



CASE STUDY

Leading NHS Trust Relies on Quantum Disk Backup for Fast, Secure Data Protection

A leading British Community NHS trust has been evolving its backup capabilities for more than a decade to keep up with data growth, increased virtualization, and the need to secure files against loss and ransomware. Multiple generations of Quantum deduplication appliances have been key to providing scalable, high-performance, and reliable protection.



FEATURED PRODUCTS

DXi®-Series Deduplication and Veeam Backup Software



“We looked at plain disk, the Cloud, and all the other people who were now offering deduplication systems. After a full review, we decided that the right decision was to remain with Quantum and move to the company’s newer, faster, larger-capacity DXi9000 appliances.”

Stuart Harwood
Senior Infrastructure Engineer



“Our Quantum DXi4700s were reliable, easily scalable, had extremely good deduplication, and they could support both our Backup Exec and Veeam backup jobs in the same appliances.”

Stuart Harwood – Senior Infrastructure Engineer



SOLUTION OVERVIEW

- Two DXi4701 deduplication appliances (63 TB capacity)
- Two DXi9000 deduplication appliances (102 TB capacity)
- Veeam backup software
- Backup Exec software

KEY BENEFITS

- Quantum deduplication technology stored more backup data on less disk, reducing costs.
- DXi9000 design boosted backup performance, ensuring that jobs complete on time and allowing parallel backup verification.
- Time to restore VMs has decreased from two hours to five minutes, reducing overhead and increasing productivity.
- Providing encryption, replication, and hardware redundancy as standard features increased security and reduced costs.
- New design using 12 TB HDDs provided industry leading storage density, reducing space needed in the data center.
- Seamless integration with Veeam and Backup Exec ensured effective, automated protection.

The Coventry and Warwickshire Partnership NHS trust is the organization responsible for delivering comprehensive mental health services to more than a million people living in the British midlands. The organization comprises more than 60 primary locations, including five hospitals, and services to nearly 30,000 individual patients. The IT systems behind this organization are critical to the success of the Trust’s mission and are key to managing everything from physician and patient records to scheduling, clinical databases, and the infrastructure to allow staff and users of the services to communicate.

FAST GROWING CRITICAL DATA BASED ON INCREASING VIRTUALIZATION

“The amount of data that we manage is substantial and growing very fast,” explains Stuart Harwood, Senior Infrastructure Engineer at Coventry and Warwickshire IT Collaborative, the organization that provides IT services for the Trust. “Today, we have a full 10 TB of file storage and 15 TB of email.

Most of our infrastructure is now virtualized, and we manage over 300 VMs, with plans to increase that over time. One of our most important challenges is how to backup and protect that data.”

The Trust IT team has spent more than a decade watching changes in the industry and adopting newer technologies to help them keep the organization’s data secure and available in the most efficient and economical way possible.

CHANGING BACKUP TOOLS TO KEEP UP WITH DATA GROWTH

“The first backup systems that we had used was Backup Exec software coupled with tape libraries,” Harwood explains. The company decided to explore disk-based backup as that technology became more affordable and reliable, and as the Trust increased the use of virtualization. The team shifted to Veeam software for VM backups, and the team worked with reseller partner Proact IT UK to select the right disk-based products to serve as the principal protection medium in the new system.

Proact IT UK recommended Quantum DXi4700 deduplication appliances for disk backup because of their effective data reduction technology and Quantum's history of service and support. "Our Quantum DXi4700s were reliable, easily scalable, had extremely good deduplication, and they could support both our Backup Exec and Veeam backup jobs in the same appliances," Harwood said. The initial system installed a Quantum appliance in each of the Trust's two primary data centers and ran backups for all of the VM and physical servers to the devices.

GROWING DATA OVERWHELMS EXISTING SOLUTIONS

"The system worked well at first, but as our datasets grew larger and larger and as we had more and more virtual servers, the 4700s eventually couldn't keep up," Harwood remembers. "There was too much traffic, too much data - we started to have trouble getting backups completed during the allotted time with restores taking longer as well."

