SUCCESS STORY

Hitachi Storage Solutions at Work

HDFC Bank Limited (HDFC)

**INDUSTRY**
Banking/Finance

**SOLUTIONS**

**Hardware** — Hitachi Universal Storage Platform® 1100, Hitachi Universal Storage Platform 600

**Software** — Hitachi Tiered Storage Manager software

**Services** — Hitachi virtualized infrastructure installation provided by Hitachi Data Systems Global Solution Services

"Hitachi Tiered Storage Manager [software] is the linchpin to our change management process. It allows for nondisruptive migration of volumes for change management to occur. It also allows change management to be a seamless, repeatable process."

Harish Shetty
Senior Vice President of IT
HDFC Bank Limited
HDFC Growing Pains

This growth put a huge burden on its data centers to manage both transaction data volumes and the replicated databases, which business intelligence and other analysis applications used. The amount of storage grew from about 10TB to 400TB over the past four years. The growing data volumes also stressed the hardware and management software initially used, slowing down operations.

In response to the unabated growth, the bank decided it needed a new, long term data strategy. So, it developed a two phase plan, first to improve the data warehouse environment used for business intelligence applications, and second to improve the separate transaction oriented data center.

Goals to Support a Growing Business

HDFC Bank developed several goals for its IT operations supporting its core banking and retail banking business to help it cope with the continued exponential growth:

- **Improve Operational Efficiencies.** HDFC Bank's growth meant that its storage systems had to grow and scale in terms of physical capacity.

- **Simplify Management of Storage Infrastructure.** From 2004 to 2007, HDFC's storage grew from 10TB to over 400TB to support the exponential growth in the retail banking sector. This massive proliferation of data required a new system of management.

- **Lower Costs Efficiently.** Allocating storage helps increase utilization and cut storage administration costs.

- **Reduce Migration Time and Complexity.** Based on previous approaches, the bank's IT department expected to spend up to 33 days performing a data migration when migrating data from a legacy storage system to the new platform.

A leading, tech savvy bank, with registered offices in Mumbai, India, the HDFC Bank’s stated mission is to be a world-class bank. It offers retail financial products and services, including loans, deposit offerings, credit and debit cards, depository services, investments and a range of transactional services.

The bank currently has a nationwide network of 1412 branches and 3295 ATMs in 528 Indian towns and cities, as well as Hong Kong, the Persian Gulf and Kenya. Its single minded focus on product quality and service excellence has helped the bank win the appreciation of both national and international organizations and accolades, including the 2009 IBA Banking Technology Award for “Best IT Governance” (runner-up), the Global Finance Award for “Best Trade Finance Bank in India,” and the 2008 IDRBT Banking Technology Excellence Award for “Best IT Governance and Value.”

HDFC has grown rapidly and has developed an extensive distribution network throughout India. With this growth has come exponential expansion in the volume and complexity of the bank’s storage requirements. As the demands increased, so did the need to improve time management processes, shorten timelines and extend the life of its existing storage assets.
Storage Virtualization and Data Mobility Solution from Hitachi Data Systems

In summer 2005, HDFC Bank implemented an intelligent multitiered storage solution, based on the Hitachi Universal Storage Platform® 600, for its data warehouse and business intelligence applications. The Hitachi intelligent tiered storage architecture leverages Hitachi controller-based storage virtualization, which enables data to be stored according to the service level needs of business applications. For HDFC, the use of that architecture allowed the bank to accommodate rapid growth with minimal disruption, as well as lay the framework for future growth.

The key to improving operational efficiencies was an architectural shift from islands of stranded storage assets to a virtualized tiered storage infrastructure. In a tiered infrastructure, the most critical data is available for systems that demanded the highest availability, including the disaster recovery infrastructure, while the least critical data, such as data for back-up and nearline data analysis, is managed on less expensive storage.

The virtualized infrastructure also allowed HDFC to align application data to the appropriate class of storage, reducing the cost of data storage and extending the life of storage assets. For example, HDFC had used a Universal Storage Platform 600 in its data warehousing environment, but by 2005 it became clear that it needed a more powerful model, the Universal Storage Platform 1100, to handle the multiple terabytes of data being analyzed and moved.

In the multitiered approach, the bank was able to leverage its investment in the Universal Storage Platform 600 and make the new Universal Storage Platform 1100 the primary Tier 1 platform, with virtualized legacy storage behind it. The bank also added lower cost Tier 3 storage, which is virtualized behind the Universal Storage Platform.

In addition, the multitiered system simplifies data management. Having a tiered storage strategy lets HDFC move large databases quickly to top tier storage for analysis, and then back to lower tier storage when done. These efficiencies also allow the bank to analyze data more quickly despite its growth, providing more actionable insight to the bank’s management that can help improve revenues, not just cut costs.

“The advantage of the Hitachi virtualized, multitier approach became particularly evident when HDFC converted from RAID-1 storage to RAID-5 storage. Simplified Storage Management
Streamlined Migration Process. HDFC Bank avoided both the complexity and time needed for migration by using Hitachi virtualization technology and Tiered Storage Manager software. The software did the storage mapping and then moved the data nondisruptively to the new storage. Extended Life of Storage Assets. This is due to the multitier system. Reduced Capital Expenditure. The bank is now able to have low cost storage tiers. Reduced IT Risks. The solution provides the required flexibility and scalability and improved uptime, greatly easing the stresses that rapid growth has visited upon the bank’s data centers.

Going Forward

The bank now uses Hitachi Tiered Storage Manager software’s proven nondisruptive data mobility capability with regular monthly processes that require data migrations. This has eliminated hours of service disruptions. Plans are now in place to deploy virtualization and tiered storage at the retail banking arm of HDFC.

Key Benefits Realized at HDFC Bank

■ Operational Efficiencies in Change Management
■ Change management can be done online without bringing the application down.
■ There is no need for the extensive planning and coordination between the multiple groups.
■ New volumes can be created with required configurations.
■ The application and data can be migrated online.

“Based on previous approaches, the bank’s IT department expected to spend 33 days to migrate the volumes on the storage systems. With Hitachi technology, the application was brought down for less than an hour.”

Harish Shetty
Senior Vice President of IT
HDFC Bank Limited

Based on previous approaches, the bank’s IT department expected to spend 33 days to migrate the volumes on the storage systems. With Hitachi technology, the application was brought down for less than an hour.”

Harish Shetty
Senior Vice President of IT
HDFC Bank Limited