a cloud-based architecture by combining the plug-and-play simplicity of Ethernet with the reliability and scalability of Layer 3 routing. It does this by taking advantage of Cisco NX-OS software innovation to simplify server and storage consolidation, increase capacity, and improve fabric performance.

Instead of allowing Ethernet bridging rules to dictate the topology and forwarding principles, the new Cisco switching system encapsulates the frame within a FabricPath header.

This approach consists of source and destination Switch IDs, various sub-interface tags, and a time-to-live (TTL) field. The frame is then forwarded until it reaches the remote switch, where it is de-encapsulated and delivered in its original Ethernet format.

Using this approach, Sitelix can now:

- Increase scalability of its Layer 2 networks by using Layer 3 Multipath capabilities and fat-tree network topology
- Simplify connections to any resource anywhere in the data center, on different subnets
- Improve link over-subscription by up to a factor of 10, through the ability to balance traffic over all links
- Connect all hosts through multipathing so a link failure does not create an outage
- Prepare for migration to 40Gbps or 100Gbps networking by leveraging high cross-sectional switching bandwidth

Another benefit is the enablement of auto-discovery of new network topology with links and switches. Each FabricPath switch acquires a unique MAC address, which is automatically distributed and maintained within a MAC routing table. Access switches learn the MAC addresses of all hosts directly attached to it.

The Cisco solution was implemented in just three days. "Cisco NX-OS has much the same look-and-feel as IOS, so migration was eased," says Okres, "and there was no need to put our operational teams through a major retraining exercise."

Results

Moving to a Cisco Nexus and FabricPath-enabled data center model has paid back in many ways. Sitelix can now offer customers new interconnections with other TV and media content providers, along with a wider choice of connectivity options.

Sitelix has been able to deliver multiple improvements in performance without increasing running costs. "Network availability has risen from three-nines to four-nines," says Cheben. "That's a significant competitive advantage, and means we can offer our customers more favorable service level agreements for downtime and disaster recovery."

That confidence is bolstered by the FabricPath switching system, which spreads traffic across all available paths, significantly increasing bandwidth. In the event of a link or switch failure, the system automatically forwards packets over alternative links. Since implementing the Cisco solution, Sitelix has experienced zero downtime, and so has not needed to invoke disaster recovery processes.

"Applications are no longer tied to racks, so it's much easier to accelerate new service requests or carry out upgrade projects."

Marian Okres
Project Manager
SITEL

Cisco Nexus with FabricPath also provides SITEL with a platform for improving the quality of the customer experience and, ultimately, customer satisfaction. To help ensure lower end-to-end latency, a major factor in mitigating application performance degradation, Cisco FabricPath always routes server-to-server communications over the shortest path possible.

Although the network upgrade may have been invisible to customers, the impact of lower latency, combined with 10Gbps performance, has not gone unnoticed. "We've already received several compliments, including one from a distributor of high-definition TV and video content for some of Europe's largest cable operators," says Cheben.

Data center efficiency has been boosted by more flexible management that makes better use of resources. With Cisco FabricPath, virtual LANs can now be extended across the data center, allowing any application to be hosted on any server. This approach has contributed to a 10 percent reduction in provisioning times.

"Applications are no longer tied to racks, so it's much easier to accelerate new service requests or carry out upgrade projects," adds Okres. Faster onboarding of services has helped to speed up sales cycles and time-to-revenue. And the company's top line is not the only area to have benefited. Eliminating the need to physically move servers or to make network changes is expected to make the provisioning team15 percent more productive.

Next Steps

Having multiplied capacity, SITEL is well positioned to scale its business model, from 10Gbps today right up to 100Gbps in the future. Better use of network links should see bandwidth costs diminish over time. Should market conditions change, the company can adopt a pay-as-you-grow approach and simply add or remove line cards based on customer demand for services. Cheben sums up : "I can honestly say it's been a real pleasure working with our local Cisco team. The expertise and support we received were fantastic. Whatever the future holds we know we can count on Cisco."

For More Information

Further details about the Cisco Unified Data Center are available at:

www.cisco.com/go/datacenter

For more information about Cisco Unified Computing, please visit:

www.cisco.com/go/ucs

Product List

Data Center Solutions

- Routing and Switching
  - Cisco Nexus 7000 Series Switches enabled with FabricPath technology, a key pillar within the Cisco CloudVerse framework

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Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

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