When the team realized it had to make a change, it stepped back and thoroughly reviewed all the options available. "As a community trust organization, we felt it was important for us to be sure that we were making the best selection based on technology and economics, including how well the system would be able to solve our problems long into the future" Harwood said. We looked at plain disk, the Cloud, and all the other people who were now offering deduplication systems. After a full review, we decided that the right decision was to remain with Quantum and move to the company's newer, faster, larger-capacity DXi9000 appliances."

NEW ENTERPRISE APPLIANCES FROM QUANTUM INCREASE PERFORMANCE AND CAPACITY

The DXi9000 offered several advances designed to make deduplication appliances more effective in Enterprise environments. To boost performance, Quantum engineers included a layer of Solid-State Disks in the appliances, using it increases the maximum

"The Quantum DXi9000s are incredibly fast—they take everything we throw at them in stride. Faster performance means we now get all the backups done within the allowed windows, and we are even able to multi-task."

Stuart Harwood
Senior Infrastructure
Engineer

ABOUT THE COVENTRY AND WARWICKSHIRE PARTNERSHIP NHS TRUST

Formed in 2006, the Coventry and Warwickshire Partnership NHS Trust provides a wide range of mental health and learning disability services for people of all ages in Coventry and Warwickshire and a wide range of community physical health services for people in Coventry. The Trust provides in-patient, community and day clinics, as well as specialist services, to a population of about 1 million people living in Coventry, Warwickshire, and Solihull, and it provides some of its specialist services to a wider geographical area. The Trust provides services from more than 60 locations, employs more than 4,000 dedicated staff, and has an annual income of about £200 million. For more information, visit www.covwarkpt.nhs.uk.





rated ingest and in-line deduplication speed to an industry-leading 36 TB per hour. The new appliances also use ultra-high density 12 TB HDDs, allowing the systems to provide non-disruptive scaling from 51 TB to a full Petabyte and to store the most data in the least space of any disk backup system on the market. Replication, encryption, and full hardware redundancy provide additional levels of security as standard features.

“We added the new Enterprise DXi9000s, one to each data center,” Harwood explains, “but we kept the existing 4700s in place and still use them for the backup jobs being written by Backup Exec. All of the Veeam backups—including emails, all the VMs, and most of our databases—are now written to the DXi9000s.”

INCREDIBLY FAST AND COMPLETELY RELIABLE VM BACKUP

The new system has removed the bottlenecks and solved the Trust’s backup issues. “The Quantum DXi9000s are incredibly fast—they take everything we throw at them in stride. Faster performance means we now get all the backups done within the allowed windows, and we are even able to multi-task—performing backup verifications on the DXi9000s while backups are still going on. And VM restores, which could take us a couple of hours before, now happen literally in less than five minutes. The reliability has been amazing—the DXi9000s just keep working—and when we have needed support it has been fast and effective.”

The DXi9000 systems also provide features that will make it easy and economical for the Trust to make their next set of planned data protection changes. “We plan to increase our use of replication between the data centers to give us an additional layer of redundancy,” Harwood said, “and we are planning to complete the circle, as it were, by adding a tape layer to provide long term, removable storage for some of our data. Quantum’s integration of disk and tape with Veeam will let us make that a fully automated process.”

Quantum®

Quantum technology and services help customers capture, create, and share digital content—and preserve and protect it for decades at the lowest cost. Quantum’s platforms provide the fastest performance for high-resolution video, images, and industrial IoT, with solutions built for every stage of the data lifecycle, from high-performance ingest to real-time collaboration and analysis and low-cost archiving. Every day the world’s leading entertainment companies, sports franchises, research scientists, government agencies, enterprises, and cloud providers are making the world happier, safer, and smarter on Quantum. See how at www.quantum.com.