Case study
National Institute of Education, Singapore

» THE FUJITSU TEAM, WITH THEIR DEDICATION AND RELENTLESS DRIVE, DELIVERED A CUSTOMISED PRIVATE CLOUD SOLUTION WITHIN 6 MONTHS TO ADDRESS OUR RESOURCE ALLOCATION AND ON-DEMAND PROVISIONING NEEDS. «

Mr Tan Hoon Chiang, CIO, National Institute of Education, Singapore

The customer

Country: Singapore
Industry: Education
Founded: 1950
Employees: 1,200*
Website: www.nie.edu.sg

*estimated as at October 2011

The challenge

NIE was looking for a solution which gives them the flexibility in deploying its ICT resources to maximize utilization, and better manage project costs without compromising on end user experience.

The solution

Fujitsu customized a private cloud solution to allow NIE to leverage on the consumption and delivery model of cloud to meet their requirements.

The customer

The National Institute of Education (NIE) is Singapore's national teacher training institute, committed to the mission of creating a world-class institute renowned for its excellence in teacher education and education research. With approximately 1,200 employees* and 6,090 full-time students, NIE provides for all levels of teacher education, from initial teacher education programs to professional development programs for in-service teachers and executive leadership programs.

The challenge

In 2003, NIE initiated education research projects which required significant Information Communication Technology (ICT) infrastructure support.

Typically, every project team is allocated a budget to purchase ICT equipment independently with no leveraging or reusing of equipment. The equipment was returned to the IT department to manage after the project was completed, leaving the IT team with the arduous task of managing an increasing pool of equipment while trying to match the existing hardware inventory to new project requests. This resulted in longer turn-around time from the IT team, while the excess equipment and data center space constraints were creating an internal hardware depot.

NIE needed a solution that would allow greater deployment flexibility, improve end-user experience, shorten turn-around times, and improve project costs and utilization, without compromising on data security.

The solution

Through Fujitsu's consultancy services, the consumption and pay-per-use delivery model of Cloud was identified as the solution to address NIE's challenges and to meet its requirements in a cost-effective manner. The building blocks of Cloud were mapped to the functionalities and processes that NIE requires:

On-demand, self-service – With a self-service portal, users can request for computer resources anytime and anywhere. The IT department is relieved from processing requests manually.

The benefit

- Reduced dependency on IT department for resources, maintenance and tracking
- Greater economies of scale and efficiency in asset utilisation
- Greater transparency in resource usage, allowing better cost management
- Maximum availability and flexibility to access work via mobile devices – anywhere, anytime.

Products and services

A Fujitsu integrated solution including:

- Fujitsu PRIMERGY Blade servers
- EMC VNX storage with Snapshot for backup management
- CISCO NEXUS network infrastructure
- CommVault Simpana
- VMWare vCloud Director, vSphere, Capacity IQ, Chargeback, Service Manager
- Symantec Altiris patching and asset management
- Nimsoft monitoring

Resource pooling – A common computer resource farm was created to allow users to dynamically request for the resources they require for their projects.

Rapid deployment – A provision mechanism built upon virtualization provided the capability to automatically provision or de-provision resources in a systematic manner to users.

Measured services - A set of comprehensive monitoring tools to track system resources usage as well as calculate cost charges to project teams based on usage and a pre-defined set of metrics.

Fujitsu developed the overall Cloud architecture and security strategy for NIE's private Cloud platform – the Research Data Centre (RDC). The RDC is built upon an open and modular infrastructure leveraging on best-of-breed, proven technologies. This translated to better cost efficiency, both during the initial setup as well as in long term maintenance.

The modular design gave NIE the ability to replace any of the building blocks when required, providing the flexibility to respond to changing demands. In addition, upgrades or downtimes in any of the building blocks will not adversely affect the operation of the RDC.

Following the design phase, the Fujitsu and NIE team worked closely to implement and rollout the RDC within 6 months. On top of system rollout, Fujitsu also implemented the Cloud Embarkment Program to build Cloud competency, skill sets and knowledge for NIE's core IT team. Recognizing user adoption was critical to any successful implementation, the program also includes activities targeted at end users to build a Cloud culture within the institute.

The benefit

The ubiquitous access to Cloud resources provided flexibility for NIE's researchers with ease of access, enabling more effective and efficient collaboration within and among the research groups.

Building the platform with open infrastructure components lowered the initial setup costs, allowing NIE to realize the ROI within a shorter period of time.

Key benefits include:

- Reduced the dependency on IT department for resources, maintenance and tracking whilst ensuring quick set-up with the auto provision of infrastructure on-demand
- Greater economies of scale with an open infrastructure and ensured assets were utilized more efficiently, and IT investment was optimized in the right way
- Greater transparency in resource usage with charged-back mechanisms, allowing project team to better manage project costs
- Maximum availability and flexibility for researchers to access work via mobile devices – anywhere, anytime.

Conclusion

Leveraging on available industry technologies and the expertise from Fujitsu's team, the private cloud solution for NIE was built from scratch to meet NIE's requirements. The private cloud solution provided greater scalability and flexibility in the deployment of resources, and optimized utilization. This lowered NIE's total cost of ownership, and enhanced end user experience.

"The flexibility of Fujitsu' deployment and open infrastructure components saw us achieving cost effectiveness with us deploying our resources more efficiently and at the same time developing reusable and re-deployable ICT resources. This has thus allowed us to dynamically support the various research communities in NIE. "
– Mr Tan Hoon Chiang, CIO, National Institute of Education, Singapore

About Fujitsu

Fujitsu is a leading provider of ICT-based business solutions for the global marketplace. Headquartered in Tokyo with approximately 170,000 employees supporting customers in 70 countries, Fujitsu combines a worldwide corps of systems and services experts with highly reliable computing and communications products and advanced microelectronics to deliver added value to customers.

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