



EMIS safeguards the storage of 39 million patient records

HPE 3PAR Storage and HPE Proactive Care ensure 24x7 availability of healthcare service

Objective

Achieve high availability and safety of critical patient records by implementing a reliable and performant data storage solution

Approach

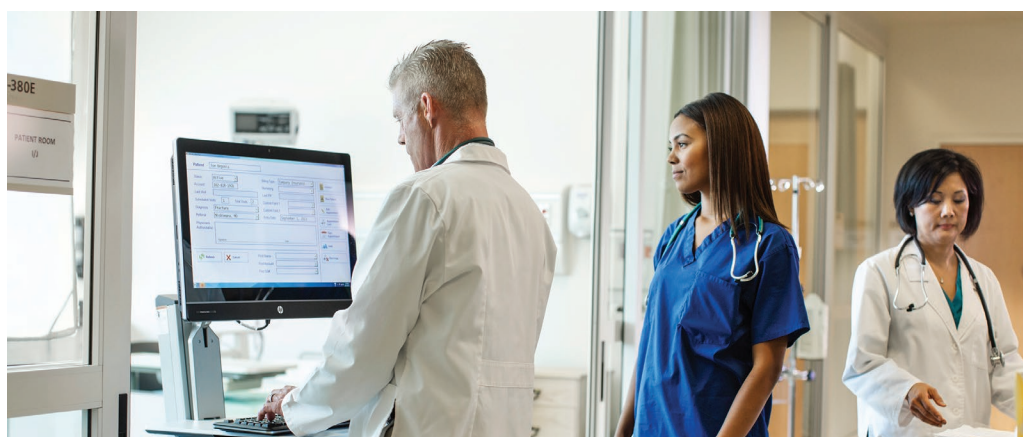
Used market knowledge, vendor consultations and demonstrations to find a partner who could understand the challenges, identify solutions, test and prove those platforms and then support them

IT Matters

- Achieves more than the 99.95 per cent availability demanded by HSCIC
- Safeguards the security and confidentiality of 39 million patient records
- Supports up to 50,000 concurrent users

Business Matters

- Ensures that EMIS can continue to operate under its GP System of Choice contract
- Provides a scalable solution that will support business growth
- Continues to deliver a vital and trusted service to the UK healthcare sector



EMIS holds 39 million patient records which must be constantly available to doctors at 5,000 UK practices. Stringent Health and Social Care Information Centre (HSCIC) service levels demand zero data loss and 99.95 per cent availability with significant financial penalties for failure. To ensure the high availability and performance of its business critical system EMIS uses HPE 3PAR Storage backed by HPE Proactive Care support.

Challenge

Stringent SLAs

When you sit down for a consultation, one of the first things the doctor does is to call up your medical records on the computer. You may think that the files reside at the surgery but if you're in the UK, there's a reasonable chance that they're located at a company called EMIS, in the Yorkshire city of Leeds.

EMIS data centres host more than 39 million patient records for approximately 5,000 medical practices and with a 53 per cent share, it's the undisputed market leader. At anyone time, up to 50,000 General Practitioners (GPs) access the records securely across N3, which is the national broadband network for the English National Health Service. Data is available on a Software-as-a-Service (SaaS) model and the service is called EMIS Web.

“HPE 3PAR just has to work because being without it creates a very high risk to our business. We’ve had no issues and that’s worth its weight in gold.”

– Phil Webb, chief technology officer, EMIS

High availability and data security are vital issues so it’s no surprise that companies in this market are strictly governed by HSCIC. Contracts are awarded under the HSCIC GP System of Choice (GPSoC) process which demands zero data loss and 99.95 per cent service availability – and there are risks of significant financial charges if these Service Level Agreements (SLAs) are not met.

One of a handful of companies to hold a GPSoC contract, EMIS found itself in that situation in 2011 when hundreds of GP practices across England had difficulties accessing its records. Many had to resort to using paper records and EMIS had to apologise and make recompense for failing to meet its obligations.

The cause of that high-profile issue had been failures in the company’s legacy SAN storage system. EMIS chief technology officer Phil Webb, who joined the company in 2012, explains: “The solution lacked resiliency. If one component failed, the whole unit went down; there were performance issues, bottlenecks, card failures and high disk failure rates.”

