StorMagic

CASE STUDY

OXFORD UNIVERSITY

LOCATION: UNITED KINGDOM | INDUSTRY: EDUCATION

Achieving high availability with a simple, lightweight, low cost solution using StorMagic SvSAN within the University of Oxford

UNIVERSITY OF OXFORD

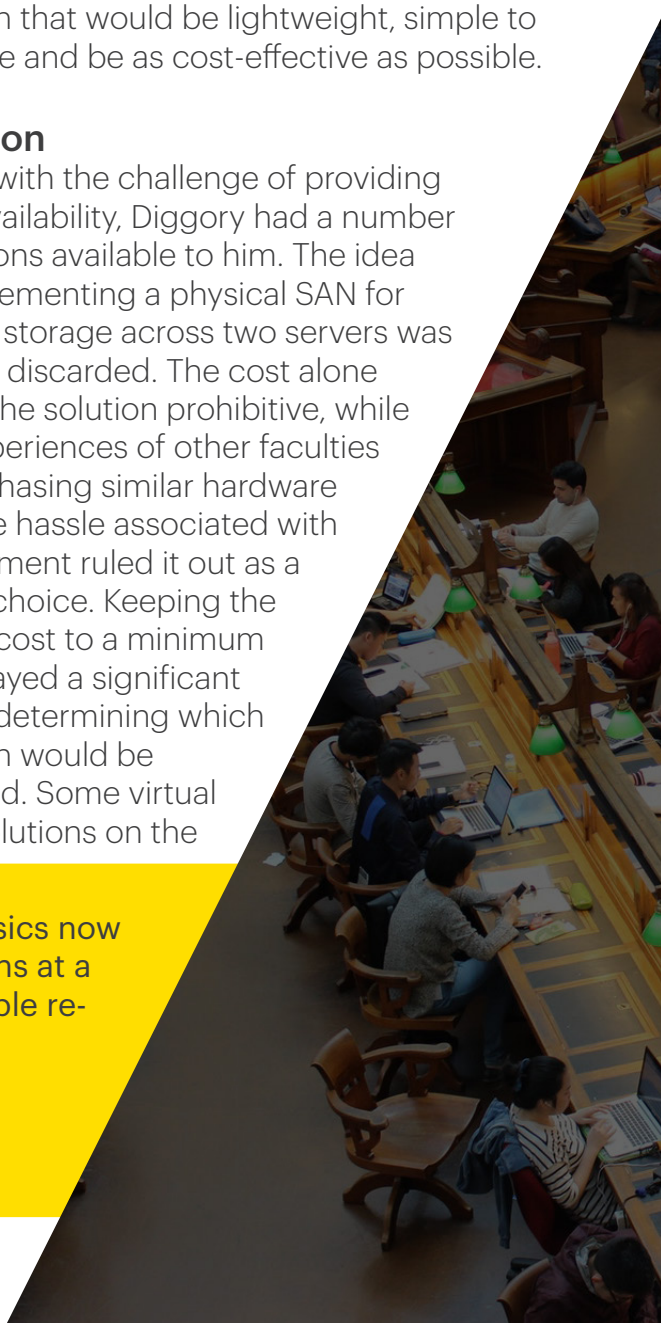
Business Challenge

The University of Oxford is an internationally renowned institution that is consistently ranked among the best higher education establishments globally. Oxford's Faculty of Classics is part of the university's Humanities Division and is the largest faculty of its kind in the world. As well as educating, it produces world-leading research through its three research centres and more than twenty research projects.

The Faculty of Classics is responsible for its own IT management, and has several critical applications that require high availability. These are spread over 20 Virtual Machines (VMs) for, amongst other things, the faculty website, print server, research projects and administration. To mitigate against the potential of downtime, the servers hosting the VMs urgently needed to be made highly available. Diggory Gray, IT Officer within the faculty was tasked with deploying a solution that would be lightweight, simple to manage and be as cost-effective as possible.

