

COUNTING ON VIRTUALIZATION

Building society eliminates potential risk to business continuity with Dell virtualization solution



With a wealth of sensitive data to process, store and protect, companies in the financial sector need technology they can depend on. For Chelsea Building Society, robust IT is vital to the delivery of professional, reliable services to staff, customers and the community. As the UK's fifth-largest building society, Chelsea has 35 branches between Plymouth and Norwich. An IT centre in Cheltenham provides the backbone for all transactions undertaken in these branches.

SOLUTIONS:

- BACKUP, RECOVERY AND ARCHIVING
- GREEN IT
- SERVER CONSOLIDATION
- VIRTUALIZATION



CUSTOMER PROFILE

COMPANY: Chelsea Building Society
INDUSTRY: Banking & Finance
COUNTRY: United Kingdom
FOUNDED: 1875
EMPLOYEES: 900
WEBSITE: www.thechelsea.co.uk

CHALLENGE

To protect business continuity and sensitive data, Chelsea Building Society needed to migrate legacy software onto a robust hardware platform. This infrastructure had to integrate with an existing storage area network (SAN).

SOLUTION

Chelsea created a preliminary design before engaging Dell for product advice, detailed design, deployment and knowledge transfer. The solution uses Dell™ PowerEdge™ servers running VMware® ESX server software, configured with Vizioncore for optimum data protection.

BENEFITS

Get IT Faster

- Dell consultants optimises solution design
- Infrastructure deployed in 16 days

Run IT Better

- Potential risk to business continuity removed
- Energy costs, space and carbon emissions reduced

Grow IT Smarter

- Consolidation of 18 servers to three leaves ample room for growth
- Compatibility with existing infrastructure protects previous investment



When the IT team identified a business continuity risk within part of the server estate, it turned to Dell's infrastructure consulting team for help. Bruce Trott, head of desktop technologies, Chelsea Building Society, says: "A hardware refresh was crucial to protect business continuity and maintain the confidence of our customers, partners and staff."

As part of Dell's ProConsult service, its infrastructure consulting team used their workshop, assessment, design and implementation methodology to validate Chelsea's proposed solution and deploy a resilient, scalable platform. Dell completed the project in 40 days, from initial engagement to launch of the new environment.

DELL EXPERTISE HELPS CHELSEA DEFINE OPTIMAL SOLUTION

Part of Chelsea's previous infrastructure consisted of 18 legacy servers, running Microsoft® Windows NT® Server version 4.0 and Microsoft Windows® 2000 Server. The servers were reaching the end of their lifecycle, and no longer had comprehensive support. The team knew that a failure could result in several hours' downtime, rendering critical applications unavailable and impacting customers and employees using branch facilities.

Operating systems were not compatible with newer hardware, so the company decided

to take advantage of the flexibility that server virtualization offered. This would allow systems and associated applications to run on reliable, efficient technology. Chelsea already used VMware® GSX server software for a number of test environments and was keen to build on this approach.

Adrian Scotney, server technologies manager, Chelsea Building Society, says: "We decided to use the advanced functionality of VMware ESX, but we needed support to reinforce our internal knowledge and skills. We had purchased hardware from Dell in the past, but it was the alliance with VMware that decided it for us. From the first conversations we had, the depth of Dell's expertise, and its commitment to delivering high-quality services, was clear."



“DELL SHOWED US HOW TO USE VIRTUALIZATION IN OUR LIVE ENVIRONMENT TO BUILD RESILIENCE AND WORKED CLOSELY WITH US TO GET THE SOLUTION DESIGN RIGHT.”

Adrian Scotney, server technologies manager, Chelsea Building Society

HOW IT WORKS

SERVICES

- Dell ProConsult

HARDWARE

- Dell™ PowerEdge™ R900 and 1950 servers with Intel® Xeon® Processors E7330

SOFTWARE

- VMware ESX server software 3.5.2
- VMware VCenter™ Server
- Dell OpenManage™ Systems Management
- Dell Remote Access Card (DRAC) 5 Security
- Microsoft® Windows® 2000 Server
- Microsoft Windows NT® Server version 4.0
- Windows Server® 2003
- Vizioncore™ vRanger Pro™
- Vizioncore vFoglight™ Standard Edition (SE)

Dell consultants gave a number of presentations to help Chelsea understand the capabilities of VMware ESX and its application in live environments. The consultants then led detailed workshops and systems assessments to:

- Evaluate the existing IT environment
- Determine Chelsea's needs
- Identify potential challenges, to ensure timely resolution
- Ratify the preliminary design and produce a VMware Server Virtualization Infrastructure Design Document
- Define project timelines

Dell's approach ensured that the project progressed on a collaborative basis, supported by shared knowledge and a common goal. The Chelsea team also received guidance on Vizioncore's suite of tools for backup and systems management in virtual environments.

With Dell's support, the team was able to present the solution to the company's decision-makers with confidence. "Dell showed us how to use virtualization in our live environment to build resilience and worked closely with us to get the solution design right. Dell also appreciated that we wanted to protect our investment in the existing infrastructure, and helped us integrate our SAN technology for optimum data protection," says Scotney.

