

**KEY HIGHLIGHTS****INDUSTRY: CONSTRUCTION****CHALLENGE**

- To curb physical server sprawl and lower the total cost of ownership (TCO) across the IT infrastructure
- To implement a centralized architecture for delivering critical IT applications
- To streamline and improve standard maintenance processes
- To improve disaster recovery capabilities and implement failover between sites

**SOLUTION**

- VMware Infrastructure consolidates server estate and centralises IT function in to two primary datacenters
- VMware Site Recovery Manager automates and accelerates disaster recovery processes

**RESULTS**

- Server consolidation ratio of 12:1
- Increased business continuity and disaster recovery capabilities for critical applications
- Simplified management and maintenance across IT infrastructure

**VMWARE AT WORK**

- VMware V13 Enterprise Edition
- VMware Site Recovery Manager

*"As with any new technology we approached virtualization with caution, but I can safely say we now have really embraced it as our standard architecture and have no fear about virtualizing pretty much any application. We have seen incredible short-term cost savings which have helped us sell in further virtualization initiatives at board-level, and in the long-term our IT infrastructure is now far more manageable and flexible. Where downtime was once a significant headache for us we now can provide protection and failover for all our applications as standard. The fact that IT is no longer holding up construction projects but actually enabling them is a massive plus."*

Jim Fennell Information Systems Manager, Lagan Holdings Ltd.

## Lagan Group

Lagan Group is a diverse group of companies engaged primarily in the manufacture and supply of construction materials, civil engineering, surfacing, house building and property development. Across the five companies Lagan has a turnover of around £450m.

Lagan's IT Shared Service group supports over 1300 users at over 50 sites, primarily in Republic of Ireland and UK, but with some locations in the Caribbean and Pakistan. The fairly rapid growth of the group had led to a distributed and non-standardized IT architecture. The group had no central datacenter, with servers and storage on-site providing local IT services to end-users. This model was causing a number of significant problems for the group's IT department – new servers took up to six weeks to provision, the cost of supplying even basic connectivity to new sites was significant, while maintenance and disaster recovery tasks were proving very difficult.

"We only have a team of six dedicated IT staff, and our IT infrastructure was stretching our resources to breaking point," said Jim Fennell, Information Systems Manager, Lagan Holdings Ltd. "The distributed model we had in place was expensive from a cost perspective and almost unmanageable in terms of day to day maintenance. The availability of systems was also severely compromised, and with disaster recovery taking up to five days, IT downtime was impacting construction projects, which was simply unacceptable."

Working with IT partner Novosco, a VMware Authorized Consultant, Lagan began to investigate how virtualization could be used to centralise its IT infrastructure, simplify management and provisioning, lower costs and provide better systems uptime and disaster recovery.

Having decided to make VMware Infrastructure the virtualization platform for its IT server estate, Lagan embarked on a three-phase approach to its implementation: phase one would be the initial consolidation of its physical server estate at one of its sites, phase two would involve the acquisition of a new company and its IT systems, and phase three would see virtualization implemented more broadly across the group's entire server estate with specialised disaster recovery solution put in place to provide failover between sites.

During the first phase of its virtualization initiative Lagan replaced five aged physical servers at its Cement Works site with two machines running VMware Infrastructure. These two machines were connected to an EMC SAN to provide failover between machines using VMware's VMotion and HA capabilities.

“We calculated that a physical approach to replacing these five servers and providing failover would have cost around €60k for the ten machines we would have required,” commented Fennell. “Taking a virtualized approach saved us ten thousands pounds in acquisition costs, but will also mean we see huge long-term power and cooling savings as well as having a more manageable and flexible architecture in place.”

The second phase of the project saw Lagan replacing the hardware on site at Welsh Slate, a company it had recently acquired. In less than a week Lagan had migrated all the hardware on site on to virtualized hardware, delivering business continuity and disaster recovery as standard to all Welsh Slate applications.

The final phase of the project involved the centralisation and virtualization of all the group’s remaining hardware at two primary sites. At the first site nineteen physical servers were reduced to three while the server footprint at the second site was reduced from six servers to two.

Having implemented a virtualized infrastructure across its sites, Lagan then improved the resilience and business continuity capabilities at these sites by implementing VMware Site Recovery Manager (SRM). SRM is now used to automate the recovery of virtual machines between sites after an outage, ensuring that even the loss of a site does not impair the IT team’s ability to deliver critical applications and support end-users.

*“There have been several examples when the flexibility of VMware’s technology has proven invaluable. When we acquired Welsh Slate it only took us a week to virtualize their existing infrastructure and integrate it with our other environments. Now we manage Welsh Slate’s IT in exactly the same way we do for the group’s other companies. We were also able to provision, in an hour, a complete cloned replica of our Maximo production environment for some troubleshooting and testing work when we were experiencing some fairly major issues. To have done this with a physical infrastructure would have taken weeks, whereas our test and development team were able to work on an exact replica of our production environment almost as soon as we had reported the issues”*

Jim Fennell, Information Systems Manager, Lagan Holdings Ltd

## Results

- Achieved server consolidation ratio of 12:1; Decommissioned over 20 physical servers
- Estimated saving of around £200k compared to acquisition costs for non-virtualized solution
- Improved response times to business needs – provisioning of new servers reduced from around two days to one hour
- Significantly reduced downtime for applications using VMware HA and Site Recovery Manager; reduced recovery times for virtual machines from as much as five days to less than an hour and provide fully automated site to site failover

## DEPLOYMENT ENVIRONMENT

- HP DL380 G5 Servers
- EMC Celerra NX4 and Clarion CX-310 storage arrays
- esXpress Virtual Backup Appliance

## VIRTUALIZED PRODUCTION APPLICATIONS

- SQL 2000 and 2005
- Citrix
- Exchange
- Oracle
- Linux
- OCS
- SharePoint
- Sage

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