Transform Cosmetic Surgery Group

Transform Cosmetic Surgery Group is a highly respected, long standing and privately owned successful cosmetic surgery company operating in the United Kingdom.

Since 1974, the company has delivered thousands of cosmetic procedures across its two dedicated hospitals and 27 clinics.

Although not part of the National Health Service, Transform still regulates itself via its patient charter and regular inspections from the Care Quality Commission (CQC); a government body set up to monitor and measure standards of medical care in the UK.

Supporting the medical network at Transform is a small dedicated IT team.

Its network supports internal systems, confidential patient data for 250,000 patients and around 750,000 images that must be kept safe for many years. After a major network transformation in 2006, the majority of the server estate was virtualised with 60 virtual machines (VMs) running across two data centres and supported by two Hitachi storage area networks (SANs). With network and storage demands growing by five percent per year, Transform knew its current storage solution was rapidly becoming a weak spot in its business.

During 2012 and 2013, a number of changes were introduced into the private medical sector following the Keogh Report, a government funded yet independent review of cosmetic surgery that recommended better regulation and training, and proper redress when things go wrong. Transform's own high standards, its customer charter, its desire to adhere to the report recommendations, and its relatively small resource meant it needed a storage solution that gave it growth, reliability, security, performance and ease of use particularly in archiving and retrieving information.

The task of evaluating replacement storage solutions belonged to Nick Furnell, Senior Systems Engineer at Transform. "In 2012, the two SANs were both Hitachi. The co-located data centre SAN was around a year old and consisted of both SAS (Serial Attached SCSI) and SATA (Serial Advanced Technology Attachment) discs providing around 8 terabytes (TBs) of storage. Our head office SAN was a five-year-old Hitachi AMS200 1gigabyte (GB) iSCSI with just under 8 TBs - this device was the target of our replacement program due to its rigid disk portioning and awkward user interface."

According to Furnell, "When we first met COOLSPIRiT and Nimble Storage at an event we were already at a point of ordering an EMC 10 TB VNX5300 SAN and an 8 TB Data Domain solution to offer us more capacity and backup using a traditional model of one device for each purpose, in fact we were about to order these when disaster almost struck."

Challenge

- **Aging SAN reached breaking point and generated user complaints due to latency**
- **Capacity or processing power was not upgradeable**
- **New features and capabilities of modern vendor's equipment were needed**
- **Future demands from legislation and business growth meant a replacement was needed**
- **Disparate backup and storage strategy increased resource and cost overhead**

Solution

- **Nimble Storage CS220**
- **vVol concepts for carving up storage based on service levels and applications**
- **Extended storage to 47 TB across two sites and 10Gb controllers**
- **Veeam V7 with two proxies to manage backup and retrieval**

Benefits

- **Capacity for growth for at least the next five years**
- **Reduction in time spent administering and supporting storage, and performing backups**
- **Maximisation of available budget and high storage return on investment**
- **Faster, easier deployment of new services supporting the remaining virtualisation programme**
- **Improved storage health information and accurate future planning information**
- **Improved application performance and happy users**
- **Better patient safety and satisfaction through improved record and image retention and access**

Twitter to the Rescue!

During the procurement process, Transform was adding VMs to the cluster but began to see a massive increase in latency. It was used to seeing 10 and 20 millisecond access times, but suddenly hit 100s of milliseconds. What followed were inevitable user complaints about the core systems running slowly. After some testing, the team found that they had reached the limit of the Hitachi AMS200 SAN because modern features such as load balancing across controllers were not available. Quite simply, the AMS200 could not respond quickly enough.

Nick Furnell took to Twitter to seek assistance or ideas from his network of friends, colleagues and business contacts: "Open question. We are having issues with old SAN (new one still three months away). Any recommendations for an iSCSI SAN VMWare compatible 3-9 TB?"

"Within minutes Nimble Storage replied offering a demo of a Nimble CS-Series array configured to our specification and installed. We coined the phrase 'Nimble by Name, Nimble by Nature'. I was blown away by the response time, as was our Head of IT and Operations Director," says Furnell.

After internal discussions and further talks with Nimble Storage and COOLSPIRiT, Transform came to the conclusion that implementing a trial and then removing it after the 30 days to then implement EMC didn't make sense. Impressed with the company, its capabilities and its technology, Transform decided to buy a Nimble CS220 with 12 TB and 320 GB of solid-state disk (SSD) cache to handle all its requirements in a single box. The solution was deployed within an hour and fully operational after internal testing a few days later.

COOLSPIRiT™

The biggest positive change to our business since virtualisation.

Deploying the Nimble Storage CS220 has quite literally and aptly "transformed" Transform's business by allowing it to cater and prepare for any change in network requirements whether from external uncontrollable forces such as legislation, or from strategic and organic business growth. In addition, it can now offer improved patient experience and aftercare through vastly improved network reliability and speed. It also benefits by protecting itself from litigation by securely storing and quickly being able to access evidence of care and high-resolution images through combining Veeam backup and replication software with the Nimble Storage array.

