UHSM
Your Hospital

DXi-Series

Major Teaching and Research Hospital Solves VM Backup and Restore Problems

Faced with over 400 VMs and 200TB of virtual data, a leading UK hospital's legacy protection system couldn't keep up with critical backups or restores. The answer? A new Quantum solution based on deduplication and innovative software for protecting VMware that has resulted in fast backups, instantaneous restores, and dramatic reductions in management time.

The University Hospital of South Manchester NHS Foundation Trust (UHSM) is one of the United Kingdom's leading providers of medical research, teaching, and patient care. Located in Wythenshawe, South Manchester, it provides services in two different hospital facilities and several satellite care units, and it conducts primary research with a special focus on cancer, lung disease, wound management, and medical education.

The job of protecting UHSM's data—everything from medical imaging to patient records—falls to a three-person IT Infrastructure team that oversees the servers and infrastructure for more than 5,000 users. It's a complex process that covers more than 400 VMs and 200TB of data, with unique backup and retention requirements for each department. Keeping the data safe, secure, and available is a very high priority.

As data grew beyond the capabilities of the team's legacy system, problems started arising with the backup and restore process, and it became critical as more and more of the servers were virtualized. Last year, the IT team realized that too much time was being spent on the backup and recovery process, so it decided to re-architect the system from the ground up.

BACKUP OF VIRTUAL MACHINES WAS A CRITICAL PROBLEM

"Our system had grown up piecemeal, and it had become a real management problem," explains Stephen Lomas, IT Server and Infrastructure Manager. "We had different versions of our backup software (Backup Exec) and several kinds of backup targets, including both disk and tape, and we struggled to keep up with it all.

"The VMware virtual machines were a major part of the problem that got substantially worse as we virtualized more servers. Our backup software handled VMs poorly, so we replicated VM data between sites using our NetApp filers. Those snapshots gave us a week of protection, but the restores were terrible. We had to rebuild the right LUN at the second site, then locate the missing VM and try to restore it. It took forever, and it needed a senior operator because there was always the danger that a wrong move would blow the backup away. Finding a better way was a high priority."

REDUCING TIME SPENT MANAGING BACKUPS WAS A KEY OBJECTIVE

The UHSM IT team took several months to evaluate all the hardware and software options it could find.

"We looked at using more NAS, moving to deduplication, and using backup software options," says Lomas.

The goal was to find a solution that would keep the data safe, be able to scale easily to handle future growth, and provide a better way to deal with backup and restore of VMs. Reducing the time spent managing backup and restore was especially important, as was overall value.

"As a public sector organization, we are always trying to meet our feature requirements at a price that supports a very tight budget," Lomas explains. "The Quantum solution—a combination of DXi deduplication appliances and vmPRO backup software—gave us everything we needed at far and away the lowest price of any option that we looked at."

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>
> **Stephen Lomas, IT Server and Infrastructure Manager, UHSM**

SOLUTION OVERVIEW

- Quantum DXi® deduplication appliances
- Quantum vmPRO™ data protection software for VMware
- Quantum Vision® monitoring and management software
- Symantec Backup Exec

KEY BENEFITS

- Deduplication allows backup data from both physical and virtual servers to be retained economically on disk
- Replication of deduplicated data provides automated off-site data protection
- Keeping VM backups in native format slashes the time needed to restore VMs
- Unified point of management through Quantum Vision saves admin time and improves overall protection
- Low solution cost allows it to fit into tight budgets
- Inclusion of all licenses in base units provides future-proofing, supporting easy, low-cost growth

DEDUPLICATION PROVIDES RETENTION AND DR PROTECTION

The solution that UHSM selected consisted of two DXi4700 deduplication appliances, one for each of the team's data centers. In the new system, all the backup data goes to one of the appliances and is then replicated to the unit at the second data center for off-site protection. The team uses snapshots only for very short-term, local protection. Each appliance can scale to over 135TB, using an economical capacity-on-demand system. With normal deduplication rates, each can retain several petabytes of backup data.

"Deduplication is just what we need," Lomas says. "It really lets us get more data on our disk—much more than with our legacy backup systems—and that means we can meet our retention requirements and DR requirements without having to move any media off-site. So we can have all our backup on disk."

The DXi systems are designed to hold all the backups: physical servers are written to one share in the appliance by Backup Exec, while the virtual machines are written to another share by Quantum's vmPRO software.

SIMPLIFIED REPORTING REDUCES MANAGEMENT TIME

Another of the major UHSM problems, the complexity of backup management, was solved with the combination of DXi and Quantum's backup management software, Vision. Vision provides a consolidated view of backup resources and provides a single point of reporting and management.

"Vision gives us a single report to show everything. We used to have to plow through 30 to 40 reports to get a view of what was happening to the backup. Now I look at one or two reports and can see everything. It made it easy for us to find problems with a couple of VM backups recently because we could see at a glance that they were suddenly taking much longer to complete. We looked, discovered the issue, and fixed it quickly.
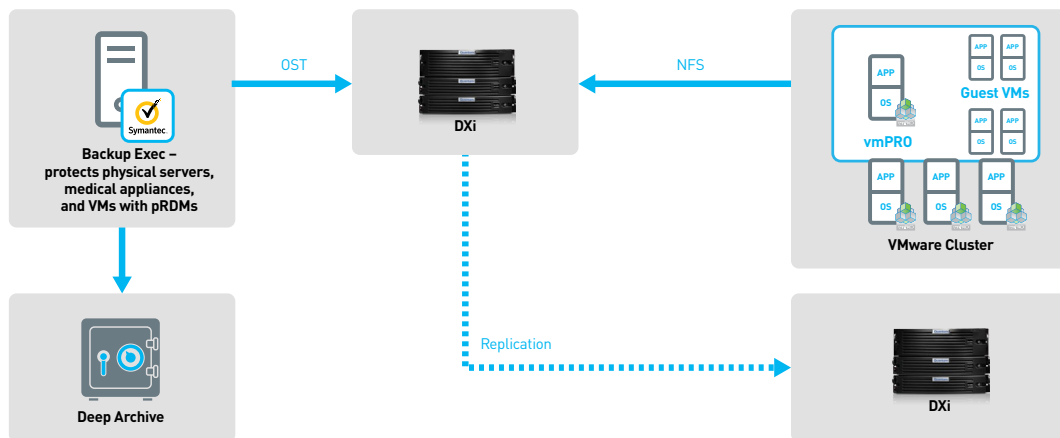
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ABOUT THE UNIVERSITY HOSPITAL OF SOUTH MANCHESTER NHS FOUNDATION TRUST (UHSM)

UHSM is a major acute teaching hospital trust providing services for adults and children at Wythenshawe Hospital, Withington Community Hospital, and several community care facilities. It is recognized as a center of clinical excellence that provides district general hospital services and specialized medical services to the local community. The UHSM's fields of specialized expertise include cardiology and cardiothoracic surgery, heart and lung transplantation, respiratory conditions, burns and plastics, cancer and breast care services; and it not only serves the people of South Manchester, but helps patients from around the region. The UHSM team is recognized regionally and nationally for the quality of its teaching, research, and development.

Backup Exec – protects physical servers, medical appliances, and VMs with pRDMs · OST · DXi · NFS · Guest VMs · vmPRO · VMware Cluster · Deep Archive · Replication · DXi

Quantum.