



## Success Story

# Larsen & Toubro Eliminates Downtime for Business-critical Applications with NetApp



LARSEN & TOUBRO

### KEY HIGHLIGHTS

**Industry**  
Engineering

#### The Challenge

Avoid downtime for business-critical applications and databases while deploying infrastructure faster to accelerate service delivery to customers.

#### The Solution

Use NetApp® V-Series storage systems running clustered Data ONTAP® to support a private cloud, making infrastructure as a service available to all business units.

#### Benefits

- Eliminates downtime for business-critical applications, improving productivity
- Makes L&T more competitive by accelerating service delivery to customers
- Provides stable, predictable application performance with quality of service policies
- Scales nondisruptively to accommodate growing demand for private cloud services

### Customer Profile

Headquartered in Mumbai, India, Larsen & Toubro (L&T) is a technology-driven multinational conglomerate that infuses engineering with imagination. The company is among India's oldest and most respected businesses, providing construction, engineering, and a myriad of project-related services. Founded in 1938, L&T's approach to delivering outstanding customer service has enabled it to sustain leadership in all its lines of business.

### The Challenge

#### Enhancing IT services

For L&T, keeping critical business applications up and running is essential to the productivity of its 84,000 employees. Most of the company's 10 major business groups depend on central IT to provide core applications, including SAP® Business Suite, which integrates financial and human resources data, and a payroll system driven by Oracle®. Other critical applications, such as Microsoft® SharePoint® for project collaboration and line-of-business applications based on Microsoft SQL Server®, are deployed and maintained by the business units.

When applications or hardware needed to be upgraded, IT had to schedule downtime that could last for hours. Although the maintenance was performed at night and on weekends, for a global business such as L&T, any downtime has the potential to affect users and business operations.

"To keep productivity high and increase business agility, we decided to deliver applications and infrastructure to business units using a private cloud," says Ajit Awasare, head of enterprise IT infrastructure at L&T. "We knew we could provide groups with a more flexible and cost-effective option for hosting services than they currently maintain independently."

Preparing new IT environments to support customers' complex engineering and construction projects typically took days or weeks. Providing infrastructure on demand would allow L&T business groups to respond faster to customer needs. "Accelerating infrastructure provisioning directly improves customer service," says Awasare. "Our goal was to implement an automated process that would allow users to log in to a

portal and get their compute and storage immediately, so they could respond faster to customer demands.”

### The Solution

#### Virtualized, clustered storage for private cloud

As a service provider to the business units, the L&T IT organization wanted scalable storage that would support consistent service levels by specifying throughput limits on individual workloads. “We explained our requirements to NetApp, and it was obvious they understood our business and our goals,” says Awasare. “NetApp proposed a solution that would allow us to continue to leverage our existing storage investments while gaining the flexibility of software-defined storage.”

L&T decided to virtualize existing SAN hardware with dual NetApp V6240 controllers at its primary data center and V6210 controllers at a disaster recovery (DR) site. The NetApp controllers run the NetApp clustered Data ONTAP operating system, providing a unified cluster architecture that scales seamlessly to adapt to L&T’s changing needs. Designed to meet the requirements of cloud service providers, clustered Data ONTAP allows virtualized storage resources to be managed as a single logical pool. In addition, leveraging the existing SAN arrays as storage capacity behind NetApp V-Series controllers enables even better return on investments.

“We have to keep our business applications running at all times, so we needed to be able to move data without downtime. NetApp clustered Data ONTAP gives us that flexibility,” says Awasare. “We also benefit from quality of service policies in clustered Data ONTAP. Our private cloud is open to all our business units, and we don’t know what kind of load will be placed on the storage. The ability to throttle rogue workloads to keep them from impacting other users is a major reason we chose NetApp.”

L&T worked with NetApp and NetApp partner Pentagon System and Services to install the NetApp V-Series controllers, which are attached to VMware® vSphere® and Microsoft Hyper-V® host servers using Fibre Channel. NetApp SnapMirror® software replicates changed data blocks between clusters for DR purposes.

### Business Benefits

#### Eliminating downtime for critical applications

L&T has moved applications such as SAP Business Suite and its Oracle payroll database into the private cloud. Now, when IT performs storage maintenance or upgrades, users accessing these centralized systems are not affected because data remains online and available. Hardware failures no longer result in application downtime, keeping projects moving ahead and customer service levels high. Seeing the productivity benefits, business units have been quick to move their own applications and Microsoft SharePoint sites to L&T’s private cloud.

“We improved productivity company-wide with our high-availability private cloud based on NetApp,” says Awasare. “The combination of server and storage virtualization allows us to achieve zero downtime for our SAP and Oracle production landscape. We also speed service delivery because quality of service policies in clustered Data ONTAP enable us to provide predictable storage performance on our shared infrastructure.”

#### Accelerating turnaround times for customers

The ability for business units to deploy infrastructure on demand to meet new project requirements is an essential ingredient to winning new business. “There’s often little or no lead time before a project starts,” says Awasare. “Customers expect us to respond immediately. Our private cloud based on NetApp allows our business units to provision the IT

infrastructure they need in just a couple of hours. The rapid rollout of services makes our business more competitive.”

### Scaling to meet growing demand

As business units move more applications into the private cloud, the L&T IT organization can scale storage quickly and nondisruptively to accommodate unpredictable demand. “We no longer require weeks of lead time to procure, plan, and add capacity,” says Awasare. “NetApp shares our goals, and the company’s vision for software-defined storage is impressive. We look forward to working with NetApp as we expand our private cloud.”

## SOLUTION COMPONENTS

### NetApp Products

NetApp V6240 and V6210 storage systems with clustered Data ONTAP

NetApp SnapMirror

### Environment

Applications: SAP Business Suite, Microsoft SharePoint, internally developed payroll system, and departmental line-of-business applications

Operating systems: Windows Server® 2012/2008/2003

Databases: Oracle, Microsoft SQL Server

Virtualization: VMware vSphere, Microsoft Hyper-V

Server platforms: HP, Dell

### Protocols

FC-SAN



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