Indian Businesses Burst Into the Cloud with Tata Consultancy Services

The IT Infrastructure Services division of Tata Consultancy Services (TCS) intended to give Indian businesses access to infrastructure, applications and other resources from the cloud. By using VMware virtualization to power its India Cloud Platform, TCS can reduce customer costs by 30 percent, bring new customers on board in 20 days, and deliver minimum infrastructure availability of 99.9 percent and application availability of 99.5 percent.

Established in 1968, TCS provides IT services, business solutions and consulting to companies worldwide.

TCS’ offerings include application development and maintenance, business intelligence and business process services.

TCS employs more than 285,000 professionals in 44 countries and in FY13 generated annual revenue of US$11.6 billion.

In 2005, TCS created TCS IT Infrastructure Services (TCS-IT IS) to help businesses develop infrastructure that improved revenues, facilitated cost management and delivered better customer service. TCS-IT IS is growing at 30 percent annually and generates more than US$1 billion in revenue each year.

The Challenge

In 2009, TCS-IT IS noticed that businesses around the world were adopting on-demand access to third-party infrastructure, rather than investing in on-premise servers, storage and networking equipment.

TCS-IT IS found many of these businesses wanted to extend this model to access applications such as enterprise resource planning as part of an integrated solution stack—comprising hardware, networking, software and services—from a third-party provider.

TCS-IT IS started addressing this need by delivering infrastructure and applications as a service from its datacenters to small businesses in industries such as healthcare, education, retail and manufacturing.

However, in 2010, TCS-IT IS decided to develop a cloud service that would extend its multi-tenant datacenter offerings to larger businesses.

The proposed India Cloud Platform (ICP) would allow businesses of all sizes to access infrastructure and applications from the cloud.

TCS-IT IS wanted the ICP to scale easily, enable new customers to be added quickly and keep sensitive information secure.

The ICP would also complement TCS-IT IS’ consulting services, which businesses could use to ensure their data in the cloud complied with internal policies and governance regimes, as well as external regulations.
“We wanted to build a shared services platform that enabled the logical separation of customers’ applications and data,” said Mahesh Menon, Head - TCS-IT IS India Cloud Platform. “We needed a partner that could meet these requirements, while helping us manage the cloud platform as efficiently and cost-effectively as possible.”

The Solution
After reviewing its options, TCS-IT IS decided to implement VMware datacenter virtualization for the first stage of the ICP project. This involved extending the services available through TCS-IT IS’ multi-tenant datacenter environment.

“We went with VMware because of the abundance of skill and knowledge about the vendor’s virtualization technologies in the marketplace, and the fact no other product was as mature,” said Menon.

In 2011, TCS-IT IS began ramping up from a multi-tenant datacenter to a full cloud service and conducted a more comprehensive evaluation of the virtualization market.

This included completing proofs of concept with two technology providers headquartered in the United States.

“With one of the providers, we couldn’t mix and match data storage types,” said Menon. “We needed this because our existing storage area network did not have the capacity on its own to manage our workloads.

“We also found that the products supplied by the other vendors were far behind in providing centralized management over a single console.”

At this time, VMware was finalizing a new release of VMware vSphere® and briefed TCS-IT IS on features that made it easier to provision physical and virtual machines, enforce security and compliance, manage networks and control traffic flows.

“We opted to stay with VMware because of its technical superiority and our comfort with the technology,” said Menon.

TCS-IT IS needed some deep expertise to help deploy the cloud and engaged VMware Professional Services Organization (PSO). “When it came to this stage of the project, we wanted to ensure that our choice of platforms and technologies was right, and that we could support a range of usage scenarios,” said Menon.

“We selected VMware PSO to undertake the deployment so we could draw on the team’s experience and expertise,” he added. “This proved to be a good decision as we could work with them to complete the implementation within budget in only three weeks.”