DELL SERVICES SIMPLIFY DEPLOYMENT

Rather than installing an agent on the legacy servers to model processor and memory requirements, with a risk of altering existing configurations, the Chelsea team used a conversion table provided by Dell to define specifications for the new environment.

“DELL’S KNOWLEDGE OF VMWARE – PARTICULARLY IN HIGH AVAILABILITY MODE – WAS ESSENTIAL TO THE SUCCESS OF THE DEPLOYMENT.”

Bruce Trott,
head of desktop technologies,
Chelsea Building Society



They concluded that three Dell™ PowerEdge™ R900 servers running VMware would provide the foundation they needed.

The Dell deployment team installed two of the R900 servers at the company’s main datacentre, running as a high availability cluster. Alongside this, it installed a PowerEdge 1950 server running Windows Server® 2003 and VMware VCenter™ Server.

The third virtualized R900 is located at a remote site for disaster recovery. Importantly, all servers are Intel®-based, aligning with Chelsea’s strategy to standardise on Intel Processors for consistent performance and simplified maintenance.

After installing VMware, Dell worked with Chelsea to configure and test the infrastructure, including:

- Network and data path resilience
- Live and non-live migration of virtual machines
- Automation of live migrations using VMotion
- Failover of virtual machines – both within the high availability cluster and to the disaster recovery site

Dell then migrated all 18 physical servers to the virtual platform. “Dell defined and implemented timelines for migration and decommissioning of legacy servers, avoiding disruptions to service for staff and customers,” says Scotney. “Dell also provided

weekly reports to document the progress of the project, and the deployment of the infrastructure was completed in just 16 days.”

During handover of the new environment to Chelsea, Dell provided further knowledge transfer on VMware and a detailed configuration guide. Trott says: “Dell’s knowledge of VMware – particularly in high availability mode – was essential to the success of the deployment.”

UPTIME NEARS 100 PER CENT WITH DELL

The building society now has a robust server platform supported by a strong backup and recovery strategy. This is due to a redundant server configuration, successful integration with the existing SAN, and the creation of a disaster recovery site. “With our virtualized environment from Dell, our business is more resilient. We can recover from a server failure in minutes, rather than several hours. We have more or less eliminated system vulnerability in this area of the IT infrastructure, and plan to extend this approach across the business,” says Scotney.

The two servers at the primary site run in a high availability configuration, so there is no single point of failure. “If one machine fails, VMware high availability will automatically and immediately migrate workloads onto the other server. The potential for downtime in the event of a server failure is virtually zero,” says Scotney.

Meanwhile, the SAN replicates all data synchronously to the disaster recovery site. Should the primary site fail, the team will relaunch all applications at the remote site: “We estimate that we could get the whole system up and running at our secondary site within an hour if our main datacentre failed,” Scotney confirms.

MANAGEMENT SIMPLIFIED

Dell consultants helped Chelsea choose tools to replace time-consuming, manual tasks with automated, unified processes. “The manageability of our virtualized Dell platform is a clear benefit,” says Trott. “We bought Vizioncore vRanger Pro and vFoglight on Dell’s recommendation and have found these tools extremely useful. Vizioncore vRanger Pro is a single management point for virtual backup and recovery, with a high compression ratio that minimises space requirements and accelerates recovery times, whereas vFoglight gives us a single interface for monitoring all our virtual servers, so we detect and resolve issues promptly.”

At the physical server level, Dell OpenManage™ Systems Management allows the team to view memory, processor and disk performance without looking at each physical server one by one, as they did before.

"In the past, we had to go to each server to check performance," says Trott. "With OpenManage Systems Management, we can look at all servers on both sites using a single interface. And with the Dell Remote Access Card 5 Security, we can monitor and repair servers remotely. Visibility is higher, and issue resolution faster."

DELL PLATFORM PROVIDES SCALABLE FOUNDATION FOR INFRASTRUCTURE REFRESH

Simple, cost-effective scalability was essential. "The three virtualized servers we purchased are coping admirably with the workload of the 18 physical servers we had before, with budget to spare. In fact, we're only using 10 per cent of each server, so we have ample room for more virtual machines using the current infrastructure," says Scotney.

Scotney and his team wanted to provide a foundation for further virtualization of live environments across the company. Trott explains: "Dell has helped us develop best practice, not only for this project, but for ongoing virtualization of live servers.

Thanks to Dell, we're now in a position to raise availability and performance across the server estate."

Virtualization will also help Chelsea keep power consumption and physical footprints in check. Trott says: "While energy and space were not our key focuses, we recognise that we now have a leaner, greener infrastructure. With our virtualized PowerEdge servers, we have cut 18 servers to three, and we can deploy additional virtual machines without increasing floor space, and with a minimal rise in power consumption."

For more information on this case study or to read additional case studies, go to www.dell.com/casestudies and www.dell.co.uk

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