CUSTOMER CASE STUDY

NSL Group

PROFILE

Industry
Agribusiness, Textile, Sugars, Power and Infrastructure

Corporate Headquarters
Hyderabad

Website
www.nslgroup.co.in

Objective
Reduce server sprawl to improve manageability and cut costs while building a robust datacenter to support business expansion

Solution
VMware virtualization enabled NSL to revamp their datacenter facilities to enable faster and more responsive service to business and enhance disaster recovery.

Business Impact
- Saved huge costs on procurement of new hardware and servers
- Achieved a server consolidation ratio of 20:1
- Significantly reduced server provisioning time from weeks to minutes
- Improved uptime, business continuity, backup and DR processes
- Achieved superior performance for all the SAP modules
- Significantly improved server utilization from 5% to 40%

APPLICATIONS VIRTUALIZED

- SAP ECC 6.0 and ESP 5.0, which includes modules of ERP, FICO, QM, PP and S&D SAP BW, SAP CRM
- Microsoft Exchange Server 2010
- Zimbra Collaboration Server 7.0
- Databases-Oracle11g, IBM DB2, MS SQL 2005, Sybase

PRODUCTS DEPLOYED

- VMware vSphere 4 for Server Virtualization
- VMware vCenter 4.1 Server for Virtual Infrastructure Management

VMware vSphere and SRM Enables a Leading Conglomerate to Build a Cost-effective and Future-proof Datacenter

"The responsibility to service our internal and external customers is of paramount importance to NSL IT. Because of the rate at which our business is growing, we felt it was crucial for IT to be proactive in cutting the lead times to procure, install and configure new servers. Implementing the VMware solution has brought agility to the IT team and improved our service levels to 99+%. This high availability coupled with a move to a Linux environment has helped us deliver high end IT enabled business solutions at a rapid pace and an optimal price. Thisimplementation has helped us significantly to move towards our stated IT vision of 'Achieving Business Alignment of IT'"

— Venu Madduri – Group Vice President – IT, NSL Group

Background

NSL had its humble beginning in the mid '70s with a seeds company and is a business conglomerate today. Guided by its visionary Chairman Mr. Mandava Prabhakar Rao, NSL has diversified into various business verticals viz., Cotton, Textiles, Sugar, Power and Infratech. The Group employs about 15,000+ people as on September 2011.

As a responsible corporate citizen, NSL Group seeks to contribute to the society through the Mandava Foundation set up on May 25, 2005. The objectives of Mandava Foundation, include amongst others, (a) imparting education for poor people in rural areas, (b) providing medical facilities to people by constructing and maintaining hospitals/nursing homes, (c) rehabilitation of poor people by providing work to artisans and workers and (d) transferring findings of agriculture research to the farmers so as to benefit the farmers by way of improving the crop productivity and better marketing of their produce.

Challenges

In 2009, the NSL Group implemented SAP solutions on Oracle database for their seeds business. At that time, their IT infrastructure comprised IBM Power Series Rack Servers with built-in storage, email servers, web servers, database servers, several other servers running on AIX and Windows, and applications, such as Microsoft Exchange, various SAP modules – SAP ERP, SAP BW, and mobile applications.

Growth and expansions into other business verticals led to an increase in the number of servers deployed at NSL's datacenter. As the operations grew, they began to face challenges with limited storage space, hardware failures, service issues with the hardware, siloed architecture, underutilized storage space, and high administrative costs. Several critical applications, including SAP applications and Microsoft Exchange faced performance issues with the physical server infrastructure. The NSL IT team concluded that a long-term solution was needed to address all these problems. NSL was also keen on simplifying the ERP system's backup and disaster recovery capabilities, while improving uptime and business continuity.

As NSL was looking to extend the SAP implementation to their other business verticals, they realized that they would need to setup the SAP development, test,

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and production environment as well. This meant that they would need to invest in additional physical servers, and storage and additional resources to manage this infrastructure. NSL considered virtualizing their physical servers so that they could consolidate the number of servers hosting their gamut of applications and accommodate future growth.

Evaluation and proof of concept

NSL conducted a proof-of-concept to evaluate the performance of SAP in a virtualized environment. Red Hat Enterprise Virtualization (RHEV) and VMware were tested on different hardware environments and operating systems. VMware proved to be better than RHEV in terms of feature offerings, such as Storage vMotion, DRS, DPM, and SDRS. None of the other vendors being considered offered a solution like SRM or an automated DR solution. In addition, VMware offered excellent technical support, which other vendors did not. NSL also has VMware certified professionals within their partner organizations, which makes it easier to resolve any issues with the VMware setup.

"We found VMware to be very user-friendly with lot of useful features like HA, DRS, and SRM. The support that has been provided has also been extremely good. These factors convinced us to consider VMware for virtualizing our infrastructure and we are very happy with our decision," exclaims Palla Padma Kishore, Manager IT, NSL Group.

