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EU Services Achieves Blazing VDI Performance While Slashing Cost and Complexity

Saddled with a fleet of aging PCs, and faced with limited resources and the need to spend more to maintain existing devices and procure new ones, EU Services moved to desktop virtualization. This move to virtual desktops provided EU Services with a simple, secure platform to deliver desktops as a service to end users across devices and locations. However, the company quickly discovered that its traditional storage architecture was underpowered and no matter how many spindles the company added, end user experience was still suffering.

That's when EU Services moved to a flash-enabled storage array from Nimble Storage. Today, with two Nimble Storage arrays and VMware View™ working in tandem in a highly-virtualized environment, performance is at an all-time high, and the firm's highly-mobile workforce has secure access to their virtual desktops—wherever workers happen to be. In addition, EU Services has cut provisioning time for new end-user virtual desktops from two hours to five minutes.

The Challenge

Mobile access to applications and data is increasingly becoming the norm in the print/mailing industry. Mobility is also driving wholesale changes in corporate network infrastructures, but no change is more urgent or compelling than virtual desktop infrastructure, or VDI. The goal: a desktop virtualization environment that securely supports a variety of end-user devices and accommodates the ability for employees to bring in their own devices.

With its PCs approaching end of life, EU Services considered replacing these older PCs with virtual desktops and additionally adopting virtual desktops for new users. Provisioning, updating, patching and managing physical desktops were arduous and expensive. "Every summer for two months straight we did a huge swap out, bringing new boxes in, re-imaging them, transferring files, and deploying them," said Paul Nicholson, vice president of information systems.

With VMware View, IT staff at EU Services envisioned a much quicker-to-deploy, more flexible, less-costly alternative. But correctly sizing storage was key to delivering on this promise.

Nicholson found that he needed to resize his storage out of the gate. "Our reseller had not correctly sized the back end SAN for a VDI environment," he said. Once we got more than 50 desktops up and running, everything slowed down."

The Solution

Nicholson evaluated new, all-SSD storage alternatives, which he found were not cost-effective or production-ready. After a brief proof of concept, Nicholson chose the Nimble Storage flash-enabled approach to storage. Says Nicholson, "Nimble is unique in its

Nimble Storage and VMware Solution for VDI and MSD

"We found that Nimble Storage's unique architecture — combining flash and disk — delivers extremely high performance, which is the perfect environment for VDI. Using Nimble Storage flash-enabled arrays in our VMware View environment has vastly improved how our highly mobile workforce accesses their applications and data — enabling us to serve an ever-greater number of mobile workers without sacrificing storage performance or capacity."

Paul Nicholson
VP of Information Systems
EU Services
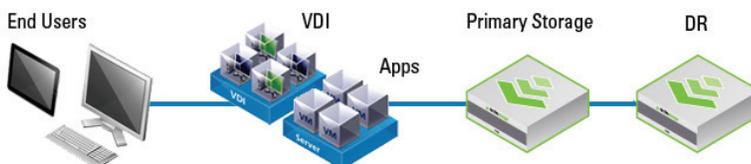
approach to flash. By using SATA drives on the back end and SSDs on the front end for caching, the Nimble architecture delivers extremely high performance, without the downside of high costs. And the Nimble Storage array works seamlessly with VMware View."

Provisioning

Today, provisioning a new virtual desktop takes five minutes. Whether a user has a desktop, laptop, tablet or phone, VMware View delivers a secure Internet connection in both wired and wireless domains. With such flexibility, Nicholson can easily accommodate users in remote offices, home offices or on the road. The interface between Nimble and VMware is seamless, and Nicholson manages virtualization from within the intuitive Nimble operating environment.

Unconditional High Performance

For their architecture, Nicholson maintains four servers running VMware View virtual machines as well as enterprise applications and user data. All servers are accessible from any thin client or mobile client anywhere in the world. That architecture has resulted in routinely high performance across networking operations:

- Desktops boot in under a minute on the Nimble Storage array, and boot storms have no effect on performance.
- All performance-related helpdesk calls, which once accounted for 50% of all calls, have been eliminated.
- Antivirus scans have no effect on system performance.

Efficiency and Ample Headroom with Multiple Workloads

Nicholson uses a Nimble CS220 array as his VMware server. On the server are two hosts running a combination of five SQL servers, Windows servers, Active Directory, print and file servers, and SharePoint, in addition to supporting VDI. With the current combined workload, the Nimble CS220 has approximately 70 percent headroom and has experienced no observable latency.

Outstanding Performance Against RPOs and RTOs

Objectives for data recovery time (RTO) and recovery points (RPO) are critical in the print/mailing industry. In EU Services' former VDI storage environment, it could not achieve RPOs or RTOs that were "anywhere close to acceptable, especially for some of our larger servers." Today, with integrated data protection, the array snapshots critical systems every 15 minutes and less critical systems every hour. "Recovery time is unbelievable," he says. "For example, we just recovered an SQL server in less than five minutes." For additional protection, snapshots on his primary Nimble array replicate to his backup Nimble array, which is backed up to tape.

Under his previous storage regimen, the nightly backup window required 10-15 hours, compromising performance significantly and reducing data access times 30-40 percent. Today, long backup times and storage latencies have vanished, benefitting workers across the company's 24x7 operations. Snapshots running as an alternative to backups take less than ten seconds, followed by a one-minute replication. Nicholson likes the ROI: ten-hour backups have given way to ten-second snapshots.

High ROI Across the Board

With the tight integration of VMware View and Nimble arrays and automation of common tasks, EU Services' MIS department reduced management overhead by five hours a week initially. Other improvements include:

- Reduction in helpdesk calls: Helpdesk calls for non-performance-related issues have been reduced by 50 percent.
- Reduction in backup costs: Cost of backup and software and support have dropped $20,000 per year.
- Storage CAPEX: Through performance and capacity improvements, Nicholson has deferred future storage hardware purchases of $50,000.
- Power savings: Nicholson says power savings are "pretty dramatic."

Looking Ahead

With EU Services' SAN architecture delivering high performance and high value, the company is in a strong position to increase the number of virtual desktops in its environment. Moving forward the company plans to roll out Exchange 2010, and broaden its applications for SharePoint. With a field-proven platform for virtualization in place and costs in line, Nicholson likes the company's horizons for growth.

EU SERVICES

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