

A Case study



Lincolnshire NHS Shared Services

CSA Waverley Ltd help Lincolnshire NHS Shared Services implement a Storage Area Network-based solution that offers increased performance, scalability, and a good return on investment.



W A V E R L E Y

Lincolnshire NHS Shared Services - Background

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Most organizations recognise the problems of ageing hardware and increasing user demand. For Lincolnshire NHS Shared Services, capacity and reliability issues were affecting a major administrative system. With the help of CSA Waverley Ltd*, Lincolnshire NHS Shared Services has implemented a Storage Area Network-based solution that offers increased performance, scalability, and a good return on investment.

Lincolnshire NHS Shared Services (LSS) provides support to the health community throughout Lincolnshire. With a mission to support better health care, it offers non-clinical services to Lincolnshire Partnership NHS Trust, West Lincolnshire Primary Care Trust, Lincolnshire South West Teaching Primary Care Trust, East Lincolnshire Primary Care Trust.

Employing 271 people LSS shares common resources such as pay and workforce services, informatics, financial services, procurement, estate services and special training and NVQs. In the information technology area, it runs everything from clinical and management information systems to basic services such as e-mail, file, web and print facilities.

According to Simon Marsh, IT systems engineer, one of the key applications is 'Exeter'. Written by the NHS Information Authority, it's used for patient registration, calculation of payments to general practitioners and cancer screening programmes. Exeter used to run on a six-year old HP9000 UNIX server with user access from Windows PCs with queries via a separate SQL server. Holding half a million patient records, Exeter is used five days per week by up to 35 concurrent users.

"We wanted to replace the hardware because of problems with reliability including frequent disk failures," said Marsh. "We have service level agreements with each primary care trust and it was becoming more difficult to meet them."

Whenever a hard disk failed, it was replaced with a reconditioned unit. Although disk mirroring (RAID level 1) protected the data, there was an increasing squeeze on disk capacity. LSS was constantly archiving and using compression to hold more records online as adding more capacity wasn't possible. Lengthy downtime saw mounting paperwork which affected doctors and patients alike.

*A waiver to Standing Financial instructions was obtained by Lincolnshire NHS Shared Services because of Waverley's unique position in supplying hardware for the NHSIA Exeter system. However before asking for the waiver, quotations for the work were obtained from other suppliers and Waverley were the most competitive.



Lincolnshire NHS Shared Services - The Solution

In order to provide a solution, LSS drew up a list of objectives. A new hardware platform had to scale up easily over a five-year lifetime as the county's population grew. Given disk problems, LSS wanted RAID level 5; a redundant array of disks offering high availability. Its attention was then drawn to Storage Area Networks (SAN) as a new way of managing and consolidating servers.

"We were looking for a system where we could have our UNIX and Windows servers co-existing," said Marsh. "We realised the benefits we could get from SANs having discussed it with CSA Waverley."

By storing Windows and UNIX data in the same disk pool, new servers might be easily added. Although more expensive initially, this was balanced against greater flexibility, scalability and manageability. CSA Waverley's proposals remained top-of-the-list of potential suppliers, backed by a thorough NHS knowledge. As an HP Business Partner, CSA Waverley also enjoy a close-working relationship with HP. It had installed and supported the original Exeter system too.

"CSA Waverley's proposals were much cheaper. I knew from previous experience that they would be there all the way for us," said Marsh. "There's



always added-value from CSA Waverley and, whenever we've needed them, they've been responsive."

The new platform for Exeter is based on an HP StorageWorks Enterprise Virtual Array 3000 and HP rp2470 rack-optimized server running the HPUX 11i UNIX operating system. As a physically smaller solution, it offered high performance, high availability RAID level 5. It would also scale for new demands and provide pooled data storage for additional UNIX or Windows servers.

CSA Waverley then undertook a rigorous proof of concept and benchmarking exercise with LSS

working alongside, helping to assess system performance and minimize risk. This off-site work replicated the proposed Exeter configuration with LSS staff then receiving a three-day training course at CSA Waverley's offices and on-the-job experience. Implementation took place in March 2004, followed by the later addition of a Windows NT-based SQL server for database queries.

"We had tremendous support from CSA Waverley. The users came in on a Monday and connected to what they thought was the old server but was in fact the new system."



Lincolnshire NHS Shared Services - The Solution

Downtime is now a thing of the past. Although Exeter is unchanged, system performance has been greatly enhanced. More data is kept online using the one terabyte capacity while back-ups take just 20 minutes. Users enjoy a disruption-free service with CSA Waverley providing hardware and systems software support.

“The SAN-based solution has met all its objectives and doing everything we asked. There are a lot of benefits but the main ones are performance and reliability.”

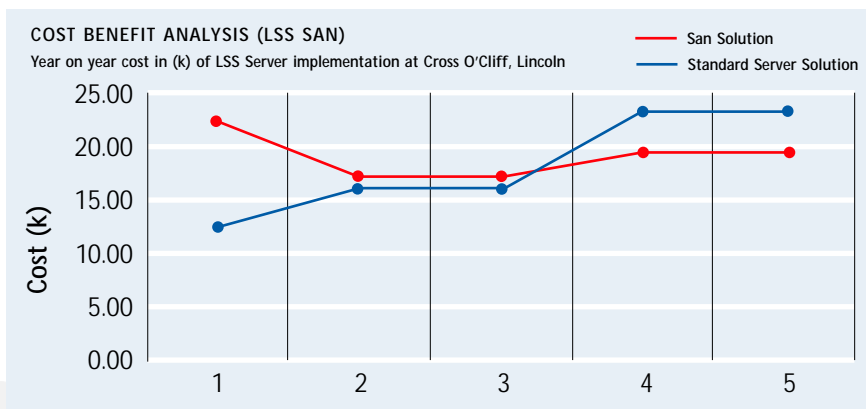
Thanks to this technology, new rack-mounted servers can use the shared UNIX/Windows disk pool. A three-year return on investment is predicted as cheaper servers are brought in for e-mail, active directory and web along with centralised back-



ups. But the biggest plus isn't technology.

