

Case Study

National Stock Exchange of India Ltd.

COMPANY
National Stock Exchange of India Ltd. (NSE)
INDUSTRY
Financial
EMPLOYEES
<ul style="list-style-type: none">600 employeesmore than 850 trading members
STORAGE APPLICATION
Backup including online backup of Oracle databases
STORAGETEK®SOLUTIONS
Heterogeneous SAN-based LanFree Backup with <ul style="list-style-type: none">L700 tape libraryDLT tape drivesBrocade switchesStorageNet® Fibre Channel routers/bridges
RELATED SOLUTIONS/TECHNOLOGIES
<ul style="list-style-type: none">HP, NT, Alpha and Sun serversVERITAS and BMC backup software
BUSINESS RESULTS
<ul style="list-style-type: none">Ability to deliver high availabilityAssurance of business continuityOn-time backups

NSE data center manager has trouble-free days and nights with StorageTek® solutions.

Business issues at NSE

As the Indian economy grew, data at the National Stock Exchange of India (NSE) was also growing at an increasing rate. Given the nature of the business, data protection and high availability of the data are crucial. Downtime is unacceptable. Coping with the growth of data backup needs and a shrinking backup window was fast becoming a nightmare. To further complicate matters, NSE was faced with the challenge of online backup of their Oracle databases.

The existing backup process involved 400 gigabytes of data to be backed up daily and 900 gigabytes for the weekend, over multiple servers and across different platforms such as HP, NT and Sun. This involved various types of backup media as well as a large number of cartridges. Heavy manual intervention was required as the jobs were manually queued and cartridges manually mounted.

Additionally, intensive supervision was required to ensure that the entire backup process was executed in a disciplined and consistent manner. As a result, backup was a tedious and laborious process requiring logs to be maintained. The data center needed additional personnel to cope with the demands.

The solution

To meet the backup requirements of NSE, a StorageTek® distributor, CMS Computers Ltd., proposed and implemented a SAN-based LanFree Backup solution comprised of a StorageTek L700 tape library (400 slots) with four DLT drives, Brocade switches and Fibre Channel bridges, and backup software from VERITAS and BMC.

To implement the solution, NSE's servers were connected to the Brocade switches using Fibre Channel. The tape drives were then connected to the Brocade switches via bridges to implement a heterogeneous SAN comprising HP, NT and Alpha servers. VERITAS NetBackup Data Center was installed on the servers.

With this solution, NSE was also able to perform online backup of the Oracle databases, thus ensuring business continuity.

Business benefits

Today, NSE boasts of being the only stock exchange in India with a live disaster recovery site. With a more efficient and reliable backup process, NSE is assured of meeting the demands for high availability and business continuity, even with growing data needs and shrinking backup windows.

Financial benefits

The solution reduced the number of cartridges used daily. More importantly, by automating all its manual tasks, NSE has saved more than 50 percent of the hours previously required in the backup process. NSE can now ensure higher productivity and re-deploy its personnel for more efficient utilization while ensuring that backup activity is carried out in a consistent, disciplined and reliable manner.

Technology benefits

With SAN-based direct-connect technology and the use of automated tape backup, NSE enjoys better throughput and more reliable backup avoiding issues such as LAN network bandwidth bottlenecks and collision of data packets. NSE is able to maintain a respectable backup window and restoration is systematic and fast. Guided recovery for Oracle databases was also put in place.

This solution allows the pooling of tape drives to be shared among the multiple connected servers, across heterogeneous platforms, and eliminates the need to back up servers individually. NSE is able to seamlessly and efficiently manage its backup process and storage devices from a single management console. The solution also provides the scalability to increase storage capacity as NSE's requirements grow.

About the National Stock Exchange of India Ltd.

The National Stock Exchange of India Ltd. (NSE), incorporated in 1992, is a nationwide trading facility for equity, debt instruments and hybrids. It has more than 850 trading members and is the largest trading VSAT network worldwide. It has trading terminals spread across 379 cities with more than 6,500 concurrent users daily. The annual turnover (revenue) for 2001-2002 was Rs 513,167 crores that is equivalent to \$107 billion (U.S.).

About CMS Computers Ltd.

CMS Computers is a \$100 million (US) IT company, with over 4,000 qualified professionals on its staff. Of these, there are more than 100 research personnel across three R&D centers located in Thiruvananthapuram, Mumbai and Pune, developing Custom products include Kiosk, Security and Traffic Systems. Rated among the top 5 services vendors in India, CMS has an established countrywide network of offices and support centers. It has also obtained the prestigious ISO 9000 certification for its Service operations.

For more information, see www.cms.com, or call +1-866-FOR-VPOS.

About the StorageTek solution

The StorageTek **L700** tape library is designed for large, distributed open systems implementations in Unix and Windows NT environments. The high-speed Fibre Channel interface, paired with a choice of tape technologies such as DLT, SDLT, LTO and StorageTek 9840 and T9940 Fibre Channel tape drives, makes it ideal for attachment to scalable storage area networks (SANs). With its speed, reliability and simple, centralized administration, using the L700 is efficient, cost-effective and almost effortless.

The **StorageNet® Fibre Channel Router/Bridge** connects SCSIinterfaced hosts and devices to Fibre Channel-based SANs. This low-cost, high-speed unit protects SCSI investment by making SCSI-connected servers or devices available on a Fibre Channel network.

About StorageTek

StorageTek (Storage Technology Corp., NYSE:STK), a \$2 billion worldwide company with headquarters in Louisville, Colo., delivers a broad range of storage solutions that are easy to manage, that integrate well with existing infrastructures, and allow universal access to data across servers, media types and networks. StorageTek provides practical and safe storage solutions in disk, networking, services, tape and tape automation. For more information, see www.storagetek.com, or call 1.800.786.7835 in the United States.

“ The state-of-the-art automated backup solution designed by CMS and StorageTek using StorageTek’s sophisticated automated tape libraries has helped the NSE to meet their backup needs using industry-standard technologies to protect the most crucial asset of the Exchange, its transaction data.”

Mr. G. M. Shenoy
Vice President, Information Technology
National Stock Exchange of India Ltd.

COMPANY

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