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### Healthcare IT in the Gulf

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*Rising affluence in the Gulf region over recent decades has been accompanied by a dramatic increase in healthcare IT implementations at a growing number of hospitals. The reasons for this are similar to those in the Western world – to increase the quality of healthcare services. Such a trend is perceptible at both public, State-owned as well as private facilities.*

Meanwhile, additional impetus to IT adoption has been provided by the global economic crisis, which has not spared even this oil-rich region. The recession has forced hospitals and healthcare providers across the region to rethink their business strategies. IT and medical technology adoption is moving across the spectrum, from being driven by bells and whistles-plus-performance to an assessment of its overall impact on cost and organisational performance.

Such a process is anchored by both global players as well as local firms. Many of the latter are staffed at senior levels by expatriates, principally from the West and India. These globetrotting executives have brought awareness of best practices and other benchmarks to their operations in the region.

Nevertheless, personal relationships do matter in the Gulf and healthcare IT, like other activities, is very much a people business. In spite of the presence of some dominant local IT solutions providers, the healthcare segment continues to be marked by the presence of small, specialised resellers as well as independent consultants.

Compared to a decade ago, a perceptible change is the absence of demos and road-shows made by global vendors to enraptured audiences in a hospital ward. Instead, it is quite common today to witness IT professionals doing the rounds of hospitals with physicians and nurses, interacting with patients and following up with detailed dialogue, rather than glitzy PowerPoint presentations.

One good example of the systemic foundations of this new approach is in new technology strategies adopted by regional hospital groups such as Zulekha, which have implemented e-health facing solutions across the Middle East.

In recognition of such efforts, Zulekha Hospitals Dubai and Sharjah received accreditation in 2008 from the Joint Commission International (JCI), the largest American healthcare technology standardisation body, which focuses on improving the safety of patient care (from admission to discharge) through rigorous certification services. JCI accreditation is considered to be the 'gold standard' for healthcare performance. Underlining its rigorous requirements is the fact that only 220 healthcare organisations in fewer than 35 countries across the world have been accredited by JCI.

On its part, the IT industry has responded to the new opportunities in the region presented by high-demand environments such as healthcare. In November 2008, IBM and Intel inaugurated the Dubai Competence Centre for

Industry-Standard High-Performance Computing at IBM's Dubai Internet City (DIC) building.

A sample of healthcare IT implementations and projects in the region over the past two years is provided below:

#### **Bahrain: Microsoft and Sun**

Although Bahrain has long been at the forefront of per capita spending on healthcare technology, its IT backbone has been marked by considerable fragmentation. In fact, Bahrain is one of the few States which has more or less officially opposed the idea of Open Source as yet another addition to the heterogeneity of its IT architecture.

With a healthcare network centred on the huge Salmaniya Medical Complex, seven smaller hospitals, 22 health centres and scores of clinics spread across a cluster of 33 islands, Bahrain's Ministry of Health has sought to increase collaboration between medical teams at decentralised locations. The contract for this was won by Microsoft partner IDEAS IT, which developed a Web-based content management system and

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Intranet portal using Microsoft Office SharePoint Server 2007. The benefits claimed by the new system: "policy approval time cut from months to days."

Microsoft rival Sun Microsystems, has also not been idle. However, its strategy has been to mount a wider campaign aimed beyond healthcare. It recently announced an overhaul of its support capability through a new alliance with Computer World, by virtue of which the latter will resell and integrate Sun's server and open storage offerings, as well as promote solutions around virtualisation in Bahrain. Some of the latter will no doubt be targeted at e-health infrastructure.

#### **Kuwait: Importing A Turnkey Hospital And Know-How From Germany**

Routine technology upgrades and new deployments continue in a country which hosts one of the region's oldest healthcare networks. The Kuwaiti Health Ministry's AfyaNet LAN/WAN net-work dates back to the 1990s, allowing for the combination of voice, data, and video and forming the foundations of a National Health Information System and a National Patient Database.