“The financial and reputational penalties of failing to meet GPSoC SLAs are so significant that if we had a catastrophic failure we could, in theory, lose our entire month’s service fees. To avoid that, we needed a new SAN solution that would ensure high availability and performance.”

Solution

Reliable and scalable

EMIS had a long-standing relationship with Hewlett Packard Enterprise built on the technology in its two geographically dispersed data centres in Leeds which are linked by multi 10 Gigabit and Gigabit fibres. Both are resiliently connected to the N3 network and run in active/active mode so uptime is automatically guaranteed, even in the event of a failure. They are populated with HPE BL460 blade servers across 58 c7000 enclosures; 11 discrete storage arrays with 3868 disks, HPE SIM Integrated Lights Out (iLO) monitoring and HPE Brocade fabric switches.

99.95+ per cent system availability

Confidentiality of medical records is ensured by role based access control with user passwords or NHS smartcards. There is also encryption between the client and middle tier of the application. Firewalls are in operation and everything is under change control.



When looking for the new SAN solutions, EMIS needed a partner who could understand the challenges, identify appropriate solutions, test and prove those platforms and support them through the transition. Three vendors were considered.

“Our main criteria were that the solution should be reliable, flexible, manageable and able to expand as our needs and data grow,” says Webb. “Hewlett Packard Enterprise had always been keen for us to look at their storage and with the 3PAR acquisition it made even more sense. Some of our people went to the HPE Storage Labs in Germany which is where the 3PAR came from and extensive testing gave us confidence that when issues were found, which is very unlikely, we could rely on HPE to resolve them for us.”

To meet current data storage needs of approximately 100TB, EMIS has installed ten HPE P10000 3PAR V800 Storage Systems (five production and five for disaster recovery) and an HPE 3PAR StoreServ 7400 storage base. As other legacy systems reach end-of-line they will also be replaced by 3PAR.

“We had a massive amount of help from HPE,” adds Webb, “We had the initial sessions in the labs in Germany and there was knowledge transfer then configuration and installation. HPE was there throughout, helping us with it all.”

To ensure vital 24x7 availability, EMIS storage is supported by an HPE Proactive Care contract designed to reduce unplanned downtime and resolve any infrastructure problems.

Benefits

High availability and performance

“The biggest benefit for us is that the HPE SAN allows us to meet our SLAs,” says Webb. “We have had no issues with it and that’s vital because we just cannot afford for things to go wrong. With up to ten GPs per practice and average consultations taking ten minutes, it’s estimated that 300,000 consultations take place each hour. That means 50,000 doctors using our systems at any one time and if they can’t access the records, then they can’t prescribe and we face serious financial penalties.

“The systems are all working well. The Health and Social Care Information Centre and the GPs are happy and that’s down to HPE. Our servers and the applications that run on them are HPE; the disks that data is stored on are HPE and some of the networking is HPE. We need very fast access and reliability and we get that with HPE 3PAR because it’s so performant. It’s massively more advanced than our old SAN in terms of Input/Output Operations Per Second (IOPS) and as long as it delivers availability and speed, we’re happy.”

Customer at a glance

Hardware

- HPE P10000 3PAR V800 Storage Systems
- HPE 3PAR StoreServ 7400 storage base
- HPE Brocade switches

Software

- HPE SIM Integrated Lights Out (iLO) monitoring
- HPE services
- HPE Proactive Care

“HPE Proactive Care ensures that we meet the high availability, performance and data security levels required by the Health and Social Care Information Centre.”

– Phil Webb, chief technology officer, EMIS

EMIS has also benefited from the different levels of HPE 3PAR Storage. This has enabled it to deploy a smaller system in its Welsh operation that has to run independently because Welsh patient data has to be hosted in Wales.

Webb also appreciates HPE Proactive Care support which ensures high availability of vital systems: “The big thing for us is the rapid assistance that HPE Proactive Care gives us on the 3PAR equipment. With the number of transactions that fly through our systems, minutes are important and we have dedicated numbers so we can get straight through to specialists who can help us.”

“HPE 3PAR is a solution that we know and trust. It has to work and not take up masses of management time and that’s just what it does.”

Learn more at
hpe.com/storage/sds



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