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**DE MONTFORT
UNIVERSITY**
LEICESTER • BEDFORD

VSG Makes the SAN Shine at De Montfort

IT's Storage

One of the largest Universities in the United Kingdom, De Montfort University is a dynamic organisation formed from a diverse range of specialist institutions. Originally known as Leicester Polytechnic, De Montfort University was formed in 1992, following the official opening of the Milton Keynes campus by HM the Queen. A leading institution for professional, creative and vocational education, underpinned by research excellence, the University also has extensive international links which have led to the establishment of Business Schools in South Africa and India as well as research links across the globe. Today the University has over 23,000 students and 3,300 staff offering over 400 courses at its four campuses across two centres - Leicester and Bedford. This huge operation, combined with an annual turnover in the region of £106 million, require an intelligent and sophisticated Enterprise Storage Solution to meet the University's IT needs.

Sophisticated Technology for a Dynamic Situation

With 4000 PCs and 150 servers, De Montfort University boasts first class IT access. IT plays a vital role in University life and students' IT needs are 24 hours a day, 7 days a week. A resilient IT environment is therefore paramount. Following a review of its data storage and disaster recovery procedures, the University's central IT Services Department established that its long term storage strategy would be best met by the implementation of a Storage Area Network (SAN) solution - a high speed special purpose network that interconnects different kinds of data storage devices. A tender process followed which invited solutions to meet the University's requirements.

The detailed requirements were:

- ◆ Two highly resilient SAN storage arrays each with 8TB of usable storage and with no single point of failure
- ◆ Easy storage management
- ◆ A resilient SAN fabric infrastructure
- ◆ The ability to mirror data between two datacenters
- ◆ The support of Netware®, Windows®, Solaris® and Unix hosts
- ◆ The support of Novell® Netware cluster environments
- ◆ An enterprise backup solution that would also fully support Novell® Clusters
- ◆ A Network Attached Storage (NAS) solution that would also take its disk storage from the new SAN
- ◆ A high level of service and support.

Following a thorough review of the options and evaluation of potential suppliers, Viglen Storage Group (VSG) beat off stiff competition with their solution featuring the Hitachi®

Data System. Chris Semmans, (Services Support Leader) at De Montfort University was impressed with the tender received from VSG: "We could see that VSG was an industry leader in Network Attached Storage and SAN technology.

"Following the tender, VSG put together a complete bespoke solution for us - addressing all of the University's needs. VSG could provide us with a complete storage solution - they did not just sell us 'a box' but actually sat down with us and went through everything from the concept and design, right through to the installation."

Why Viglen Storage Group?

For the past 5 years, VSG has also focused on providing enterprise storage solutions. Being manufacturer independent, the group is able to offer a total storage solution taking best of breed components from a variety of providers including Hitachi® Data Systems®, Syncsort®, McData®, Brocade®, ADIC® and Overland®. Viglen Storage Group has the ability to design, install, configure and support all the systems supplied. The technical team and engineers are fully trained on the solutions prior to installation so that the customer can be assured that the system installed is tried, tested, installed and supported by an expert team.



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DE MONTFORT UNIVERSITY CASE STUDY

Active Support

De Montfort University and Viglen Storage Group entered into detailed discussions to design a solution that met the University's technical and implementation requirements, while taking into consideration commercial issues. Discussing the solution, Eddie Weremiuk, General Manager of VSG says: **"The solution that we devised comprised of two Hitachi® 9570VTM Series Disk Arrays, Syncsort® Backup Express and migration of the existing standalone Netware servers into several Netware clusters."**

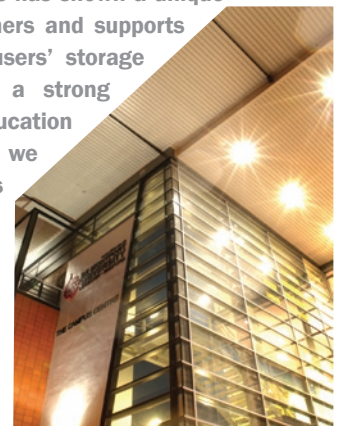
The core of the solution is two Hitachi® Data Systems 9570VTM Series Disk Arrays - each in a separate data centre, linked by four McData fabric switches and fibre cables. Each storage array has 6TB of usable storage and the ability to take 'snapshots' of disks and copy disks between arrays for disaster recovery purposes. The two systems are managed by Hitachi's HiCommand Device Manager. This application manages all of Hitachi's storage platforms from the new HDS 9520VTM work areas product through to the Lightning 9900VTM Series enterprise storage systems. Device Manager enables De Montfort University's storage administrators to manage storage quickly and easily, offering a continuously available view of actual storage usage and configurations, delivering centralised management and control for more efficient storage utilisation. The first phase of the project included the installation of a 4-node Novell® cluster and a 2-node Windows cluster, as well as a number of stand-alone Windows® servers. All of the servers are dual-attached to the fabric switches with the Windows® servers using Hitachi's HDLM path failover software. A NetApps 920 NAS filer was then installed with storage allocated from the Hitachi Storage Arrays.

Peace of Mind

Data backup was an important element in the VSG solution. Eddie explains: "By working closely with the University staff we understood that backup is essential in an environment that is operational 24 hours a day, 7 days a week." **VSG advised that the University invested in an enterprise solution from Syncsort.** Eddie continues: **"Syncsort® Enterprise's product, Backup Express, was chosen as the backup solution as it was proven in a Novell® Netware cluster environment. Backup Express has all of the usual functionality for backing up hosts in a Unix and Windows® environment, but is also capable of backing up data volumes mounted on nodes in a Netware cluster. If a node in a cluster fails, then the data is automatically mounted on another node. Backup Express understands this environment and backup jobs will continue even when the backup has already started. These are huge benefits for the University as it provides extra peace of mind that backups are consistently reliable."**

Strong Infrastructure for Future Growth

The University's migration phase is currently taking place. De Montfort will now be migrating all of its major servers to take data storage off the SAN and will be looking to expand storage with the addition of SATA disk drives. This new storage will be used for archiving, taking disk copies and disk-to-disk backup procedures. The management of the system will shortly be enhanced with the installation of Hitachi's HiCommand Storage Service Manager (HSSM). This open-standards application suite will allow De Montfort University to not only manage storage from multiple vendors but also to monitor, analyse and maximise resource utilisation from a single management console. HSSM provides management from spindle-to-application and will allow the University to reduce the cost of managing its present and future storage environment, whilst ensuring that data is protected and resources are optimised. Bordan Tkachuk, CEO of the Viglen Storage Group, is sure that the solution will help the University to gain its maximum potential in terms of IT. **"Hitachi® Data Systems has shown a unique insight into the needs of its partners and supports us in successfully delivering on users' storage management needs. Viglen has a strong history of working with Higher Education institutions and from experience we know that the University's needs will continue to evolve, grow and expand. I am confident that this solution will enable the University to get the most from its IT investment - increasing effectiveness and most importantly, reliability."**



“ Our expertise encompasses Network consultancy and design, network implementation, systems integration plus network and systems support. We can deliver complete ‘end-to-end’ solutions, from initial design to ongoing network management. This means that we were confident in meeting De Montfort University’s needs, installing a robust network, ensuring that the evolution was systematic and allowing new technologies to be adopted without impacting on existing services, or essentially, students’ lives. ”

Eddie Weremiuk