CUSTOMER
King Abdulaziz City for Science and Technology (KACST)/Internet Services Unit (ISU)

WEB SITE
isu.net.sa

INDUSTRY
Governmental Service Provider focused on serving academic institutions.
EMEA Government

LOCATION
Riyadh and Jeddah, Saudi Arabia

KEY CHALLENGES
- Needed a partner who could provide complete end to end cloud solutions for their customers
- Embedded security and being able to automate the networking and security were important
- A key challenge was having a cloud platform that was easy to deploy and manage

SOLUTION
VMware NSX and vRealize Automation met ISU's key requirements of being able to build a complete cloud service that included the needed networking and security functionality and automation.

BUSINESS BENEFITS
- Enhanced customer experience through self service and embedded automated security and networking
- Service creation reduced from 3 weeks to under an hour
- Elimination of manual physical network and firewall changes, that are error prone

مدينة الملك عبدالعزيز
للعلوم والتقنية KACST

VMware empowers King Abdulaziz City for Science and Technology's Internet Services Unit to provide reliable, secure, high performance quality cloud services.

King Abdulaziz City for Science & Technology's (KACST) Internet Services Unit (ISU) needed to build a reliable, secure, scalable Public Cloud service that is automated and on-demand. It also needed to provide seamless operations for their customers, which includes all of the academic institutions and government organizations in Saudi Arabia. ISU was able to satisfy this requirement by deploying VMware NSX for network and security virtualization and VMware vRealize Automation to automate the service creation and delivery of personalized infrastructure and applications to its customers.

ISU was established as part of KACST, an independent scientific organization. ISU's function is to support the technology needs of education and government sector in Saudi Arabia, with the primary focus on providing Internet and IT services, in addition to consultation to academic institutions.

The Challenge
Part of the mandate for ISU is to provide hosting services to academic customers who have ever growing demands. ISU had the target of building a Cloud service to meet these demands, but needed a reliable platform that they could easily deploy and maintain. Additionally, it was important that it had wide industry support, native advanced security capabilities and could serve as a strong foundation to build a roadmap of future services. After analysing various platforms, a noticeable challenge was the lack of simple, flexible, feature rich and easy to manage solutions in the market.

Khaleel K. Al-Jadaan, Deputy Director, Network Operations Manager, ISU said, "A complete and secure cloud service was the top priority. We were facing a challenge to identify the right solution and vendor that could cater to our needs and help us overcome our business challenges. VMware has proved to be the trusted partner time and time again to provide compelling and reliable solutions."

Another important challenge was the need to provide customers the capability to automatically choose the security needed and be able to configure the supporting network on demand without human intervention, all the while maintaining complete and secure isolation of customer assets from other customers or internal shared services. Essentially ISU needed to provide Firewall-as-a-Service to their customers. Additionally, the solution they were looking for had to provide a unified IT service catalogue to deliver infrastructure-as-a-Service (IaaS), and have the capability to provide Platform-as-a-Services (PaaS) and Software-as-a-Service (SaaS).

The Solution
After their evaluation and analysis, ISU decided on VMware to meet their requirements and eradicate existing business challenges. Positive results were achieved with their deployment of VMware NSX and VMware vRealize Automation. vRealize Automation is

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VMWARE FOOTPRINT

• VMware NSX
• VMware vRealize Automation
• VMware vRealize Orchestrator
• VMware vRealize Operations
• VMware vRealize Log Insight

APPLICATIONS VIRTUALIZED

• MS Exchange, MS Active Directory, MS SQL, LDAP, Apache Web, IIS Web, MariaDB(MySQL), Wordpress, Tomcat

PLATFORM

• Various Windows and Linux Operating Systems
• Server Hardware is HP C7000 series

PARTNER

• NetApp for Storage
• Veeam Software for backup
• HP for hardware

"The implementation of cloud services with VMware has given us a great opportunity to lead the market in Saudi Arabia in a growing education and government sector."

Abdulmajeed Al-Osaimi, Systems and Development Manager

to provide the automation, workflows and unified service catalogue for their customers, that also embedded all needed security and networking services through NSX. The customer logs on securely through VPN, provided by NSX, to their service catalogue and chooses one of various IaaS services, and can also choose a firewall service on top of it, also through NSX. This provides the customer with the capability to build a multi-tier setup on the fly with all the needed security and networking. Additionally, ISU built the capability for customers to choose if they wanted their services to be consumed as a Virtual Private Cloud service or as a Public Cloud service.
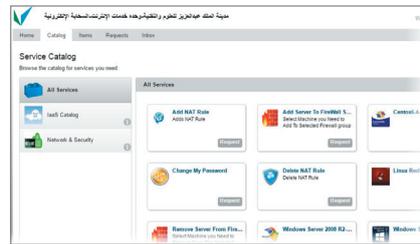

Figure 1: KACST Unified Service Catalogue

The Virtual Private Cloud service would allow requested services, such as VMs (virtual machines), to only be accessible from the customer campus and thus secure from the outside world. The Public Cloud service consumption mode allowed customers, such as Universities, to select specific VMs to be accessible to the wider Internet, so that students and professors (for example) can access needed University applications and their academic data from their homes.

ISU's cloud service was designed, planned and deployed by ISU staff, independently of any external professional service organizations.

Business Results & Benefits

ISU has built the first on-demand and self-service public cloud service in Saudi Arabia, where customers are now able to access the data center directly and securely through an automated portal to request new services and to manage existing workloads without any human or manual interaction.

Customers can self-provision computational and storage resources with the needed network and security facilities built in. Additionally, automated

multi-tier applications can be provisioned with all the underlying networking and security automatically provisioned. Customer administrators have the control to choose between having their new services available as a Virtual Private cloud service only visible through their campus, or as public service accessible though the public Internet.

"Through this solution from VMware, we are able to improve our customer satisfaction by giving them on-demand self-service control to rapidly provision their own services and networking through our portal, in a secure and governed manner." Dr. Mohammed, Director of KACST Internet Services Unit

"After implementing the solution from VMware, to automate the networking and security of our hosted customers, we were greatly relieved of the headache of frequent requests made for provisioning and changes, which were needed to be done to the network and firewall configuration." Mohamad Al-Ghamdi, Network and Security Operations Manager

"The implementation of cloud services with VMware has given us a great opportunity to lead the market in Saudi Arabia in a growing education and government sector. After evaluating the success rate post deployment, we have realised that we are able to deliver new services to customers within an hour, which used take from 4 days up to 3 weeks. This enables our team to spend more time on less manual tasks, not to mention invest in new projects." Abdulmajeed Al-Osaimi, Systems and Development Manager

Looking Ahead

ISU greatly believes in the future of automation and embedded security for the success of next generation data centers to provide leading and innovating services to customers and end users. With VMware's software infrastructure platform in place, they are positioned to rapidly develop new services to meet ever-changing customer needs. Currently they are continuing their cloud journey and working towards developing a cloud services roadmap for new service development and role out plans.

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