HDFC Bank is the 2nd largest private bank in India and one of the most professionally managed entities in the Indian banking system. The bank has grown rapidly in recent years as its network of branches has spread throughout India. This has increased daily transactional volumes across all its branches, particularly as these relate to loan processing. HDFC sought to upgrade its storage infrastructure in order to better handle this component of its core banking business. A solution based on Hitachi Content Platform ensured that these challenges, as well as the bank’s accompanying concerns surrounding security, document loss and quick data access would be addressed.

The Challenge
HDFC offers its customers a wide range of retail financial products and services, spanning loans, deposit instruments, credit and debit cards, and investments. The bank currently has a network of branches and ATMs spread across more than 500 Indian towns and cities. It also has a strong presence in other parts of the globe, including Hong Kong, the Persian Gulf region, and Kenya. With its unwavering focus on product and service quality, the bank has managed to win recognition and accolades from both national and international organizations. In 2011, the bank was recognized as “the Strongest Bank in Asia Pacific” by the Asian Banker magazine, beating more than 50 top banks across 13 countries in the Asia-Pacific region.

However, there were roadblocks in the path of business growth and expansion, largely involving its IT operations and systems. The bank’s storage infrastructure was beginning to show signs of strain under the demands of its daily transactions.

Benefits at a Glance
- Storage consolidation, efficiency and scalability.
- Cloud-readiness.
- Dependable archiving and enhanced data security.
- Improved customer service.
transactional loads. Prior to the HDS implementation, HDFC had an installed storage base of 5PB across 3 data center locations. The storage was deployed for mission-critical applications, spanning core, corporate and Internet banking. It also handled the workload of the bank’s securities trading and retail business activities.

With the existing system, document and data retrieval from an off-site location was both time-consuming and expensive. The risk of physical document and associated data loss was also high within a NAS and SAN arrangement for storing scanned loan documents. Due to high transaction volumes, backup windows were getting squeezed on a regular basis. All of these factors combined to lower the reliability and availability that HDFC needed from its storage infrastructure.

As part of the proposed storage upgrade, HDFC wanted to address the specific requirements of its retail banking division. When it came to activities such as loan processing, a key component of HDFC’s core banking business, its storage infrastructure was clearly not up to the task. HDFC needed a reliable digital repository for all loan documents as well as storage systems to facilitate long-term archiving and preservation.

The Solution
The HDS solution included Hitachi Content Platform 500 (HCP 500) deployed in conjunction with the Waves Image Repository from Extrieve Technologies, which provides image-enabling capabilities for enterprise applications. HCP 500 is a multipurpose distributed object-based storage system designed to support large-scale repositories of unstructured data. It supports multiple levels of service and readily evolves with technology and scale changes. With a vast array of data protection and content preservation technologies, the system can significantly reduce or even eliminate tape-based self backups that are connected to the platform. HCP eliminates the need for a siloed approach to storing unstructured content. Massive scale, multiple storage tiers, multitenancy and configurable attributes for each tenant allow the platform to support a wide range of applications on a single physical platform. Waves makes it easy to store critical business scanned documents to the HCP centralized repository.

In the deployment for HDFC Bank, HCP 500 provided a single point of storage for large data volumes, up to 40PB. The Waves application communicated with the platform for storing and retrieving data objects. In addition, it included archiving and compliance features with advanced replication topologies. These capabilities served to significantly boost the storage system’s availability and scalability for future loan processing levels and other data-intensive tasks.

The new solution was enabled with a variety of security features. Security settings governing data access and protection could be determined and specified by the administrator. The data purging policy was also defined at the tenant and namespace levels. In addition, failover and fallback mechanisms were graphical user interface or GUI based and easy to configure.

The system further used tenant and namespace details to replicate objects across the disaster recovery site. This approach eliminated the need for specific or dedicated backup times and further improved availability of the solution. With support for thousands of tenants, tens of thousands of namespaces, and petabytes of capacity in one system, HCP 500 is also a completely cloud-ready platform.

Additionally, the solution featured a Web-based and intuitive GUI for easier data and storage management.

Several features of the deployed solution lent themselves to improved efficiency in data management and processing. For
example, data was stored as objects with user authentication and access driven by the Waves application. Data could be ingested through manual or automated modes and a collision feature was incorporated to minimize duplication of data. The solution also included a tool for monitoring and checking for hardware or other forms of failure.

The deployment itself was uncomplicated and seamlessly executed within a span of 15 days. Several HDS teams from across the bank’s Storage, Data Center and Network divisions were involved in the effort. As an added bonus, the solution is also equipped for HDS virtualization, which allows unused space of any other Hitachi model to be allotted to HCP 500.

**Benefits**

Immediate process improvements and efficiencies were seen following the HDS implementation. From an IT usage and optimization perspective, the main benefits included:

- **Storage consolidation and efficiency.** The implementation yielded a single reliable point of storage capable of storing large volumes of data: up to 40 PB. The solution included a collision feature used for minimizing data duplication.

- **Cloud-enabled storage.** The HCP-based infrastructure solution is sufficiently flexible to accommodate any cloud deployment models (public, private or hybrid) and simplify the migration to the cloud for all HDFC divisions.

- **Scalability.** Storage can be easily added to expand the storage and throughput capacity of the HCP 500, making it a viable platform and storage repository for the bank even in the face of rapid business growth.

The business and process improvements resulting from the deployment included:

- **Greater efficiency in data storage and retrieval.** Retrieval of loan documents was now managed and facilitated by the HDS solution. In addition, the new system eliminated the need for retrieval of physical documents as digital copies were now easily accessible.

- **Better storage reliability.** Risk of data loss was minimized as the new system provided a comprehensive repository for loan documents.

- **Enhanced data security.** Authentication of management and data access was built into the system along with IP filtering technology. This prevented misuse of and unauthorized access to sensitive banking system data.

- **Improved customer service.** The solution allowed for faster access to images and documents, making it easier for bank employees to quickly respond to customer queries.

- **Dependable document preservation.** The bank was now confident that all relevant loan documents would be safely archived for the duration of loan periods.

In summary, ever since the HCP 500 moved into production mode, it has had a transformative effect on all aspects of HDFC’s banking operations that are tied to loan processing and management.