

# Case Study

## New Dubai Hospital Drives Growing Medical Tourism With 3Com® High-Performance Small Business Network

Organization: NMC Specialty Hospital

Location: Al Nahda, Dubai, United Arab Emirates

Employees: 250

Market Segment: Healthcare

Applications: Siemens Hospital Information System (HIS) application and Picture Archiving and Communications Systems (PACS), Microsoft Office suite

### The Challenge

With nearly 5 million tourists per year already flocking to Dubai for its golden sands and luxurious lifestyle, the United Arab Emirates (UAE) seeks to become a hub for medical tourism, a fast-growing, multi-billion dollar industry in which visitors combine healthcare treatment with recuperative stays at tourist resorts.

To capitalize on this promising market, NMC—a diversified conglomerate with roots in healthcare—launched the 100-bed NMC Specialty Hospital in February 2005. Designed to provide world-class care, the 24/7, four-story facility is staffed with highly skilled super specialists and offers the region's most sophisticated medical technologies. Some of the state-of-the-art Medical equipments installed include heart mapping equipment, a 16 slice CT scanner, MRI, a cardiac catheterization laboratory, digital ultrasound, digital mammography, Hologic Dexaa for bone densitometry and an arrhythmia mapping unit.

In the summer of 2005, the hospital also will deploy powerful Siemens HIS and PACS systems. These solutions will greatly expedite the flow of medical information and lab results among caregivers and administrators throughout the facility, enhancing diagnoses, treatment, and billing.

To support these systems, NMC needed a network with both a powerful backbone and flexibility at the edge so bandwidth could be cost-effectively customized for users' needs. To quickly access medical images, which can be hundreds of megabytes in size, physicians and clinicians require workstations with far greater connectivity than the desktops that administrators and other employees use.

Moreover, to attract medical tourists, the Specialty Hospital must offer its services affordably, which meant its network had to be inexpensive to deploy and own. The system also must deliver nonstop availability. Any networking failure could impede crucial medical services, put patients at risk, and compromise the hospital's reputation for excellence.

### Why 3Com

In evaluating networking solutions, NMC banked on its experience operating five other hospitals and medical centers in the UAE. These facilities long depended on 3Com® data solutions, providing caregivers with superior performance easily, reliably, and economically.

After surveying the marketplace, NMC looked no further than 3Com edge switches, selecting a SuperStack® 3 Switch 3800 platform and ten SuperStack 3 3200s. Tailored for small- and medium-sized enterprises, these systems deliver superlative performance in affordable, easily-managed form factors. The Switch 3800 offers 48 auto-sensing 10/100/1000 ports, allowing NMC to easily provision power users with Gigabit connections. The Switch 3200 provides Layer 3 routing, thereby switching traffic locally and reducing pressure on the network's core.

To anchor the network, NMC chose a pair of SuperStack 3 Switch 4950s linked via XRN® (eXpandable Resilient Networking) technology, which allows the switches to distribute the network fabric. Should one device be removed from the network, the other will continue providing all services.

The Switch 4950s connect to the hospital's server farm and Switch 3800 and 3200s at Gigabit Ethernet speed. To enhance availability and performance further, the servers and many of the 3200 switches have dual connections using 802.3ad link aggregation.

"3Com provided us with a complete network for less than \$25,000 US," said Bandaru Sheshu, Technical Manager, Reliance InfoTech, the in house IT provider for NMC. "In light of the system's performance, resiliency, and intelligence, we view this as a tremendous value that we couldn't obtain with any other vendor."

To ensure its network operates effectively, NMC chose to manage its hospital network with 3Com Network Supervisor.

"Because we're very happy with the superior performance and value of the 3Com systems we use in our other medical facilities, we decided not to take chances with other vendors' equipment at our new hospital," said Sheshu . "Our choice was easy. Sticking with 3Com is a smart medical and business decision."

NMC's solution consists of the following products:

- 3Com SuperStack® 3 Switch 3200 Family  
[Read more here:](#)
- 3Com SuperStack 3 Switch 3800 Family  
[Read more here:](#)
- 3Com XRN® Interconnect Kit  
[Read more here:](#)
- 3Com SuperStack 3 Switch 4950  
[Read more here:](#)
- 3Com Network Supervisor  
[Read more here:](#)

#### The Benefits

By deploying 3Com networking solutions, the NMC Specialty Hospital can deliver the affordable, high-quality healthcare to attract visiting patients from the Middle East and beyond. Using its 3Com systems, the hospital has the

Performance at the core and the intelligence at the edge to optimize its present and future networked medical systems.

"Our investment in 3Com technology is giving NMC a decided competitive advantage in winning patients who come to Dubai for medical reasons," said Sheshu. "The 3Com solution is another example of the commitment we are making to quality care and service."

When the Siemens systems are added to the organization's healthcare infrastructure, caregivers will use the network to deliver clinical information where and when it is needed, streamlining workflow and improving patient care. Laboratories will rapidly forward test results and images to physicians as soon as they become available, ensuring prompt treatment. Each patient's information will be quickly shared between appropriate medical and business departments, streamlining processing and billing.

The hospital's 3Com edge switches permit it to easily meet each user's bandwidth needs, including Gigabit Ethernet links to workstations that receive and send very large imaging files. "Thanks to 3Com, we will better manage information and processes for greater efficiencies and cost-savings," said Sheshu. "Additionally, by containing traffic to workgroups, labs, or departments, our edge switches reduce stress on the rest of the network, helping to eliminate latency and system crashes. Bandwidth-intensive images from the radiology lab, for example, are routed directly to attending physicians, bypassing the network's core."

The dynamic routing of the 3Com 3250 and 3226 switches also simplifies management. "By reconfiguring when the network changes without administrator intervention, these systems reduce our operating costs," said Sheshu. "Moreover, our stackable 3Com edge switches are scalable, allowing us to easily add bandwidth as needed."

In addition, unequalled resiliency lies at the heart of the hospital's network. Linked by 3Com's patented XRN technology, the Switch 4950s ensure the uninterrupted delivery of patient-critical applications.

"We also manage both core switches as a virtual unit, reducing our administrative expenses," said Sheshu. "3Com Network Supervisor further eases management by permitting us to graphically view and control the devices and links on our network."

"3Com's high-value solutions are enabling us to build our hospital with confidence," concluded Sheshu. "With 3Com systems driving our technology-based health and administrative services, NMC Specialty Hospital is a showcase facility that patients worldwide can trust. We've found that 3Com is a company you keep. When lives are at stake, NMC will settle for nothing less."