

Case study

The Hokuriku Bank, Ltd.

The Hokuriku Bank, Ltd. has moved its 2,000 client terminals, located across its head office and 187 branches, to a highly-scalable virtual desktop environment using Fujitsu hardware platforms and VMware View virtualization technology. Now the bank provides staff members with modern desktops to access the new large-scale shared banking systems, without concerns about having to upgrade client PC operating systems.



The customers

Country: Japan
 Industry: Financial services
 <The Hokuriku Bank, Ltd.>
 Founded: 1877
 Employees: 2,791
 (As of September 2010)
 Website: <http://www.hokugin.co.jp/>
 <Hokugin Software Corporation Ltd.>
 Founded: 1986
 Employees: 166
 Website: <http://www.hokugin-sw.co.jp/>



The challenge

- Deploy a consistent desktop environment in accordance with the bank's mission-critical system replacement policy.
- Accelerate the bank's cost-cutting efforts.

The benefit

- Able to maintain desktop operating systems independently from physical computers, and optimize end-user terminal replacement cycles.
- New desktop virtualization significantly improves maintainability and reduces desktop administration effort and costs.

Overview

As part of the bank's efforts to refresh its core banking systems, the Hokuriku Bank, Ltd. (Hokuriku Bank) decided to implement a desktop virtualization solution. This would help reduce desktop management costs and prolong the user-terminal lifecycle. The new virtual desktop environment at the bank was constructed using Fujitsu PRIMERGY servers, Fujitsu ETERNUS storage systems, and VMware View virtualization technology.

Hokuriku Bank, in conjunction with the Bank of Yokohama, Ltd. and the Hokkaido Bank, Ltd., had been working on a joint project to develop and deploy a new banking system named 'MEJAR'. This would be one of the largest local financial institution shared-use banking systems in Japan. As part of this tech refresh project, Hokuriku Bank chose to implement desktop virtualization, for its bank user terminals, using VMware View virtualization software, Fujitsu PRIMERGY blade servers and Fujitsu ETERNUS storage systems. Prior to full migration to MEJAR, a new virtual desktop environment was successfully deployed at Hokuriku Bank and went live in October 2010. This was followed by a production cutover to the MEJAR system which took place in May 2011. The revamped cutting-edge systems are boosting the bank's ability to improve employee productivity, make its business more efficient, and empower its sales force.

Customer background

Terminal review for implementation of new shared banking system

The Hokuriku Bank, Ltd., a member of Hokuhoku Financial Group, Inc. is a trusted local financial institution that provides banking services mainly in three prefectures in the Hokuriku region, the northwestern part of Japan. Based on the bank's core business philosophy of being close to, reliable, and trusted by the local community, Hokuriku Bank set five management strategies for conducting its business. They are:

- (1) Build a sustainable revenue base from both quality and quantity perspectives;
- (2) Put in place strategic resource allocation, and enable strategies earlier;
- (3) Implement profound risk management and provide business rescue & turnaround support;
- (4) Promote low-cost business operations;
- (5) Develop customer-centered approaches to banking services.

Products and services (Hardware)

- Fujitsu PRIMERGY BX620/ RX300/ RX600 servers
- Fujitsu ETERNUS DX80/ DX60/ NR1000F/ LT250 storage systems

As part of its efforts to accelerate cost savings, in April 2006 Hokuriku Bank embarked on a project which would achieve the deployment of a large-scale shared-use banking system named MEJAR. MEJAR was a joint development by three banks, Hokuriku Bank, the Hokkaido Bank, Ltd., another family member of the Hokuohoku Financial Group, and a further leading local bank, the Bank of Yokohama, Ltd. "As a shared banking system designed for local banks, MEJAR can be considered one of the largest in Japan. The MEJAR system aimed at enabling the shared use, not only of core banking applications, but also branch office systems and a variety of sub-systems such as ATM transactions, Internet banking, marketing databases (MCIF - marketing customer information file), as well as member branch office networks between member branches and each bank's administration centers. "With



Mr. Daisuke Yamamoto
Manager
Systems and Controls Dept.
The Hokuriku Bank, Ltd.

MEJAR, we wanted to facilitate standardized and unified business processes to help us achieve one of our core objectives of conducting business in a cost saving manner," says Mr. Daisuke Yamamoto, Manager, Systems and Controls Department at the Hokuriku Bank, Ltd.