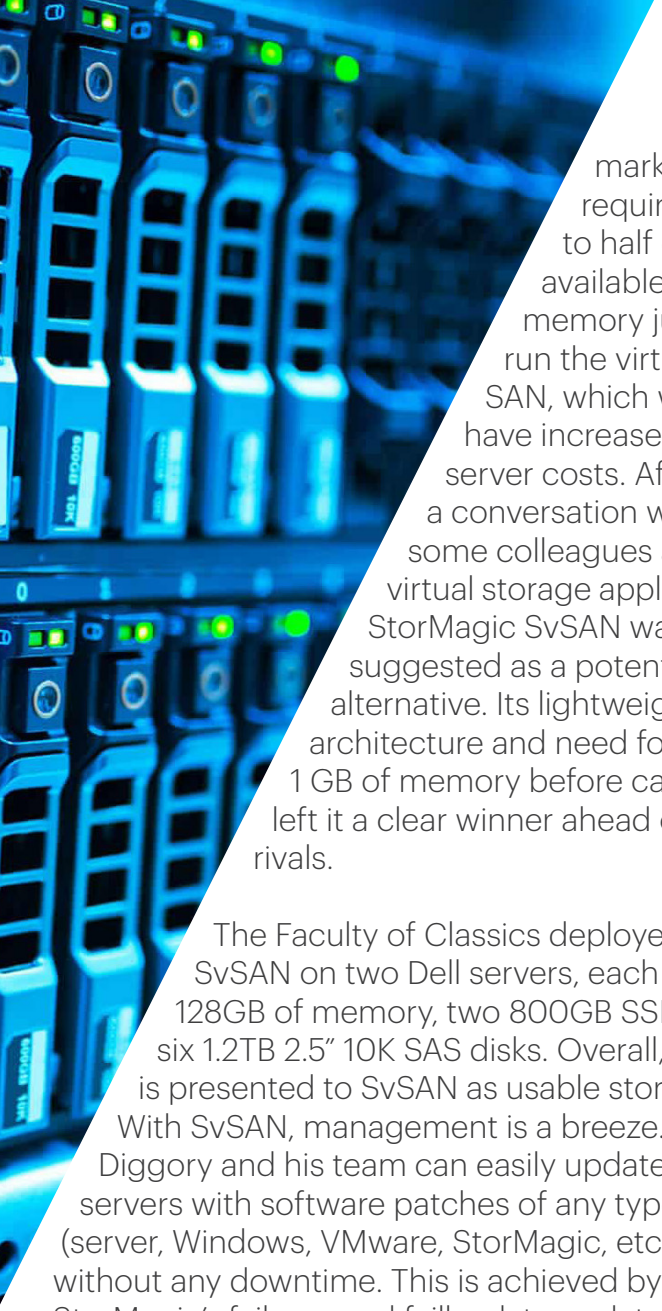
Solution

Faced with the challenge of providing high availability, Diggory had a number of options available to him. The idea of implementing a physical SAN for shared storage across two servers was quickly discarded. The cost alone made the solution prohibitive, while the experiences of other faculties in purchasing similar hardware and the hassle associated with deployment ruled it out as a viable choice. Keeping the server cost to a minimum also played a significant role in determining which solution would be selected. Some virtual SAN solutions on the



"With StorMagic, the University of Oxford's Faculty of Classics now has true high availability for our most important applications at a very low cost - and without using significant server or people resources."

Diggory Gray, IT Officer,
University of Oxford - Faculty of Classics



market require up to half of the available server memory just to run the virtual SAN, which would have increased server costs. After a conversation with some colleagues about virtual storage appliances, StorMagic SvSAN was suggested as a potential alternative. Its lightweight architecture and need for only 1 GB of memory before caching left it a clear winner ahead of its rivals.

The Faculty of Classics deployed SvSAN on two Dell servers, each with 128GB of memory, two 800GB SSDs and six 1.2TB 2.5" 10K SAS disks. Overall, 3.2TB is presented to SvSAN as usable storage. With SvSAN, management is a breeze. Diggory and his team can easily update the servers with software patches of any type (server, Windows, VMware, StorMagic, etc.) without any downtime. This is achieved by using StorMagic's failover and failback to update one server at a time, keeping all applications up and running and consequently generating huge time savings for the team.

Why StorMagic

The need for a lightweight, simple solution that used minimal resources was critical for Oxford's Faculty of Classics. Unnecessary spending on hardware upgrades needed to be minimized or avoided entirely, and that is exactly what StorMagic SvSAN provided. As well as being able to start out using their existing Dell servers and upgrade to newer models later, the faculty enjoys zero downtime during most maintenance events and users no longer experience reboots when software updates are applied. Operating costs associated with more complex, resource-intensive solutions such as power, cooling and increased system memory have also been avoided. In addition, SvSAN's ease of management makes it a truly 'set and forget' solution, allowing Diggory and his team to focus on other projects, safe in the knowledge their virtualized storage has the resiliency to run without constant monitoring.

Server Configuration (Per Server)	
Hardware	Dell
CPU	2 per server, 10 cores each, Intel Xeon
Memory	128GB per server
Storage	6x 1.2TB 2.5" 10K SAS disks, RAID-10 2x 800GB SSD, RAID-1
Networking	Two networks: One small set of switches for iSCSI, mirror traffic for svsan - 10GBit Main LAN - Windows 2008R2 for quorum server - in same server - Gbit LAN
Hypervisor	vSphere Essentials Plus Kit
Applications	20 VMs running internal applications: print server, patching system, websites, research projects, faculty website, administration websites, room booking
Data Protection	University has a centralized backup system using Tivoli