

Bank Improves Data Center Resilience and Disaster Recovery

Customer Case Study



Cisco Nexus, with unified fabric, helps GE Money Bank boost application availability and cut network port provisioning

EXECUTIVE SUMMARY

Customer Name: GE Money Bank

Industry: Financial Services

Location: Czech Republic

Number of Employees: 4000

Challenge

- Enhance resilience through greater network uptime
- Improve service delivery
- Maintain security across entire application estate

Solution

- Cisco Nexus unified fabric, introducing new features such as FabricPath and extending disaster recovery capabilities to cover all applications

Results

- Network port provisioning and overall uptime improved
- Enhanced disaster recovery capabilities with dynamic workload movement
- Total switches reduced from 10 to four, leading to 45 percent power saving

Challenge

One of the largest financial institutions in the Czech Republic, GE Money Bank is a fast growing full-service bank with an extensive network of branches and automated teller machines. Focusing on retail customers and small and medium-sized enterprises, it is a subsidiary of General Electric, one of the world's strongest companies. Within its data centers, however, GE Money Bank was struggling with legacy switching platforms that were never designed to deal with high-speed ports and next-generation data center features. Furthermore, noticeable outages were experienced when switch software upgrades were carried out.

"We needed to upgrade our switching technology," says Kamil Vojtišek, IT manager for network and voice at GE Money Bank, "and we needed new features like server virtualization." To assist with compliance, the bank also needed to partition the network to keep third party traffic separate from its own banking systems.

Solution

GE Money Bank uses a range of Cisco technologies from LAN switches to Cisco TelePresence® and WebEx® Connect for collaboration. So it was naturally eager to investigate Cisco® data center innovation. A careful review showed that Cisco Nexus® 7000 Series Switches would rapidly pay back by helping enable the bank to cut the number of data center switching platform devices by 60 percent, from 10 to four, reducing switch power consumption by 40 to 45 percent.

"It was a less expensive and more customizable solution," says Vojtišek. "We really liked the concept of preparing virtual switches using virtual device context and other advanced Nexus enabling technologies like Overlay Transport Virtualization and FabricPath."

This approach allowed the bank to create a Layer 2 Spanning Tree Protocol-free network and have dynamic workload movement between the data centers with Layer 2 extension over a Layer 3 cloud. In fact, the company was so impressed that it decided to deploy Cisco Nexus 7000, 5000, 2000, and 1000V Series Switches in both its data centers, which are 20 kilometers apart in the vicinity of Prague, connected via a dense wavelength-division multiplexing link.



“OTV means we can dynamically move applications to any location, so if there was ever a big disaster, we could move workloads between the two data centers. Previously this just wasn’t an option.”

Kamil Vojtišek
IT Manager, Network and Voice
GE Money Bank

To assist with day-to-day operations, the bank deployed Cisco Prime Data Center Network Manager (DCNM). The system provides a customizable dashboard that improves visibility and control of Cisco Nexus products through a single pane of glass.

GE Money Bank is migrating to 10Gbps server infrastructure and expects to see an improvement in the performance of its backup clusters and server estate. It has already seen a drop in backup times of 15 percent. Meanwhile, switch consolidation has helped the company save costs. Vojtišek confirms: “On a like-for-like basis, while the Nexus platform operating cost is similar to that of our former switches, we now have more features for the same amount of money.”

Results

GE Money Bank has strict internal downtime service level agreements (SLAs), with a maximum three-second delay in restoration time for any connection and any application. With the previous switches, a danger existed that these service levels might be breached during upgrades. The Cisco Nexus Series switches resolved that concern because they take advantage of In-Service Software Upgrades (ISSU) to allow Cisco NX-OS software to be updated or otherwise modified without interrupting normal operations.

“With the Nexus switches in-service software upgrade, it is really non-stop forwarding and no packet is dropped,” says Vojtišek. “ISSU allows upgrades to the operating system without disruption.”

Previously, the GE Money Bank IT team had to manage its switches manually, pre-provisioning ports by hand, but this situation is changing thanks to the ability to configure Nexus switches using templates via Cisco Prime DCNM. “We expect that our provisioning will be faster,” says Vojtišek, “and using scripts we have already reduced server port provisioning from two hours to a quarter-of-an-hour. We hope to cut that further to just a few minutes.”

GE Money Bank has been able to reduce the number of data center infrastructure switches it needs, from 10 to four, thanks to the scalability and availability of high-speed ports on the Nexus platforms.

Security compliance has been significantly improved too. Prior to the project, GE Money Bank could only deploy three levels of service. Using Cisco Virtual Device Context (VDC), the company plans to expand this to five levels to give the business more granular protection, access control, and traffic separation.

The bank also has three disaster recovery application tiers. Tier 1 covers mission-critical systems and involves maintaining applications in constant active-active mode across both data centers. For Tier 2, two copies are maintained in active-standby mode, while Tier 3 applications are hosted at one location only. With Nexus, however, GE Money Bank can use Cisco Overlay Transport Virtualization (OTV) to improve disaster recovery capabilities for Tier 3 applications.

“OTV means we can dynamically move applications to any location,” says Vojtišek, “so if there was ever a big disaster, we could switch workloads between the two data centers. Previously this just wasn’t an option.”

The solution also helps with compliance, because twice a year GE Money Bank is required to go through a full disaster recovery exercise. This exercise involves temporarily switching off the power at one data center and relying solely on the backup site.

The company has gone through such tests twice since implementing Cisco Nexus, and has not encountered any significant problems. The GE Money Bank IT team has deployed a Cisco unified fabric with Cisco FabricPath technology, which helps enable highly-scalable Layer 2 multipath networks without Spanning Tree Protocol, as well as reducing administration overheads. GE Money Bank is already taking advantage of FabricPath interfaces such as the virtual PortChannel+ (vPC+) domain, which allows both a classic Ethernet vPC domain and a Cisco FabricPath cloud to interoperate.



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GE Money Bank had originally designed and tested a vPC, but it did not give the level of convergence required by the business's service level agreement. FabricPath, on the other hand, managed to overcome these shortcomings as well as provide a foundation for the integration of future cloud features.

The Nexus platform is helping GE Money Bank maintain the first-class resilience required for customer-facing business operations. “We have high availability on every layer: the network, databases, applications, web, and so on,” says Vojtišek. “Our target is always to achieve 100 percent uptime and minimize an unplanned outage for no more than minutes.”

Next Steps

In the future, OTV will mean that the two GE Money Bank data centers can be managed as a single infrastructure, reducing maintenance and improving disaster recovery capabilities. “Moving to virtual data center management with OTV was one of the reasons for choosing Nexus,” Vojtišek says.

Leveraging Cisco Unified Fabric, the company also intends to test multi-hop Fibre Channel over Ethernet (FCoE) and extend FCoE between the data centers with Cisco MACsec 10G line-rate encryption, to further simplify infrastructure and cut costs. In addition, GE Money Bank has the option of implementing a Cisco Virtual Security Gateway on the Nexus 1000V to filter virtual machine traffic locally, while obtaining multi-tenancy support for securing traffic between different virtual machine tenants.

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

Product List

Routing and Switching

- Cisco Nexus 7000 Series Switches
- Cisco Nexus 5000 Series Switches
- Cisco Nexus 2000 Series Switches
- Cisco Nexus 1000V Series Switches

Network Management

- Cisco Prime Data Center Network Manager

Security

- Cisco Virtual Security Gateway



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