

Rakuten Inc.



Japanese Online Retailer Supports Rapidly Expanding Network

EXECUTIVE SUMMARY
Rakuten Inc. <ul style="list-style-type: none"> Online retail, banking/credit card/online security, travel, e-book Tokyo, Japan Over 83,000,000 users, 40,000 sellers
BUSINESS CHALLENGE <ul style="list-style-type: none"> Improving customer satisfaction Reducing operational costs Rapid traffic growth
NETWORK SOLUTION <ul style="list-style-type: none"> Cisco Nexus 2200, Nexus B22, Nexus 5500 Switches FabricPath, Layer 3, vPC
BUSINESS RESULTS <ul style="list-style-type: none"> Reduced operational cost Increased agility Increased customer satisfaction

Rakuten uses Cisco solutions to upgrade network to meet operational demands and reduce costs.

Business Challenge

Rakuten Ichiba is the largest online retail service in Japan, with over 83 million users, 40,000 sellers, and approximately 100 million products available through its service. Rakuten's business is expanding widely, and includes not only online retail, but also online banking, credit and payment, online security trading, travel, and e-book businesses.

Rakuten is strategically investing in the global expansion of its business throughout North America, South America, Asia-Pacific, Japan, China, Europe, the Middle East, and Africa..

Because Rakuten's business is growing rapidly and getting more complex through mergers and acquisition, the company needs to build infrastructure support for a dynamic market environment. The company's previously isolated data center infrastructure resulted in

complex operations that were prone to human errors, limited scalability, difficult-to-manage processes. These issues led to slow service development, deployment, and service response time, and ultimately to lost opportunity.

Network Solution

Rakuten and Cisco worked together to design a new data center architecture that would perform reliably and provide scalability for the future. Rakuten, which is aggressively adopting new technology for its advantages and business benefits, decided to deploy a new data center based on Cisco Nexus® 5500 Switches and Cisco® FabricPath technology within the data center as well as throughout the network.

Rakuten deployed Cisco Nexus 5500 Switches with Layer 3 modules with modern spine/leaf architecture, and Nexus 2200 and Nexus B22 Switches that leverage Cisco FabricPath and vPC technology. Cisco Nexus Switches and FabricPath are the foundation of the company's data center infrastructure, which processes mission-critical application traffic for Rakuten Ichiba service, which is the core business for Rakuten Inc.

Rakuten's data center has now operated for more than a year with Cisco Nexus Switches and FabricPath without any major issue. Rakuten is now continuing to expand its data center infrastructure on an on-demand basis with Cisco Nexus 5500 Switches and FabricPath technologies.

Rakuten not only leveraged Cisco FabricPath as a data center technology, but also decided to deploy it as an interconnect technology, since Cisco FabricPath is simple to deploy and operate and provides fast convergence time and superior performance. Now many of Rakuten's data centers are connected with Cisco FabricPath technology.

Cisco Nexus 5500 Switches provide a compact 1RU or 2RU platform, but they also provides high-density 10 GbE, FabricPath and rich L3 features. Even in scale, Nexus 5500 Switches can offer several hundreds of server connections. Nexus 5500 and FEX architecture minimize initial cost, and scale very well.

“Cisco Nexus and FabricPath drastically changed the way that our data center operates. It reduces downtime, provides a flexible way to maintain the system, and offers very fast convergence with simplicity. Our new data center network can now deal with our massive transactions at peak times and allow rapid deployment of new services without disruption.”

—Osamu Iwasaki, Manager, IT Engineering, Rakuten Inc.

Business Results

The deployment of Cisco Nexus Switches and FabricPath technology delivered the following benefits to Rakuten.

- Significant capital and operating cost savings
 - Enabled small start, reduced initial cost
 - Investment protection, no “rip-and-replace” risk
 - Simplified data center infrastructure, reduced the number of devices and management points
- Enabled flexible and rapid growth; the data center can scale to accommodate more customers as the business grows
- Rakuten has been recognized by its customers as an innovator
- Time reduced to onboard and provision the network for new services
- Minimized downtime and service interruption for better customer satisfaction

PRODUCT LIST

Data Center Switching

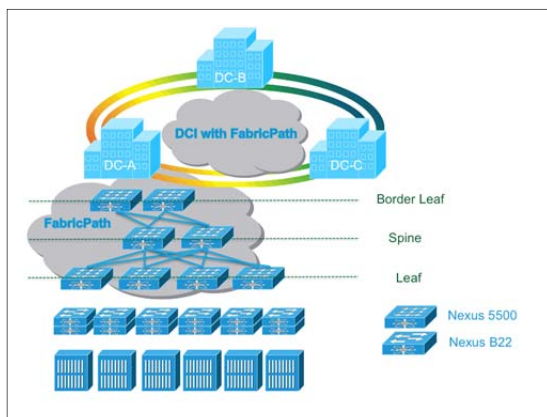
- Cisco Nexus 2200
- Cisco Nexus B22
- Cisco Nexus 5548UP
- Cisco Nexus 5596UP

To learn more about Cisco Data Center solutions, go to www.cisco.com/go/datacenter

Technical Implementation

Rakuten deployed Cisco Nexus 2200 (FEX) Switches at the top of the racks and Nexus B22 Switches as a blade server connection to enable simple cabling and operation. These Nexus 2200 and B22 Switches are connected to Nexus 5548UP or 5596UP configured with vPC+ to provide active/active redundancy for servers. Rakuten deployed Cisco FabricPath between the spine/leaf layer, including border leaf, and Nexus 5548 with L3 module.

Rakuten also deployed Nexus 5548UP for data center interconnection with FabricPath via dark fiber. The simplicity of the FabricPath configuration and its fast (sub-second) convergence time deliver a very robust layer 2 infrastructure to Rakuten for both of Intra-DC and Inter-DC.



Future Plan

Demand for bandwidth is still growing, and Rakuten is already aiming to bring its DC infrastructure to the next level with Cisco Nexus 6000 Switches. This will provide more bandwidth, integrated Layer 3, and the capability for next-generation fabric architecture and technology.



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