



Building an agile, resilient IT infrastructure

PROJECT PROFILE:

- Server upgrade and consolidation
- Disaster recovery
- Server virtualisation using VMware
- HP storage technology

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The New Charter Housing Trust Group is one of the largest Registered Social Landlords in the North West, owning and managing almost 15,000 properties. Its creation in 1999 involved the biggest Large Scale Voluntary Transfer of property from local government ownership at the time and resulted in an organisation with a turnover of £53 million a year, employing 800 people.

In 2005, John Westwood, IS Infrastructure Manager for New Charter, was faced with a pressing need to upgrade and consolidate the organisation's ageing server infrastructure.

"We simply had too many servers," says John, "and with our critical data spread out over so many systems, data management and backup were overly labour intensive and time consuming." A further limitation of the IT environment was that Disaster Recovery (DR) capability was only available for the identified business critical systems.

With the server population reaching the end of its useful life, New Charter's IT organisation undertook a rigorous research and analysis project to determine a more effective strategy for the future. The new solution had to be cost effective, robust and highly flexible to accommodate change without disruption.

Their investigations quickly led them to server virtualisation as a promising solution, and VMware technology in particular. "We felt that virtualisation would enable dramatic consolidation of server hardware while providing a highly flexible response to varying workloads. Furthermore, DR coverage for any system becomes straightforward through virtual server replication," explains John.

The other main feature of the new infrastructure strategy was the use of Storage Area Network (SAN) technology to further consolidate hardware, reduce data management overhead and enhance resilience.

The search for the best solution provider was initiated with a specification for tender sent out to a number of well known IT suppliers. As the proposed technology was new to New Charter's IT team, the specification was written at a high level, leaving plenty of scope for the suppliers to provide guidance and demonstrate their skills in solution design.

All the suppliers met with the IT team to properly understand the requirements and discuss options before submitting formal proposals. Throughout the evaluation process Softcat impressed with their constructive attitude and sound technical skills. The partnership of Softcat and HP proved to be compelling. Softcat's helpful approach and a solution based on HP's advanced technology led to their selection.

"Softcat gave us consistently good advice," said John. "Their proposal was not the cheapest, but their HP based solution was the best fit and safest option. Their consultants were always open with us and pointed out a number of ways in which we could save money."

The Softcat solution featured HP ProLiant DL380 servers together with the HP StorageWorks 4000 Enterprise Virtual Array for centralised disc storage. Not only does this approach to storage save time, space and costs compared to traditionally architected discs, but it is also supported by a powerful suite of HP management software.

The production configuration consists of twenty two virtual servers running on five physical VMware servers connected to the HP EVA 4000 system. A HP StorageWorks MSL2024 tape library is used for data backup. This environment is replicated at a separate DR site using four physical servers and an older EVA 3000 system from the existing infrastructure. Having had previous experience of HP equipment, John had complete confidence in the HP configuration specified by Softcat.

"We like the hands-on approach of Softcat's consultants," says John, "they worked closely with our own staff to implement the system. This allowed on-the-job skills transfer to take place, ensuring that New Charter would be well equipped to look after their new infrastructure."

Virtualisation allowed a low risk, incremental approach to the migration of services. Installation of the new systems and establishment of operations under Softcat's guidance went extremely well.

Despite the fact that Softcat's estimate for consultancy was lower than the competition, the project was completed on schedule and with nine days less effort than planned.

John puts the success of the project down to excellent planning by both Softcat and New Charter and the flexibility of the HP solution. "Softcat's consultants made the effort to understand our needs thoroughly and solved most of the problems in advance. They made it clear what was expected of us in addition to their responsibilities. As a result, it went a lot better than I thought."

New Charter's IT infrastructure has been transformed from an inflexible configuration of forty machines with limited business continuity capability, to a manageable array of nine powerful systems that easily support all the virtual servers. With a single VMware console to control allocation of resources, the IT team can respond quickly to business needs.

Data storage is taken care of by the resilient, high performance and extensible HP EVA 4000. This centralised SAN solution simplifies storage management by keeping all the data in one place and has reduced the backup workload by seven hours.

The business benefits of server virtualisation are compelling. New services can be introduced in an incremental manner, tested and quickly reverted if necessary. Using the VMotion capability, which captures the complete state of a virtual server on disc, a service can be migrated from failing hardware instantly, without disruption to the business, making DR implementation painless. DR coverage now encompasses 90% of all services, and adding a new service is simple.

An additional benefit of removing the dependency of a service on a specific server is that hardware upgrades and scheduled maintenance can now be carried out proactively at any time, with no interruption experienced by the user community.

A valuable consequence of the huge reduction in hardware achieved is the savings in power that result. Energy costs are rising rapidly, as are environmental pressures, so this gain is particularly timely.

The HP hardware has met all expectations and performed faultlessly. The increased reliability and resilience of the new infrastructure has increased the confidence the IT team has in the system. It is now aiming for an 85% improvement in business continuity performance in the event of disaster.