VMware PSO used well-established techniques and practices to train 10 TCS-IT IS consultants in running the platform. “The PSO team’s knowledge transfer was excellent and our consultants are now skilled in helping customers achieve value from the TCS-IT IS India Cloud Platform,” said Menon.

Thanks to VMware PSO, TCS-IT IS is now running more than 2,000 virtual machines on 80 servers at a ratio of 25:1 to deliver the cloud platform.

This high density has helped TCS-IT IS extract considerable value from its hardware investments.

Business Results & Benefits
VMware vSphere—combined with technologies from Cisco, HP and NetApp—has enabled TCS-IT IS to provide cloud-based infrastructure services that meet the needs of businesses of all sizes.

“The ICP is a modular, scalable and configurable cloud platform that gives Indian businesses the benefits of increased efficiencies, faster go-to-market, market-leading technologies; predictable spend, IT talent on call and better business results,” said Menon.

ICP customers pay monthly or quarterly to access infrastructure on demand rather than investing several hundred thousand dollars in on-premise datacenter equipment. This gives them greater certainty over costs and enables more accurate budgeting.

The ability to “burst” cloud resources to meet demand peaks and scale to support long-term growth is also extremely valuable.

“Our customers no longer have to worry about issues like calculating their likely infrastructure needs over five years,” said Menon.
**VMWARE CASE STUDY**

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Mahesh Menon
Head
TCS-IT IS India Cloud Platform

**VMWARE FOOTPRINT**
- VMware vSphere 5.0 Enterprise Plus Edition
- VMware vCenter Server 5.0
- VMware vCenter Operations Manager 5.6
- VMware Professional Services Organization

**APPLICATIONS VIRTUALIZED**
- SAP ECC 6.0 and later versions
- Oracle Database 11g
- JBoss
- MySQL
- Apache
- Pentaho open resource reporting application
- Zimbra 6.0
- Microsoft Exchange Server 2010
- iON applications

**PLATFORM**
- Cisco UCS B230M1 and M2 servers, HP ProLiant BL460 blade servers
- NetApp 3140 and NetApp 6280 storage systems
- Cisco Catalyst 6509 switch

TCS-IT IS believes businesses can use the ICP to lower their IT costs by up to 30 percent, while gaining access to an end-to-end infrastructure management service.

The ICP also allows businesses to access applications such as enterprise resource planning systems and email as a service from the cloud. They can either migrate their own systems into the cloud, or take advantage of TCS-IT IS’ own cloud-based business process outsourcing services, which encompass human resources, finance, accounting, procurement and analytics.

The ICP currently supports more than 10,000 Microsoft Exchange Server 2010 mailboxes on behalf of customers.

TCS-IT IS has standardized the process for migrating SAP, Exchange and several other widely-used systems into the ICP, ensuring customers can access them quickly and without major disruption.

For some businesses, moving to the cloud can take less than a month. “A couple of customers transitioned to and went live on our platform within about 20 days,” said Menon.

The ICP ensures the logical separation of individual customers’ data and applications, and delivers high availability levels. While service level agreements (SLAs) vary by customer, SLAs for infrastructure availability start at 99.9 percent and SLAs for application availability at 99.5 percent.

With the ICP now well established, Menon is extremely pleased with TCS-IT IS’ decision to choose VMware as the platform’s underlying technology. “Implementing VMware has enabled us to deploy a service that makes the difficult-to-attain benefits of cloud computing easily accessible for businesses across India,” he said.

**About Tata Consultancy Services.** Tata Consultancy Services is an IT services, consulting and business solutions organization that delivers real results to global business, ensuring a level of certainty no other firm can match. TCS offers a consulting-led, integrated portfolio of IT and IT-enabled infrastructure, engineering and assurance services. This is delivered through its unique Global Network Delivery Model™, recognized as the benchmark of excellence in software development. A part of the Tata Group, India’s largest industrial conglomerate, TCS has a global footprint and is listed on the National Stock Exchange and Bombay Stock Exchange in India. For more information, visit us at www.tcs.com.