“It's support all the way from CSA Waverley with a good relationship that gives us confidence. CSA Waverley is very professional, friendly and backed by expert knowledge,” concludes Marsh.

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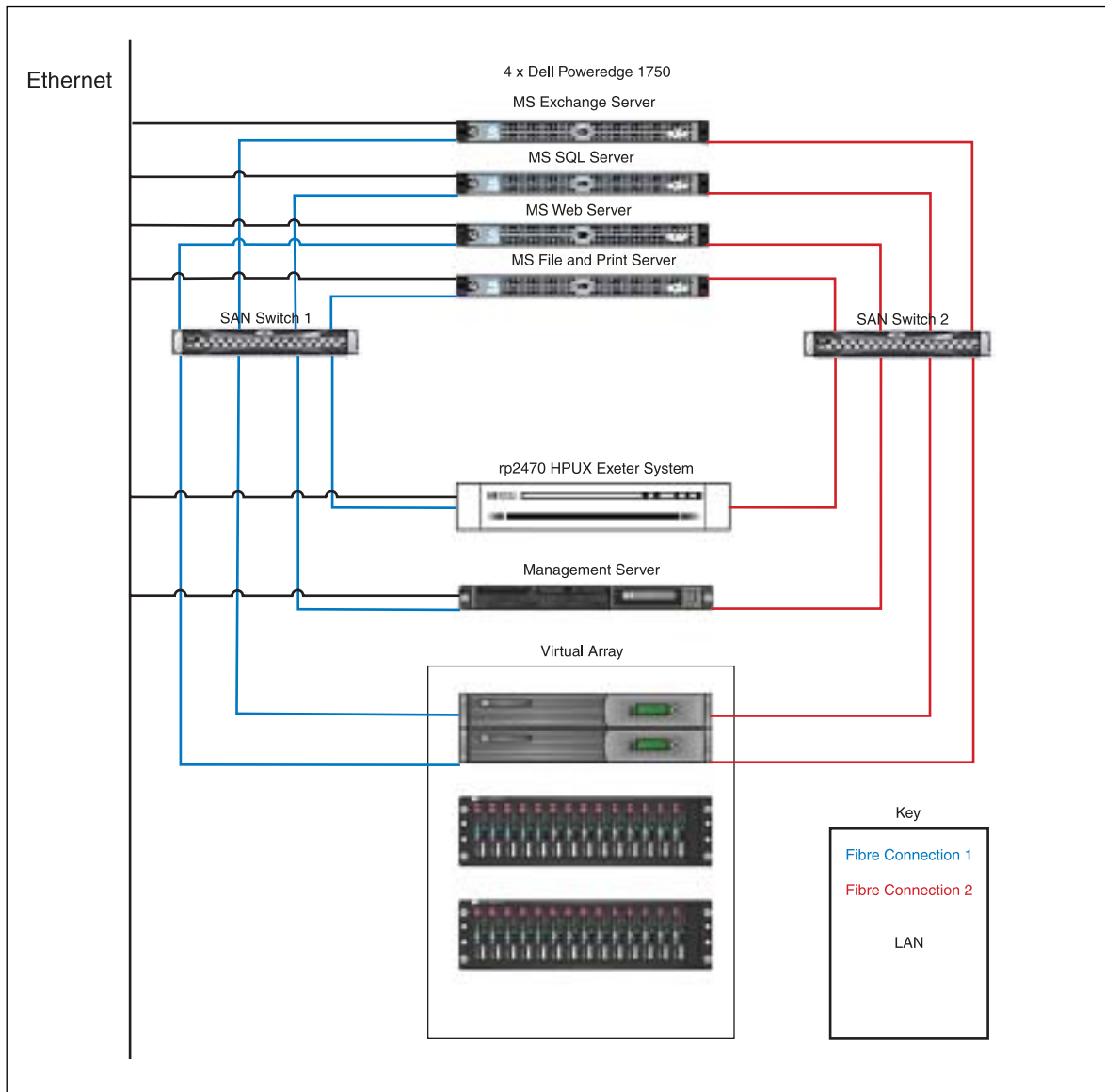


A truly cost-effective approach

Having discussed the SAN concept with Lincolnshire Shared Services, Waverley authored a cost-of-ownership report for consideration. The report detailed the alternatives for Lincolnshire and examined the costs of providing a replacement HP9000 server with those of an HP StorageWorks SAN. The five-year cost projections as shown in this graph. Waverley was able to propose an attractive solution with quantifiable cost-of-ownership benefits.



Technical diagram



Enterprise Virtual Array isolates dissimilar operating system data volumes within the same disk pool, allowing maximum use of available storage. Policy settings on the switches keep host activity separated, and the management appliance centralizes all storage operations.





Waverley has been successfully working with the NHS for over 20 years. For more information on our services and how we can help your Trust or Service call Steve Nicholls on **01628 851044**.



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