# ℘nexenta™ Case Study

## VESK

**Challenge**
Achieve performance levels suitable for high density applications. Needed greater IOPS speed.

**Benefits**
Tailored VDI solution. Hybrid storage pooling overcame IOPS and read/write issues. Ease of scalability.

**Solution**
NexentaStor™, with HA Cluster Plug-in

### System Configuration

- NexentaStor 3.0.5 and HA Cluster Plug-in
- 2x OpenStor HA Head Nodes
- 3x OpenStor EX JBOD Expansion Chassis
- LSI 6Gbps SAS Controllers
- Intel Mirrored ZIL 2.5" SSDs
- Intel Mirrored L2ARC 2.5" SSDs

*"We immediately saw the benefits of Nexenta and how it could underpin our business. It's given us the confidence to take advantage of the opportunities virtualization brings to the business world. It allows us to continue our rapid growth in this market."*

**James Mackie**
**Technical Director**
**VESK**

### BUSINESS OVERVIEW

In 2009, after nine months of development, the founders of IT support specialist Appiam set up VESK, one of the first companies to implement virtual desktops in the UK. Today, VESK is fully owned by Appiam Limited, a London-based IT support provider specialist renowned in the industry for excellent levels of IT and customer support. VESK now is the fastest growing supplier of virtual desktops to SMEs in the UK, with customer sectors ranging from local government with more than 500 users to small businesses, with as little as three end users.

The company owns its entire infrastructure and has presence at four data centers located around the UK, with the primary site based in East London. Disaster recovery locations at the three remaining data centers replicate the data over high speed interconnects, as often as every 15 minutes, to provide quick rollback of data and automatic failover should the primary site fail.

### CHALLENGES

As it added more users, VESK needed a storage solution that could grow while delivering the required IOPS to support its client base. And the solution needed to provide performance levels suitable for high density applications, both in-house and for its clients.

The company progressed through three different storage solutions. It began with Dell MD 3000is, an entry-level SAN, but the performance began to suffer when it hit 150 users and VESK could not take advantage of any caching store even though it was 90% empty. The next stage was to upgrade to an EqualLogic solution at a cost of £40,000. While the built-in SAN replication was an attractive feature, the product fell down because of its low caching ability and limited network speed. In addition, Citrix Xen Desktop did not deliver the required VDI performance.

While VESK had more than 70 servers running on Hypervisor, it was not the number of servers but the SAN. VESK realized it required bigger input/output operations per second (IOPS) and high performance all the time to make its system work for all users. Delivering a VDI required high performance and high availability to run a large number of applications, such as Outlook, Sage, and others.

Having such small numbers of users on expensive and underutilized storage would not be sustainable for VESK's business model, not only because of the management of these SANs would quickly swamp the system administrators but it also would significantly increase the individual cost of each user to VESK.

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## SOLUTION OVERVIEW

After a strong recommendation from a colleague, VESK looked at NexentaStor and then went with VA Technologies, a Nexenta Reseller and high performance system integrator based in Bedfordshire, UK. The end result included a full High Availability SAN solution. This gave VESK more than 130TB of raw storage, as well as both Write and Read SSD caching to present Network File System (NFS) shares to its Citrix Hypervisors.

The storage arrays were configured to provide complete JBOD redundancy, both with the data drives and SSD caches, so in the event of a JBOD loss, the storage system still would be available to the hypervisors.

Using two OpenStor HA Head Nodes give VESK the ability to do a complete automatic failover within a minute of a head node failure, as well as the ability to do maintenance or upgrades to a single head node, thereby reducing the impact of such work.

## SOLUTION BENEFITS

NexentaStor delivered the cost-saving solution VESK needed to provide the required IOPS for a VDI environment. When the company hits its limits on a SAN, it can order the same equipment and build another. With other suppliers, VESK was looking at the prospect of buying whole new solutions. NexentaStor, however, allows the company to cluster SANs and keep adding more, without replacing legacy equipment.

NexentaStor overcomes random IOPS issues associated with VDI and eradicates the difficulties associated with the very high percentage of writes in a VDI environment (as much as 80%) because it natively supports hybrid storage pooling, enabling customers to add SSDs to better manage.

## BUSINESS BENEFITS

NexentaStor provided VESK with a solution tailored for a delivering a VDI environment.

- Support for hybrid storage pooling helped VESK to overcome the IOPS and read/write issues associated with delivering a VDI environment to customers.
- With NexentaStor, WESK deployed industry standard hardware to easily build and add SANS with SATA, SAS, and SSDs when required.

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