



London Borough of Sutton Safeguards and Manages Data Growth with DataCore

Customer Snapshot

About London Borough of Sutton

The London Borough of Sutton is situated within the county of Surrey, it is within the Greenbelt and is a prime commuting zone for Greater London. It covers an area of 17 sq miles and supports a population of nearly 200,000 citizens.

More information is available at: www.sutton.gov.uk

Borough's school network achieves disaster recovery protection, high availability and new levels of efficiency with auto-provisioning.

Considered as one of London's most desirable residential boroughs; the Borough is a popular choice for families wishing to enjoy the leafy suburbs, safe environment and well maintained public services. Schools are generally therefore popular and oversubscribed.

Centrally supporting the Borough's 45 primary, special and 12 high schools IT environment, is Daniel Gale, Schools Network Manager, London Borough of Sutton. "Providing an effective and secure network for over 60,000 pupils and staff is an interesting daily challenge. We recommend, implement and operate central administration services so that teaching professionals on the ground can concentrate on the provision of services to pupils."

Central infrastructure services that the Team provide include the protection of all data relating to schools, pupils, coursework and email. Secure nightly incremental backups are essential across all schools, as well as the provision for business continuity, restore and Disaster Recovery via the wide area network (WAN). In addition, some schools and departments run localised backups on their local servers and these also needed to be incorporated into the central network.

Daniel's first experience of DataCore was gained at a seminar run by Vcentral, a reseller specialising in all areas of virtualisation, who showed DataCore running in conjunction with VMware, highlighting the full benefits a total virtualised infrastructure could bring. Following the introduction, Vcentral continued to work alongside the Borough to design a fully virtualised solution including recommendations for ongoing training, support and reutilisation.

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- Daniel Gale, Schools Network Manager, London Borough of Sutton

The Borough had, for a few years, been running a SAN (Storage Area Network). The configuration consisted of two administration Microsoft Cluster Server nodes together with a pair of Active Directory Servers, all of which provided failover for the local pool of data. This configuration was great for storage provisioning and adequate for business continuity but to achieve complete disaster recovery, Daniel knew that he needed to employ DataCore's dual node storage virtualisation software running outside of the local cluster. This would provide the redundant mirroring configuration to avoid a single point of failure and achieve a highly available, highly resilient, stable SAN solution with true disaster recovery. Of further concern was that the existing MS Cluster configuration was over five years old and therefore slow and less reliable than the Team would have liked. With little budget to spend on additional hardware and keen to reutilise what was already in the data centre, Vcentral reassuringly confirmed that they could expand the environment by simply adding DataCore virtualisation software to empower existing hardware.

Richard Bateman, Technical Director at Vcentral takes up the story, "From the outset it was a pleasure to work with the Borough's team to provide their current highly resilient, agile infrastructure. Their open mindset together with a mutually keen desire to keep costs acceptable, has allowed them to achieve their full virtualisation goals using software storage virtualisation."

Indeed, the Borough were pleased to see from the Vcentral proposal that they would be able to reutilise their existing HP MSA 1000 hardware together with two HP DL380 G5 to house the two DataCore powered nodes to manage their storage across separate sites.

The DataCore Solution: Reutilisation Brings Recovery

In February 2009, Vcentral began work on replacing the ageing cluster with the Borough. The team factored in extra capacity to allow for the increase in student and network usage and recommended a three virtual host solution across the data centre - two

in the Borough's secondary Education offices in Carshalton and one in the civic offices in central Sutton for Disaster Recovery, all connected by fibre. VMware's VSphere was selected as the server virtualisation platform, along with VMware Advanced Acceleration kit running on the six VMs. The existing HP MSA 1000 SATA enclosures were redeployed to hold the mirror volumes from the remote site together with two HP DL380 G5 to house the DataCore software. At the Sutton Disaster Recovery site, the Borough opted for the purchase of a HP ML370 for the DR site.

Results: Straight Talking Storage Allocation

As the central administration team's responsibilities have increased, so has the need for procuring additional disk. Previously the Borough had to speculate up front how much disk was required - hard to predict across such a large environment, hence the ability to upscale disk 'as and when required' was a key buying criteria for the Borough. Most impressively, DataCore did not care at all which type of disk was in place; from SAS to external iSCSI arrays to SATA, (even a test USB device was put through its paces and strained to the maximum!). This acceptance of any type of disk allows the Borough to literally add as they go and not have to over estimate how much disk is required each year. Valuable when you think how the cost of disk is driven down over time. Equally valuable is the way DataCore's thin provisioning means you never run out of disk - all disk is in actual fact allocated, but through thin provisioning, even if there is unprecedented demand spike, Daniel knows that he can quickly reallocate and assign spare disk as and when required from the central storage pool so there is no need to load up-front.

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- Daniel Gale, Schools Network Manager, London Borough of Sutton

For more information on storage virtualization, please visit:
www.datacore.com

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Adding New Volumes in Minutes and Maintenance of Servers Online:

Provisioning new storage, adding new machines and maintaining servers used to entail scheduled downtime. With the dual configuration, adding extra disk or new virtual machines is now a relatively seamless process. DataCore makes light work of the job, simply adding one new network managed volume creates instant appearances across all hosts.

Maintenance is also much easier on the VMware servers and can be done without interference. The system is paused, then resynchronised, but there is no disruption as the DataCore software controls and routes the flow of data between the two, providing fault tolerance and resilience to the servers' applications.

Failures are no Longer Failures, but Mere 'Glitches':

Since the installation there has been one major incident where DataCore's power of restore has come into action. Daniel continues: "In February 2010 we had a significant power outage that breached the UPS window occurring across the weekend. When power was reconnected, the DataCore virtualisation server simply resumed and automatically re-synched with its partner with no disruption to users. Before the pairing configuration, loss of the central host would certainly have resulted in loss of pupil data. And we had a similar result when server failure occurred. Whilst the servers were out, the data remained safe across two sites and DataCore's software automatically resumed the job of rebuilding applications."

Daniel concludes. "We have been using DataCore now for some years, so we have a great track record with the product. However what the new enhanced environment actually gives us is total peace of mind whether we want add, maintain or recover, it simply gets on with job and remains totally bullet proof. That equates to total confidence."