When the project was started, Hokuriku Bank called upon Hokugin Software Co., Ltd. (Hokugin Software) to address Hokuriku Bank's portion of the system

development work. Hokugin Software had separated from Hokuriku Bank's IT department to become an independent company in 1986, and is now a trusted IT services provider of a variety of systems solutions to Hokuriku Bank, local public institutions and businesses. "Migration to MEJAR was a journey - during which the core banking systems would be refreshed, the sub-systems needed to be updated, and new systems were going to be added. So, we took a staged approach. We aimed to first complete a productive implementation of new desktop



Mr. Eiji Tominaga
Senior Manager
System Planning and
Management Department
Hokugin Software

environments that were required for day to day business operations at the bank's head and branch offices. This would be prior to integration testing of the core banking system, so as not to affect that process," explains Mr. Eiji Tominaga, Senior Manager, System Planning and Management Department at Hokugin Software Corporation Ltd.

Hokuriku Bank turns to VMware View-based desktop virtualization VMware View provides rich, centrally-hosted virtual desktops for easy access to individual banking applications.

Hokugin Software soon entered a phase of selecting the best user-terminal solutions. Initially, the company was planning to adopt a Server-Based Computing (SBC) model and use desktop virtualization technology for branch offices and the head office respectively, based

Products and services (Software)

- VMware View

on different desktop requirements. In the bank's scenario, desktop usage at branch offices was limited to browser-based applications, and individual business applications were not used. So the SBC client/server computing model seemed to be ideal for allowing simultaneous log-on from multiple clients to one server. In contrast, users at the head office needed access to individual business applications, and thus Hokugin Software considered the creation of desktop virtualization environments that would provide a personalized desktop for each end user. However, the company eventually realized that branch staff members also needed to connect to some business applications, such as basic banking transactions for lending money. So the concept of SBC adoption was reconsidered based on predicting possible application incompatibility risks when the bank rolled out new applications in the future. Hokugin Software then made a final decision to move all end-user terminals to a virtualized environment.

"To thoroughly assess how the solutions worked, we went on site visits and talked to several business customers who were actually using the SBC computing model, or virtual desktop environments, for their day to day operations. We found SBC was only implemented to address very

specific purposes such as supporting OA applications. At the beginning of the initial design phase, we projected branch office operations could function using only OA and browser-based systems support, but later we found that there were almost 100 sub-systems running at the bank's branches. So we decided to go with VMware-based desktop virtualization that we believed would give us more flexibility and support capability," recalled Mr. Yusuke Nakai, a staff member in the System Planning and Management Department at Hokugin Software.



Mr. Yusuke Nakai
System Planning and
Management Department
Hokugin Software

Once the decision was made, Hokugin Software started to look for a hardware platform to run VMware View virtual desktops. They chose to adopt Fujitsu products. The company had confidence that Fujitsu would carefully and thoughtfully provide an industry-leading portfolio of technologies and comprehensive support that would meet the needs and wants of both Hokuriku Bank and Hokugin Software. The resulting VMware View virtual desktops on Fujitsu platforms delivered significant hardware replacement savings for the bank. At the time, the user terminals at Hokuriku Bank were running the Windows 2000 Professional operating systems. But newer-generation computers, in cases where the bank would purchase additional PCs for future demands, would be based on Windows 7. However the standard operating system for the MEJAR user environment was Windows XP. So Hokugin Software built the VMware View environment installing the Windows XP operating systems on each virtual desktop. With that environment, and thanks to the VMware virtualization technology, both Hokuriku Bank's existing Windows 2000-based user PCs and new Windows 7-based terminals can access the MEJAR system, allowing the bank to protect existing assets and investments.

The newly-deployed virtual desktop environment at Hokuriku Bank Fujitsu PRIMERGY BX620 blade servers at the core of Hokuriku Bank's virtual desktop environment

In October 2010, the new virtual desktop environment at Hokuriku Bank went live. At the center of the system, Fujitsu's PRIMERGY BX620 blade servers host the virtual desktops. "We have adopted a total of 54 BX620 blade servers, out of which 40 blades are used to host 40 virtual desktops each. Three server blades are purposed for connection tasks, and another three are dedicated to run VMware vCenter Server with the VMware HA redundancy feature. One server is allocated as the VCB Proxy Server, and four blades are used to configure Microsoft Active Directory. The remaining three blades are dedicated print servers," Nakai explains.

