SET
The Stock Exchange of Thailand

INDUSTRY
Financial services

LOCATION
Thailand

KEY CHALLENGES
- Improve global competitiveness
- Reduce testing and development time
- Scale to meet increasing demand for online trading

SOLUTION
VMware vCloud Suite increases SET's global competitiveness within securities trading through delivering a private cloud to reduce the release time for new online trading services.

BUSINESS BENEFITS
- Reduced development time for online services by 80%
- Doubled the concurrent user capacity
- Decreased data center energy consumption by 20%
- Reduced data center space by 60%

The Stock Exchange of Thailand moves testing and development to a private cloud

The government authority virtualizes its testing and development platform to release new online securities trading services to market faster.

Located in Bangkok, The Stock Exchange of Thailand (SET) serves as a center for the trading of listed securities, as well as providing the systems needed to facilitate securities trading. SET currently has 545 listed companies and is charged with encouraging public investment in local industries through information dissemination, investor education, securities listing and trading, and oversight of listed companies.

The Challenge

With strong competition from global capital markets, SET wanted to increase its competitiveness and grow its emerging online trading services for securities investment. To encourage investment, SET expanded its online trading to provide channels for PC and mobile devices with streaming for both Android and iOS platforms. The surge in demand from brokerage firms for these online services pushed the limits of SET's physical infrastructure. After experiencing a 40 percent increase in the user base over a single quarter, SET needed to ensure the system performance could scale to meet this projected growth. The number of concurrent users that could be supported had peaked at 70,000. "We have seen the volume from online trades grow from around two percent to now account for more than 30 percent of all trades conducted in our exchange," says Thirapun Sanpakit, Group Head of IT Operations, The Stock Exchange of Thailand.

With its heavy reliance on physical infrastructure, SET might lack the responsiveness needed for its testing and development activities. Sanpakit says, "We recognized that in expanding the SET's online channels we might not be able to scale the support required for our development team. If we had three or four major projects on at the same time, then the release of new functions and updates to brokerage houses was severely delayed. We needed to improve our business agility to compete with global capital markets."

The Solution

As a center of the capital market, SET needed a highly stable platform to encourage investor confidence in its online trading system. SET tested a number of virtualized solutions before consolidating its server infrastructure on VMware vSphere® virtualization platform. More recently, SET chose to work with VMware partner Yip In Tsoi to implement VMware vCloud® Suite to run a vSphere-based private cloud for its test and development environment. VMware® vCenter™ Orchestrator™ integrates the vCloud Suite with SET's existing cloud management systems to automate server provisioning by provide approval workflow and certain notifications when a server is being taken some action in vCloud Director. "Any downtime for our system can cause a major disruption to the market, so we chose a technology that we can trust. The features of the VMware solution, such as the ability to create high availability clusters that are safeguarded by Fault Tolerance, help our operations team to maintain the system and meet our service level from weeks to day to each user," says Sanpakit.

As well as rolling out enhancements and new features for the online trading platform, each brokerage house requires customized services. With vCloud Director, the testing and development team can now self-provision a dedicated virtual environment for each project to begin testing, and then deploy applications to the business using automated provisioning. Projects can be tested in

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VMWARE PROJECT FOOTPRINT

• VMware vSphere

• VMware vCloud
  Suite Standard

• VMware vCloud Director

• VMware vCenter Site
  Recovery Manager

• VMware vCenter
  Operations Manager

• VMware vCenter
  Chargeback Manager

• VMware vCenter
  Orchestrator

APPLICATIONS VIRTUALIZED

• Web farms
  - Internet Trading
  - Corporate Web site

• Application testing
  and staging

• Enterprise support
  - Microsoft Exchange
  - Microsoft SharePoint,
    Intranet
  - Workflow
  - Job Scheduler
  - Monitoring and Backup Tool

PLATFORM

• Hewlett Packard

• NetApp

PARTNERS

• Yip In Tsoi

parallel and within virtual clones of SET's production environment. vCloud Suite provides SET with clear visibility into the costs incurred by each business unit. The organization is using VMware vCenter Chargeback Manager to provide visibility into testing and development costs to deliver accurate analysis and reporting to SET's senior management team.

SET uses VMware vCenter Site Recovery Manager for virtual machines which do not have replication or disaster recovery capability at the application level to reduce Recovery Time Objectives (RTO) and eliminate certain manual tasks in order to ensure replication. With VMware vCenter Operations Manager, the SET team is able to proactively manage and diagnose issues within their infrastructure.

Business Results & Benefits

SET has significantly reduced the development time for new online trading functions and services available to brokerage firms. In using a private cloud to provision new services, SET can now allocate costs directly to each business unit through an integrated self-service portal that enables workflow approval and accurate cost center reporting. Sanpakit says, "Previously we had no insight into the costs incurred by each business unit through testing and development, and it may well have been possible that certain departments were subsidizing others. We provide a large number of services and it is our goal with our VMware platform to improve the transparency of IT costs so each business unit remains accountable for their spending."

The implementation of a private cloud has enabled SET to reduce the data center space by 60 percent, with a corresponding 20 percent decrease in energy consumption. Along with these core reductions in managing SET's private cloud, the company's IT team numbers have been maintained, while being able to move their focus to strategic projects within SET.

System availability and customer satisfaction are critical to SET's attempts to improve its global competitiveness. SET has improved its business agility through an 80 percent reduction in the time taken to release new services. The reduction in development time has had a direct impact on the number of brokerage clients conducting online trading with SET. It has also eliminated the risks generated when applications are created and tested and then fail to function correctly when transferred to the production environment. "We have never lost a customer. Our online brokerage clients have increased by six times the original number. This translates into the exchange's online platform now supporting more than double the number of concurrent users possible with the physical infrastructure," says Sanpakit.

Looking Ahead

SET has plans to implement a public cloud for brokerage houses to reduce the need for firms to locate servers within the exchange's data center in order to reduce latency in the next few years. The organization is also considering the implementation of virtual desktop infrastructure in the next year. "Providing cloud solutions direct to brokerage firms is the next step for SET in moving to a complete cloud infrastructure. The gains we make through on going business efficiencies and cost savings help us achieve our goal of improving confidence in securities trading in Thailand and increasing customer satisfaction with our services," says Sanpakit.

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