More recently, Kuwait has decided to do something entirely new. In January 2009, it signed up UMC, the consulting arm of Hamburg's renowned University Medical Centre (UKE) to draw up plans by year end for a brand-new 150-200 bed hospital complex (with rehabilitation facilities, a hotel, apartments and a shopping mall). The hospital is designed to match standards at UKE. One of its key objectives will clearly entail heavy investments in distributed, real-time IT systems, in order to provide quick turnaround health check-ups, including a radiation-free MRI body scan, within four hours.

#### **Saudi Arabia: Getting e-Health Ready**

One of the most ambitious IT projects in the Gulf region in recent memory also involves Nortel's Unified Communications architecture. King Fahad Medical City is one of the biggest healthcare facilities in the Middle East, with four hospitals and 270 primary clinics servicing almost 2,000 patients each day. The group has deployed a state-of-the-art, clinical-grade healthcare communications solution, built atop. This includes the Nortel Media Processing Server 500 (automated routing and multi-language speech capabilities) and the Communication Server 1000, which provides IP and legacy telephony services for more than 5,000 extensions. It also includes Nortel's Contact Centre with skills-based routing and management reporting capabilities and for a more efficient and personalised customer experience.

The solution, which constitutes a futuristic foundation for e-health applications, integrates IP Telephony and interactive voice response (IVR) capabilities with legacy voice systems to promptly provide patients with responsive, personalised care from the appropriate physicians.

Other Saudi Arabian hospitals have also recently made major IT investments. EBH (Dr. Erfan-Bagedo General Hospital) recently rolled out the Millennium PathNet solution from Cerner. The PathNet solution is connected to the hospital information system, and is part of EBH's strategy to automate the managerial and operational aspects of its laboratory and provide faster, more accurate lab services for the more than one million patients it serves each year.

#### **United Arab Emirates:**

Nortel's Unified Communications solution has been implemented at the spanking-new Sharjah Teaching Hospital in the UAE (210-beds), to give its 700 physicians mobile (from anywhere at any time) to MRI, ultrasound and CT scan data as well as mammograms.

The equipment in the solution includes Nortel WLAN 2300 Series switching and access points for mobile voice and data capability, its WLAN Handset 6140 for roaming communications as well as the Ethernet Routing Switch 4500 and 8300 for full redundant 10 gigabit Ethernet connectivity and the Communication Server 1000 for VoIP and unified messaging. As a teaching hub for colleges at the University of Sharjah, the new solution is also aimed at providing students with secure access to clinical notes and health information from anywhere on campus, and participate in virtual classrooms. The solution delivered to Sharjah Teaching Hospital includes Nortel Ethernet Routing

Meanwhile, at Sharjah's sister Emirate, Al Ain, Tawam Hospital (a 468-bed tertiary care facility affiliated with Johns Hopkins University in the US) has implemented Cerner Millennium, the solution's first implementation of its kind in the UAE. The hospital is owned and run by the Abu Dhabi Health Services Company (SEHA), one of a total of SEHA's 14 medical facilities and over-50 primary health and ambulatory clinics.

The Cerner solution connects radiology, pathology, pharmacy, surgery, emergency, and front-desk departments. By the end of 2009, another four hospitals and 12 clinics are due to also deploy the Millennium solution as part of a roadmap to create a unified electronic medical record (EMR) for hospitals and clinics across the UAE and create a closed-loop medication administration process, to enhance patient safety.

Strengthening Tawam Hospital's claim as a first-mover in the region's public hospital system is another recent deployment, of latest iSite PACS (Picture Archiving and Communication System). Tawam is also the first public hospital in the Middle East to implement Philips' fee per study' model, by virtue of which it pays a monthly fee to view, distribute and store medical images, instead of paying a large upfront price. In return, Philips guarantees 99.99% uptime and all the latest features to the workstation (currently consisting of fully interactive real-time volumetric

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reading delivered to the PACS workstation via its iSyntax advanced rendering and scalability technology).

Dubai, too, has recently rolled out HP's latest generation Blade servers and storage solutions at American Hospital Dubai (AHD). The key goal is to enable the hospital implement a backbone integrated healthcare information system. HP has provided service-level agreements (SLAs) to guarantee the highest possible uptime. AHD's CIO is explicit on the motives behind the deployment: to create "a new standard of services similar to that in the US healthcare system."

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