King Faisal Specialist Hospital & Research Centre

A leading tertiary healthcare provider
The King Faisal Specialist Hospital and Research Centre is a 1500+ bed tertiary care facility located over three sites in Riyadh and Jeddah (the largest two cities in the Kingdom of Saudi Arabia). It has a total staff of more than 12,000. The hospital has three sites connected via WAN links.

The hospital operates its core administration system, used by all hospital workers to deliver patient care, store patient records and so on, across 7000+ workstations and devices within its three sites.

Information Technology Affairs (ITA) is the department responsible for providing the many cutting-edge IT services that the hospital needs. In addition to user support through its helpdesk services, the department manages and supports the hospital’s entire IT infrastructure, including its systems, databases, communications, collaboration systems and network. The ITA is also required to ensure that users’ are able to fully utilize their various personal mobile devices in the performance of their duties – this was previously a great challenge.

The ITA is also responsible for the availability and support of the hospital’s core applications, such as the Integrated Clinical Information System (CERNER Millennium), the Integrated Financial and Materials Management System (Oracle-ERP), an advanced Business Intelligence solution (encompassing data warehouse and enterprise reporting) and many other department-specific applications. It has an in-house development team which creates and supports bespoke applications (mainly web apps).

The challenge: managing distributed client devices
Before adopting Citrix® technologies, troubleshooting, upgrading and applying fixes often meant a member of the IT team would need to physically visit an individual workstation. This meant inefficient use of resources, high costs and delays resolving issues, as the IT team worked to individually update PCs and legacy clients across the hospital.

For the IT team, supporting the applications core to the hospital’s operation on such a high number of workstations was very resource intensive and an almost impossible task to manage. Delays in resolving issues meant there was either system redundancy or patient care challenges. This distributed environment also

Industry:
Healthcare

Key Benefits:
- Business agility and productivity
- Mobility - access from any device, anywhere
- Security
- Cost savings
- Operational simplicity

Citrix Products:
- Citrix XenApp
- Citrix NetScaler Gateway
- Citrix NetScaler
presented potential challenges in confidentiality, security, data management and protection since data was being stored locally, rather than centrally.

With a growing user base and limited resources, ITA had to quickly come up with a solution. It could not compromise on the level of service that users are expecting.

**The solution: creating a virtual, centralized environment**

The IT team looked at how they might best address these challenges to create a more efficient, cost effective and secure IT infrastructure for a growing number of hospital users. It was clear that the best solution was to centralize the hospital administration system and applications and deliver them as an on-demand service. As such, the IT team began testing various solutions to create a centralized, virtual infrastructure. Having decided that Citrix XenApp®, coupled with Citrix NetScaler® and NetScaler Gateway™, best met the hospital’s requirements, the team undertook the first stage of the project in the Jeddah hospital, running its existing ‘fat’ clients alongside the Citrix ‘client.’ The Citrix XenApp deployment went smoothly and users quickly appreciated the value this new reliable and stable platform gave them and in turn, their patients.

Citrix NetScaler Gateway™ is used by the hospital to enable controlled, secure application and data access. This is particularly important to empower its remote users.

In addition, to handle Microsoft Unified Communications and Exchange, the hospital implemented Citrix NetScaler. NetScaler’s load balancing capabilities provide the intelligence to always direct each request to the right server resource, along with the capability to continuously monitor the health of application and web servers.

Following a successful trial, the Citrix solution was then rolled out to all users across both hospitals and has become the default platform to deliver the hospital’s core applications.

**Key benefit: reducing costs, while increasing productivity, flexibility and security**

The hospital is now able to provide access to data and applications to all users, irrespective of location, ultimately resulting in a better service to its patients. The environment is more efficient and the ITA is now able to offer the highest level of service to its users with a greatly reduced onsite presence, significantly saving operating costs. Upgrades, new deployments, system changes and application issues are simple to address. Operational expenditure has been greatly reduced compared to that of the earlier legacy client/server model. The ITA is now able to centrally manage the hospital’s applications more efficiently.

Consolidating applications and data in their main datacenter has also enabled the hospital to better secure its data, ensuring the highest level of patient confidentiality and delivering a more effective business continuity solution.

External and remote working users now have secure and ready access to the hospital’s applications and information via Citrix NetScaler Gateway. This means wherever they are and on whatever device, they can deliver a higher level of service resulting in increased patient care. The hospital has the benefit of a BYOD solution, which was previously a challenge, giving its users access to all the hospital’s applications and information securely from anywhere, via any device.
Citrix NetScaler has also given the hospital a load balancing solution to prevent any application server from becoming a single point of failure, thus improving overall application availability and responsiveness.

**Looking ahead**

The hospital is in the process of adopting further Citrix solutions, with Citrix XenDesktop soon to be implemented.

**About Citrix**

Citrix (NASDAQ:CTXS) is a cloud company that enables mobile workstyles—empowering people to work and collaborate from anywhere, securely accessing apps and data on any of the latest devices, as easily as they would in their own office. Citrix solutions help IT and service providers build clouds, leveraging virtualization and networking technologies to deliver high-performance, elastic and cost-effective cloud services. With market-leading cloud solutions for mobility, desktop virtualization, networking, cloud platforms, collaboration and data sharing, Citrix helps organizations of all sizes achieve the speed and agility necessary to succeed in a mobile and dynamic world. Citrix products are in use at more than 330,000 organizations and by over 100 million users globally. Annual revenue in 2012 was $2.59 billion. Learn more at [www.citrix.com](http://www.citrix.com).

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