



Infosys Limited Implements VMware vSphere to Maximize Availability of Large SAP System

INDUSTRY
Technology

LOCATION
Bangalore, India

KEY CHALLENGES

- Reduce datacenter costs while delivering an SAP environment that enhances system performance and improves responsiveness to business requests

SOLUTION

VMware vSphere enabled Infosys to consolidate the hardware used to run SAP modules, reducing datacentre costs, maintaining performance levels, and speeding the delivery of new resources to business groups

BUSINESS BENEFITS

- Cut datacenter costs by US\$200,000 per year
- Reduced the time required to provision a new machine from up to 10 hours to 45 minutes
- Maximized availability of SAP applications
- Improved server memory usage from 20-30 percent to about 90 percent
- Exceeded anticipated datacenter cost reduction of about 60 percent

By running SAP on VMware vSphere, Infosys Limited lowered its costs by USD\$200,000 per year, maintained application performance, and ensured the enterprise resource planning system was available to support business requirements. The decision has also enabled Infosys to reduce its greenhouse gas emissions and consequently its impact on the environment.

Founded in 1981, Infosys Limited provides business consulting, IT, engineering and outsourcing services to clients in more than 30 countries.

Infosys uses a global delivery model that involves undertaking work at the location where the best talent is available, it makes greatest economic sense and any risks are acceptable. Listed on Nasdaq in the United States, Infosys employs more than 151,000 people worldwide and generates about US\$7 billion in annual revenues.

Infosys runs SAP across multiple datacenters. These facilities provide the production, test, development, quality assurance and disaster recovery environments required to run the applications that support the firm's business.

The Challenge

Infosys first deployed SAP enterprise resource planning technologies to run its operations in 1998. The organization regularly upgraded its SAP deployment and by 2008 was running a full suite of SAP business applications. These 20-plus modules included SAP Customer Relationship Management, SAP Governance, Risk and Compliance and SAP Supplier Relationship Management.

The SAP system runs a range of business-critical functions. Primarily, Infosys uses it to manage customers and suppliers, and recruit new employees. Once people come on board, the company uses SAP to pay salaries, calculate entitlements such as leave, and provide access to Infosys systems and information. The SAP system also provides business intelligence and analytics used for all Infosys SAP and non-SAP systems.

"We initially went live into production with all our SAP modules on 80 physical servers," Akhilesh Kumar Maurya, Technology Platform Manager – SAP Projects, said. "However, we found that the cost was on the high side, and we didn't have the flexibility to add memory or processing capacity to individual applications 'on the fly'."

In addition, Infosys wanted to adopt technologies that would allow it minimize downtime and lost productivity resulting from hardware failures. When a server running an SAP module failed, the IT team typically needed a full day to locate a backup machine and configure it to make the application available to users.

“VMware vSphere enabled us to exceed customer expectations for on-demand compute resources, improved application availability and better disaster recovery capabilities.”

Jitendra Sangharajka, Associate Vice President and Head, Enterprise Platform Management Group, Infosys Limited

VMWARE FOOTPRINT

- VMware vSphere
- VMware vCenter Server

APPLICATIONS VIRTUALIZED

- Over 70 percent of Infosys' SAP landscape, comprising major solutions ECC (Enterprise Core Component), BI (Business Intelligence), CRM (Customer Relationship Management), SRM (Supplier Relationship Management), GRC (Governance, Risk and Compliance), IDM (Identity Management), PI (Process Integration), EP (Enterprise Portal), Solution Manager and CPS (Central Process Scheduling) were virtualized. Virtualization was carried out on production as well as non-production landscapes.

Infosys also needed to improve the return it was achieving on its investments in physical server hardware. The organization was running one application per server; this meant it used only 20 to 30 percent of the memory and a small fraction of the available processing capability on each machine.

The Solution

To overcome these problems, Infosys decided to extend its VMware®-virtualized SAP test and development environment to its production SAP infrastructure. Based on experience with past virtualization projects, the company also aimed to reduce its datacenter costs—including power, cooling and real estate—by up to 60 percent. Additionally, the IT team wanted to be able to move memory and processing capacity between individual applications to accommodate peaks and troughs in demand.

“VMware is the market leader in virtualization; using the company's products, we were able to virtualize our SAP environment without compromising our performance and availability requirements,” Deepak Chauhan, Senior Technology Platform Manager, Data Centre Management, Information Systems, Infosys, said. “This was critical to us, as the SAP system and databases we were moving to the new environment provided extremely important functions to our business.” After conducting a proof-of-concept and applying processes and technologies to optimize the performance of virtual machines, Infosys started migrating the SAP modules into a virtualized infrastructure. By supplementing the expertise of its internal staff with advice from SAP and VMware, the company completed the project in April 2012. “We've now consolidated our SAP environment from 80 physical servers to 14 hosts, each running between four and six virtual machines,” Maurya said. “Thanks to VMware virtualization, we still have some headroom on these physical servers, so we can add more applications to our environment or allocate more capacity to our existing SAP modules.”

Business Results & Benefits

By deploying a virtualized platform, Infosys has reduced its costs by USD\$200,000 per year. In addition, the organization's technology function has also increased the speed with which it can respond to requests from the business from additional resources. “In a virtualized infrastructure, provisioning a new virtual machine from a pre-existing template takes only 45 minutes.” Chauhan said. “Previously, once we had acquired a physical server, it took up to 10 hours to complete provisioning tasks such as installing the operating system, applications and management tools, and integrating the new machine into our SAP environment.”

By running its VMware hosts in a clustered environment, Infosys has been able to maximize the availability of its SAP applications. If one host fails, the organization can move running virtual machines to another server in the same cluster with no interruption to users. If a virtual machine experiences a problem, the IT team can simply bring up another machine and provide it with the same application and operating system. Deploying VMware has also helped Infosys to considerably improve the utilization of its server resources. “We were running SAP on the same servers we now use as VMware hosts,” Chauhan said. “Thanks to virtualization, we can run up to eight SAP applications on the same server we previously ran only one application on. So, typically we are now using up to 88GB of the 96GB RAM we have on each machine, giving us a considerably better return on our hardware investments.” Infosys has achieved better performance from SAP running in a virtualized infrastructure than when the enterprise resource planning system was hosted on physical servers.

In addition, deploying virtualization has enabled Infosys to boost its environmental credentials by accruing carbon credits that can be sold privately or on international markets. Infosys has recorded carbon credits of 2,557 metric tons over a 12 month period by running SAP on VMware, and 4,513 metric tons for the entire datacenter over 36 months.