In addition to the blade systems, Hokugin Software also adopted PRIMERGY RX rack servers; one PRIMERGY RX300 server and one RX600 server for configuring Deployment Server and Backup Server respectively. As for storage system needs, Fujitsu's ETERNUS series of storage devices were chosen to meet the bank's requirements. This consists of: Four ETERNUS DX80 storage units for data storage for the SAN-connected pools of virtual desktops; One ETERNUS DX60 SAN storage which is used to backup VMware vCenter Server and virtual machines; and another two ETERNUS NR1000F NAS storage devices which store and backup end-user data (Figure 1). As of January 2011, out of 2,500 end-user terminals at Hokuriku Bank, a total of 2,000 terminals (1,700 clients across multiple branch offices and 300 clients at the head office) have been successfully moved to the centrally-hosted virtual desktop environment.

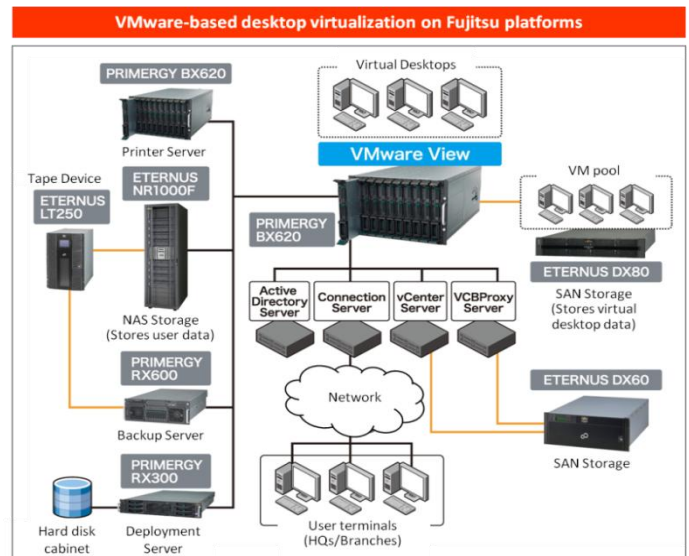
"We started with a smaller target number than the actual user terminals that Hokuriku Bank had. This was based on the assumption that many sales staff at branch offices are outside the office during the day, so concurrent access from all user terminals was not expected. This approach helped us reduce the initial investment costs and increase resource use optimization. In cases of virtual desktop shortages, we can create more desktops easily and quickly by simply adding additional licenses to the existing environment," says Tominaga, talking about the benefits of the new virtual desktop environment.

Business benefits and future scenarios

Next step is to analyze and understand resource usage rates for planning future investments

The newly-deployed virtual desktop environment at Hokuriku Bank has been functioning well with no issues. After a production cutover to MEJAR which took place in May 2011, staff members now access the new MEJAR banking applications using personalized View virtual desktops.

This success made it possible for Hokuriku Bank to obtain centralized management of user terminals at the server backend. It delivers significantly improved maintainability and accelerates the bank's resource optimization efforts. "Previously, compute resources at Hokuriku Bank were underutilized. For example, some branches demonstrated very high rates of terminal and disk usage, while front-end devices at other branch offices had low usage rates. But now, we can provide efficient, simplified and centralized desktop



[(Figure 1) System Configuration at Hokuriku Bank]

management from a single location. If any branch needs more desktop resources, we can allocate the required resources quickly and flexibly," says Tominaga.

Desktop virtualization has also greatly reduced backup operation headaches. Previously at Hokuriku Bank, back up of each branch's data was performed individually using Magneto Optical (MO) disks. In the new environment, the central NAS storage takes data backups automatically and recovery tasks can be taken care of at the administration center. So branch offices have ensured work continuity without having to worry about data backup operations. Furthermore, the centrally-hosted virtual desktops help lower overall workloads of the bank's mission-critical applications. This will make it easier for the bank to analyze the projected network loads when it plans enhancements to the existing network resources in the future. "As part of our efforts to reduce the initial investment costs, we started with a relatively small number of virtual desktops this time. But of course we anticipate an increase in user device numbers with the introduction of sales support systems for our sales staff efficiency and productivity. With VMware View, it is just easy and simple to increase virtual desktop volumes at any time needed. What we do from now on is to carefully monitor the resource utilization status and remain as responsive as possible to user needs. This makes our business more effective and efficient and empowers our sales force. I believe we will achieve our goals by fully leveraging the new environment," Yamamoto concludes.

Hokuriku Bank has deployed the VMware View-based modern virtual desktops that can be maintained independently from the underlying physical hardware. This gives the bank the choice of implementing thin-client devices the next time it needs to purchase additional user terminals. Hokuriku Bank and Hokugin Software are continuing to work on step-by-step expansion plans to support more users, as well as gradually virtualize and integrate all the small proprietary applications used at the bank.

In collaboration with



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2011-07-12-JP-EN

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