"With new deployment scenarios presented when purchasing Nimble Storage we took the opportunity to also review our backup and archiving strategy," said Furnell. Transform previously used two separate software packages, which were responsible for the backup and replication of around 4.5 TB of data. "We initially looked at alternative hardware suppliers for archiving but found that these dedicated archiving solutions were limited to a finite capacity at time of purchase based on estimates and past usage. Add to this the fact hardware devices traditionally only perform one duty, either backup or storage, we realised we would be left with a potential risk of having to seek additional budget in the future to rip and replace," he added.

" *Nimble Storage has blown me away with their responsiveness and constant support. Their technology fits our needs at the right price to performance ratio and with superior features and capabilities that will serve Transform Cosmetic Surgery Group for many years to come.* "

Nick Furnell, Senior Systems Engineer
Transform Cosmetic Surgery Group

Transform has used Veeam since 2008. Backups were made to a data store and then archived to magnetic media using a third-party archive package.

This introduced an extra layer of complexity, management, cost and delay especially when restoring data. "We upgraded to V7 of Veeam which gave us direct magnetic tape support so we could remove the third-party application and deployed two Veeam proxy appliances installed as virtual machines. This setup enables us to replicate our virtual infrastructure between sites meaning I have a comfort factor knowing services can be restored very rapidly in the event of a disaster or failure. We also use native Nimble snapshots which gives us an alternative method of restoring data with different restore point objectives, thus offering an extra layer of redundancy to the environment," according to Furnell.

During testing of this configuration we compared speeds through several tests against our remaining Hitachi solution on 8 GB fibre channel versus the CS220 on 1 GB iSCSI. The CS220 ran 20 percent faster even on simple tasks. One of Transform's original worries was the compression ratio for its Veeam Backups. Worry not - Transform Cosmetic Surgery Group is now getting 1.6 times the backup capacity, thanks to Nimble Storage's inline compression. Good news for its longer-term storage.

Together the Nimble arrays and Veeam create a solution that exceeded Transform's needs with high levels of compression and without compromising on fast input/output operations per second (IOPS) and all in a future-proof, cost-effective package.

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Why Nimble Storage

Transform saw that through the inherent flexibility built into the entire range of solutions that its backup and storage needs with future network performance demand with no downtime. It can also upgrade its SSD cache for better read performance, can grow with its business at will and with ease.

"Nimble proved to us very quickly they are responsive and have superior technology which meets our needs now and in the future. We know we have bought an excellent future-proofed solution. We are able to change our network in minutes with no down time and even tasks like changing the performance of a volume are a few clicks so we are never locked in to a particular disk layout," said Furnell.

Given Transform's limited IT resources, the greatest impact has been the ability to upgrade capacity and performance to cope with future network performance demand with no downtime. It can also upgrade its SSD cache for better read performance, and add disk for more capacity at any time - a feature available in the entire Nimble Storage product line. Each Nimble Storage array can also accommodate up to three expansion disk shelves, enhancing total capacity.

"To add to the very long list of reasons why we chose Nimble Storage the price performance was also a large factor. We found the Nimble solution was two-thirds of the cost of the EMC/Data Domain solution which includes the on-going maintenance and support. This is a significant amount of money which has enabled us to increase and future-proof earlier than we could have normally," said Furnell.

"The fact that Nimble Storage offered us a free trial box to help us fix the issues just proved to us they were a company we could work with. We have built a mutual trust and respect in a very short amount of time and they are a pleasure to work with often going beyond the call of duty to answer my questions."

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Conclusion

Furnell concluded, "After years of growth Transform's existing SAN was finally starting to show its age from a performance perspective. The Nimble solution took an hour to install (from box to serving data) and now provides approximately 20,000 IOPS, sub-millisecond latency to Transform's environment and integrated data backup/ restore - all in a 3U footprint and scalability for years to come. Just one week after installation, the CS220 made a massive impact in VM boot speed, SQL latency and compression (over two times the savings of SQL data).

I am so pleased and relieved that something so potentially complex has been made so easy by Nimble Storage and COOLSPIRiT as they have been there on call to help us through every step of the implementation. Put simply - we made the right choice."

"I didn't want to pay for features I wouldn't use but I now find myself using features I didn't even know existed that just make it even easier for me. The good thing is, I haven't paid for them, they are just part of the Nimble Storage experience and the more I dig the more I am being pleasantly surprised, especially with the management interface, it's so simple yet feature rich."

Nick Furnell, Senior Systems Engineer
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Why COOLSPIRiT?

Transform chose COOLSPIRiT as long term strategic partner because of their personal approach and because they are a dedicated and friendly company with experience implementing the Nimble solution. COOLSPIRiT also came highly recommended.

Infosight Offers Unrivalled Management and Deep Storage Insight

By using InfoSight, Nimble's cloud-based support and management tool that leverages deep-data analytics, Transform Cosmetic Surgery Group has access to accurate forecasts and strategic storage health information thus enabling it to prepare in advance, for example, disk space gained by using compression along with throughput, IOPs and latency averages.

Nimble arrays are configured to send telemetry data back to their offices every few minutes - this is then compiled and presented to Transform Cosmetic Surgery Group on the InfoSight Portal. Any automatically generated faults are displayed when administrators login. In addition, administrators can create a manual fault and this will trigger an email response or a call for technical support. This management tool goes beyond the usual disk space planning found with other vendor's solutions and enables Transform Cosmetic Surgery Group to monitor and plan the wellness and capacity history and forecast placing it truly on the "front foot" of data management.