NSL however faced several challenges while virtualizing Oracle applications owing to Oracle's support policy for third-party server virtualization solutions. Oracle would not provide support for issues that arose as a result of running Oracle in a virtualized VMware environment and requested that the problems would have to be reproduced on the native hardware. The VMware support team swung into action and offered to be a mediator between NSL and Oracle. After a series of discussions between the three teams, Oracle finally extended support to NSL's Oracle deployment in a virtualized environment.

After conducting thorough tests of SAP on Oracle in a virtualized VMware environment, NSL gained confidence and decided to proceed with VMware for their virtualization requirements.

"Virtualizing our existing environment, which hosts SAP on Oracle with Red Hat Linux, was seen as a big challenge. We did not encounter any hassles with VMware. It's the best hypervisor I have ever seen," says Palla Padma Kishore - Manager IT, NSL Group.

Solution-Virtualizing SAP, Oracle and other applications

NSL has virtualized over 90 percent of its workload, with most of its applications residing on HP Blade Servers running VMware vSphere 4.1. NSL now has four physical servers hosting 80 virtual machines running various applications. NSL also completely migrated their IBM Power Series Rack Servers to x86 AMD servers with VMware vSphere running on it.

Additionally, NSL deployed VMware Site Recovery Manager on all the production servers to provide failover from its primary datacenter to its secondary site. High Availability is configured to provide high availability to all the applications. Earlier, backups were taken using legacy methods. It is now eased up due to snapshots and cloning features available with VMware.

"VMware has given NSL a robust, scalable, and dynamic environment. Server consolidation has made our environment flexible and we are able to deliver solutions quickly. VMware enabled us to reduce the lead-time to procure and provision servers. Features like v-Motion, P2V, HA are icing on the cake.

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VMware SRM has made disaster recovery look so easy; we would have not imagined disaster recovery site for our datacenter without VMware. With VMware, we are able to leverage even till the last core, without losing out on the performance," concludes, P. Srikant – Manager IT, NSL Group.

Benefits

Significant cost savings

The virtualized infrastructure has provided dramatic savings both in terms of time and money as NSL now does not have to make capital investments in procuring new servers and hardware. "We required at least 80 new machines for our applications and if we had to invest on physical hardware, it would have cost us a ton. It would have increased the storage and server hardware costs and the number of resources to manage this hardware. But thanks to VMware, we have saved on those costs," remarks P. Srikant, Manager IT, NSL Group.

Administrative expenses have also been dramatically reduced because of the ease of centralized management for the infrastructure.

Streamlined server provisioning

While it earlier took the IT team at least 6-8 weeks to provision a new server, it now takes only a few minutes to provision. The team has simply to clone a readily available template and a new virtual machine is ready for use. The provisioning of applications and hardware for teams has become significantly faster as well. Applications can be provisioned on a virtual machine in less than 5 minutes.

Improved performance

NSL witnessed significant improvements in the performance of SAP in the virtualized environment because their server utilization, efficiency, and speed of accessing data improved dramatically. VMware made it very easy for NSL to increase the capacity of the existing memory or add new resources on demand.

VMware vMotion enables the IT team quickly to migrate workloads (including SAP applications) from one physical server to another during maintenance activities thus eliminating the need for any downtime.

"Earlier, before every maintenance activity, we used to send emails and request for downtime, and sometimes, we were refused downtime. Also, there were frequent breakdowns. After virtualization, there has not been a single instance of downtime for the last 2 ½ years," notes P. Srikant – Manager IT, NSL Group.

VMware's virtualization technology has also helped improve the performance of the group's email server infrastructure as they can deploy extra server resources on demand.

Since it is much easier to maintain the virtualized infrastructure, NSL's admin staff can now shift their focus from just performing routine maintenance tasks to being proactively involved in other areas of the business.

Improved Disaster Recovery (DR) and Business Continuity (BC)

NSL deployed VMware Site Recovery Manager (SRM) as DR / BC solutions for all its production servers, with the primary site being in Hyderabad and secondary site in Guntur.

With vCenter Site Recovery Manager, NSL has leveraged the disaster recovery features and capabilities of the VMware vSphere platform with a product developed specifically for disaster recovery. SRM has simplified and automated the key elements of DR plans for NSL, such as setting up disaster recovery plans, testing

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those plans without disruption, recording the recovery steps in an audit-friendly report, executing failover when a datacenter disaster occurs, and failing back to the primary datacenter.

NSL uses SRM 4.0, which has been configured with storage-based replication, giving an RPO and RTO of 1 hour. NSL performs regular mock DR drills to test the DR readiness of their datacenter.

Future plans

NSL's experience with SAP virtualization has been overwhelmingly positive. The move to virtualization has allowed them to future-proof their organization, providing a robust IT environment that can support their growing businesses. As part of their future expansions, they plan to explore the benefits of moving to a virtual desktop environment and also enable cloud computing.

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