

VMWARE CASE STUDY



INDUSTRY

Financial services

LOCATION

India

KEY CHALLENGES

- Support the rapid creation of new branches to service new markets
- Maximize the organization's use of datacenter resources
- Reduce total cost of ownership

SOLUTION

Implemented a virtualized IT infrastructure which allows the business to increase efficiency and adapt quickly to change.

BUSINESS BENEFITS

- Cut total cost of ownership by around 30 percent
- Provisioned all resources for new bank branches in seven to 10 days, instead of two months
- Reduced required datacenter space by one-third



We understand your world

HDFC Bank's 'Branch in a VM' Drives Massive Expansion Across India

HDFC Bank needed to launch hundreds of branches quickly to provide banking services to 40 million new customers from rural and regional India. The financial services company developed a 'Branch in a VM' concept to meet this objective and, between 2008 and 2012, opened more than 1,700 branches. The bank can now provision a new branch in less than 10 days.

Promoted by Indian mortgage specialist Housing Development Finance Corporation, HDFC Bank Limited aims to be a world-class financial services provider.

HDFC Bank offers a wide range of retail and corporate banking products, including: savings accounts; personal, home, and business loans; debit and credit cards; insurance; and investments. It also provides premium and private banking services.

The Challenge

The architecture of HDFC Bank's core banking application meant that it needed a dedicated server for each of its branches. By 2008, the bank's IT team had to manage and maintain around 900 servers at branches across India, and a rising number of servers at its primary datacenter.

The bank's rapid expansion plans required it to consume IT resources far more quickly than was sustainable if it continued using physical servers, which usually took many months to procure.

"There was considerable demand, particularly in the rural environment, for access to the types of services HDFC Bank could provide," said G S V Surya Prasad, Executive Vice President - IT, HDFC Bank. "As an IT team, we needed to give the business the ability to open new

branches faster."

The bank needed to deploy an efficient, manageable infrastructure that could scale quickly. It also needed to make better use of its datacenter resources and reduce its total cost of ownership.

The Solution

After examining alternatives, HDFC Bank decided that VMware offered the most mature and functional solution.

"We wanted to move from running our core banking application on a physical server at each branch to running an instance of the application in a virtual machine back in the datacenter," said Surya Prasad.

This 'Branch in a VM' concept has enabled HDFC Bank to consolidate management of its core banking system and branch servers into its production datacenter while increasing the utilization of its server hardware.

"VMware virtualization offered the features we required," said Surya Prasad. "We were particularly impressed with how easy it was to migrate from physical to virtual servers.

VMWARE CASE STUDY

“The virtualized infrastructure has given us the agility to launch new products and services ahead of the market.”

G S V Surya Prasad,
Executive Vice President – IT,
HDFC Bank

VMWARE FOOTPRINT

VMware vSphere featuring

- ESXi
- vSphere vMotion
- vSphere Distributed Resource Scheduler
- vSphere High Availability
- vSphere Storage vMotion

VMware vCenter Server

VMware vCenter Site Recovery Manager

APPLICATIONS VIRTUALIZED

- Core banking branch application server
- IBM Lotus Notes email and applications
- SQL Server Database

PLATFORM

- Cisco, Dell, HP and IBM servers
- EMC and HDS storage systems
- Cisco networking
- Microsoft Windows Server 2003 and Microsoft Windows Server 2008, Red Hat Enterprise Linux

“The solution also came with monitoring tools that showed what resources were available, and usage rates for each machine. In addition, we liked the fact that we could balance our workloads across the virtualized cluster, maximizing the performance of our business-critical applications.”

HDFC Bank began migrating its physical environment to VMware vSphere® in 2008. In 2009–10, the institution decided to replace its core banking system and started moving to a new core banking system.

The new architecture has allowed the bank to obtain even greater efficiencies from its virtualized infrastructure as one core banking branch server can cater to multiple branches.

As the bank transitions to its new core banking system, it is running both systems in tandem.

By late 2012, HDFC Bank was using VMware vSphere to run 2,300 virtual machines on 170 physical servers. Of these, around 1,300 virtual machines were used to provide branches with the old and new core banking systems.

Other virtual machines delivered the applications branches use to process transactions and provide customer service. The virtualized infrastructure is hosted in a central datacenter and critical applications are replicated to a disaster recovery location.

HDFC Bank engaged a VMware technical account manager (TAM) to help deliver the project. “Our VMware TAM helped plan our technology roadmap, resolve support issues and keep systems running,” said Surya Prasad.

Business Results & Benefits

Moving to a virtualized infrastructure enabled HDFC Bank to support the rollout of new branches across India. Between 2008 and 2012, the bank opened more than 1,700 branches—around 1,300 of which rely on virtual machines.

This expansion has allowed the bank to provide financial services to communities that previously had limited access to banking products. “In the past it could take up to a couple of months to set

up a new branch,” said Surya Prasad. “With VMware virtualization, we can do this in under 10 days.” At one point, the bank needed to open 100 branches as quickly as possible; its IT team helped by delivering the technology component for each branch in just seven days.

In addition, VMware’s centralized management has eased the maintenance load on the IT team. Previously the bank either had to send someone to the branch or find a local IT expert to fix issues, meaning it took up to three days to repair the malfunctioning server. During this time, branch staff could not process transactions or serve customers.

“Now, if a virtual server goes down, we can switch over to another machine while we undertake repairs, minimizing the impact on branch operations,” said Surya Prasad.

HDFC Bank has also improved resource usage. With virtualization, average server CPU usage has improved from about 15 percent to around 80 percent, ensuring the bank extracts maximum value from its hardware investments.

It has achieved a typical server consolidation ratio of around 19:1, extending to 80:1 in some instances. This has cut datacenter space requirements by one-third and significantly reduced power costs. Minimizing its energy consumption has in turn helped HDFC Bank support its green initiatives.

Engaging a VMware TAM has delivered a range of benefits. For example, the manager has run best-practice adoption and technical sessions that have reduced the service requests related to break-fix and technical errors by 32 percent in 2012–2013 over 2011–2012.

“Thanks to VMware, we have cut total cost of ownership by around 30 percent,” said Surya Prasad. “Most importantly, the flexible infrastructure has given us great agility—we can now launch new products and services ahead of the market.” strengthening our competitiveness.”

