

Hammersmith Hospitals NHS Trust



EMC helps Hammersmith Hospitals improve information management

SOLUTION SNAPSHOT

Hammersmith Hospitals NHS Trust has adopted SAN and CAS systems and deployed a virtual infrastructure layer as part of its information management strategy.

- **Primary applications:**
Core business applications, patient management systems, in-house applications, picture archiving and communication systems (PACS) and Novell GroupWise email system
- **EMC Software:**
Navisphere Management Suite and SnapView
- **Storage Infrastructure:**
EMC networked storage utilising EMC CLARiiON CX700 and EMC Centera
- **Virtualisation software:**
VMware ESX Server and VMotion

BUSINESS VALUE HIGHLIGHTS

Profile: The Hammersmith Hospitals NHS Trust is one of London's largest. Established in 1994, the Trust combines four major hospitals: Charing Cross, Hammersmith, Queen Charlotte's & Chelsea and Ravenscourt Park. It handles more than 460,000 inpatient, outpatient and day case consultations a year.

Challenge: Hammersmith Hospitals NHS Trust needed to improve information access and availability to users, and make its picture archiving and communication systems (PACS) more efficient and compliant with the National Programme for IT NHS Care Records Service.

Business Value: Hammersmith Hospitals NHS Trust is using an EMC storage area network in conjunction with VMware server virtualization software and an EMC Centera content addressed storage (CAS) system to deliver the following benefits:

- Increased storage utilisation from 30 percent to nearly 90 percent, while managing a 50 percent annual information growth rate
- Moved data off PC hard drives to a central system to ensure data protection and availability
- Cut out server downtime by adopting a storage area network (SAN) and virtual infrastructure layer with VMware
- Replaced its disk library with Centera to reduce the recall of radiology images from several minutes to a few seconds
- Deployment of Centera feeds into National Programme for IT's NHS Care Records Service

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The Trust understands the importance of access to patient records both for patient care and meeting government targets. To successfully hit these goals, Hammersmith Hospitals is utilising the latest information management solutions from EMC.

Hammersmith Hospitals' existing storage infrastructure was based on a direct attached storage (DAS) environment. This created several information management challenges and impacted the Trust's ability to offer patients the highest level of service. It was experiencing a 50 percent annual information growth rate, yet only had a 30 percent storage utilisation rate. The IT department therefore recognised the need to replace its DAS architecture with a storage area network (SAN) solution.



“We are committed to delivering the best possible patient care and our IT systems are an integral part of this promise. Our systems were not meeting the needs of the organisation and we needed to review our information management strategy.”

—Mathew Williamson, Head of Infrastructure, Networks and Security, Hammersmith Hospitals NHS Trust

SAN consolidation

The Trust discovered that carrying out maintenance on its servers, meant that applications were not available to staff and operations were disrupted. As such, it had to ask the board for permission to carry out maintenance. It was important that staff data was saved in a centralised system, rather than risk having information and documents stored on PC hard drives.

To find a technology solution to meet this operational need, the IT department, led by Laurent Debenedetti, undertook a review of three major information management and storage vendors. Following a detailed evaluation process, the Trust selected independent consultancy, DCG Datapoint to deploy an EMC CLARiiON CX700 system with EMC Navisphere Management Suite and EMC SnapView for local replication.

“The EMC technologies met our needs. Coupled with DCG Datapoint's consultancy the SAN enables us to consolidate our infrastructure onto a more robust and better-performing storage platform. This helps us to more effectively support our core business applications, patient management systems, in-house applications and Novell GroupWise email system” explained Williamson.

Virtual infrastructure

The adoption of the EMC CLARiiON has provided additional IT benefits. Hammersmith Hospitals has now been able to implement a virtual infrastructure layer from VMware. By deploying VMware ESX Server and VMotion software, the Trust can provision new services and change the amount of resources dedicated to an application simply by interacting with a management console. Management of the hardware environment is handled completely separately from software management. Hardware is treated as a single pool of processing, storage and networking power – which can be allocated or reallocated to support various applications ‘on the fly’.

“With virtualisation, we can perform zero-downtime maintenance by moving virtual machines around. This way the underlying hardware and storage can be serviced without impacting user information access. We now don’t need to ask the board to grant server downtime because information can be made available without performance issues,” commented Williamson.

Centera for PACS

In a separate project to support Hammersmith Hospitals’ picture archiving and communication systems (PACS), the Trust turned to GE Healthcare, one of the world’s leading providers of medical technology. The Trust was using an optical disk library for its PACS but found it very slow in delivering radiology images to staff. Within a managed services environment, the Trust has deployed its PACS offering on two EMC Centera content addressed storage (CAS) systems for long-term image archiving. By moving from a disk library to Centera, recall of radiology images has been cut from several minutes to a few seconds. This has been critical in making hospital staff more efficient and productive in delivering the best possible patient care.



“The deployment of EMC Centera for our PACS solution provides us with local archiving and will also feed into the National Programme for IT’s NHS Care Records Service when it becomes nationally available in 2007,”

—Mathew Williamson, Head of Infrastructure, Networks and Security, Hammersmith Hospitals NHS

Next steps

Hammersmith Hospitals is already looking to evolve its information management strategy with EMC. The Trust is thinking about additional EMC Centera systems to support the hospital’s long-term archival and growing volume of moving images such as electrocardiograms (ECG). It is also considering a second EMC CLARiiON to enhance its business continuity strategy by replicating data between sites.

“Without fast and accurate information, we are not able to provide the best possible patient care. Working with our partners and EMC, we are improving access to information to support the effective delivery of patient care.”



EMC Corporation
EMC Tower
Great West Road
Brentford
Middlesex
TW8 9AN
UK
Tel: 0870 608 7777

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