A-Plant equips itself for future growth

Cutting response times and power requirements with IBM technology

Overview

The need

To keep track of £300 million worth of assets, Ashtead Plant Hire Company (A-Plant) needed to ensure that in the event of a hardware failure, its business-critical rental application could keep running with no data loss.

The solution

Replaced its legacy storage systems with two IBM® Storwize® V7000 disk systems, one at each of the company's Warrington and Liverpool locations, using built-in software for near real-time replication.

The benefit

Beats the company's downtime target: failed servers can be restored in just 30 seconds. Halves response times for most applications and doubles disk I/O. Cuts annual electricity costs by £45,000.

Part of Ashtead Group plc, A-Plant is the one of the UK's largest plant, tool and equipment hire companies. With a fleet of equipment comprising over 110,000 items of non-operated equipment including power tools, cement mixers and accommodation units to excavators, compressors, scissor lifts and other types of equipment for industry and construction, A-Plant invests millions of pounds each year in the latest technology. Employing around 1,900 people and operating over 100 locations in the United Kingdom, A-Plant's head office is located in Warrington, Cheshire. The company also employs 6,600 people in the United States at over 330 locations.

Maintaining visibility of assets

A-Plant relies on MCS Rental Software to support day-to-day operations, and with £300 million worth of assets to keep track of any downtime could have serious consequences for the company's performance.

Andy Wortley, IT Director at A-Plant, explains: "MCS Rental Software lies at the very center of our business, with our agents putting through one transaction a second. If the MCS solution were to go down at any time, we would lose visibility of the 110,000 items of equipment we hire out. This could mean wrongly informing a customer that an item is unavailable, or committing a single item to two clients at once, running the risk of eroding customer satisfaction, or missing out on opportunities to increase profits."

The company's existing storage infrastructure, based on a storage area network (SAN) built on IBM System Storage® DS4800 technology, had served A-Plant well but was approaching the limits of its capacity and reaching end-of-life. A-Plant recognized an opportunity to update its disaster recovery strategy at the same time as renewing its storage infrastructure.

"Although – luckily – we had not needed to actually use our previous disaster recovery strategy, which relied on offsite magnetic tape libraries, we knew that it would take at least a week for us to be up and running again in the event of a disaster," comments Wortley. "This would have had hugely negative consequences for our business, and we knew that the storage infrastructure renewal project was the ideal opportunity to improve on this. We set a target of recovery from a total datacenter failure within an hour."

Solution Components

Hardware

- IBM Storwize® V7000

IBM Business Partner

- Applied Technologies

Selecting the right partners

A-Plant approached MCS UK, specialists in hire and rental software solutions, to help find a solution. MCS UK worked with IBM Premier Business Partner Applied Technologies to develop a virtualized storage infrastructure based on IBM Storwize V7000 technology. A-Plant chose to deploy a 20 TB Storwize V7000 disk system at each of its Warrington and Liverpool datacenters, connected via Fibre Channel over IP (FC/IP) routers and replicating all data using the built-in IBM Global Mirror and Metro Mirror technologies.

"We were one of the first companies in the UK to deploy the IBM Storwize V7000 disk system," says Wortley. "The exceptional technical expertise shown by Applied Technologies helped convince us we were right in taking the risk, and we have not been disappointed. Because we were dealing with new technology there was learning to be done on both sides, but the Storwize technology has more than delivered on our expectations."

The implementation was completed by A-Plant's IT team over a single weekend, with help from consultants from IBM and MCS UK. In addition to deploying the pair of Storwize V7000 disk systems, the project involved the design and integration of a replica IBM Power Systems™ server and Fibre SAN Switch environment with Fibre Channel to IP Routers, handled by Applied Technologies. This replica server environment allowed for rigorous testing of the solution outside of the live production environment.

Maximizing resiliency and performance

As a result of the project, A-Plant has transformed its disaster recovery strategy, using integrated remote mirroring and IBM Tivoli® Storage FlashCopy Manager software to enable near-continuous availability of applications.

"Implementing the IBM Storwize V7000 has made it possible for us to completely smash our downtime target," comments Wortley. "Our goal was to ensure recovery within an hour, and testing has shown that we can in fact recover a failed server in about 30 seconds. Comparing this to our old disaster recovery strategy, where we expected to spend at least a week restoring systems, I can now sleep easy at night knowing business continuity is practically guaranteed by the IBM solution."

Since deploying the Storwize V7000 solution, A-Plant has seen significant improvements in performance for many of the company's business-critical applications. The Storwize systems include Enterprise Solid-State Drives (SSDs) to boost performance for database-intensive tasks. IBM System Storage Easy Tier® automatically migrates frequently accessed data elements to the high-performing SSDs.

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— Andy Wortley, IT Director, A-Plant

"We immediately saw huge performance improvements after we deployed the IBM Storwize V7000 disk systems," says Wortley. "An estimated 100 percent increase in disk I/O has helped cut response times to less than half of what they used to be for many applications, while overall we believe response times have improved by an average of 20-30 percent. More responsive systems allow our employees to work more efficiently, and access vital information more quickly whilst out in the field. All this contributes to greater customer satisfaction, our ultimate aim."

Cutting costs

By replacing its legacy storage infrastructure with Storwize V7000, A-Plant achieved considerable electricity savings, helping ensure faster return on investment. Moreover, deploying the Storwize V7000 systems helped support a parallel server virtualization project at A-Plant, enabling the company to consolidate 80 servers to just eight. This offered additional major electricity and floorspace savings, while simplifying user management.

"Moving to the IBM Storwize V7000 has yielded savings in electricity of £45,000 a year, a benefit we did not expect," explains Wortley. "As a result, the project has proved almost self-funding, a huge advantage. It also played a part in supporting our server virtualization project, enabling us to cut server numbers by 90 percent, from 80 to eight, generating further savings."

Planning for the future

A-Plant has chosen to add an additional 20 TB of capacity to each of its Storwize V7000 disk systems, with non-disruptive growth options ensuring future expansion can easily be accommodated. Optional external virtualization software could also allow the re-utilization of the company's legacy storage, should A-Plant need the capacity, offering additional capacity with no further expenditure on disk hardware.

Wortley concludes: "We have been so impressed by the performance and ease-of-use offered by the IBM Storwize V7000 technology that we are moving towards using it to support our entire environment. By standardizing on the Storwize V7000 we have enhanced visibility of our storage needs, enabling more accurate capacity planning than ever before. The solution can be quickly and easily scaled up, ensuring we can move fast to capitalize on growth opportunities."

For more information

To learn more about IBM Storwize, contact your IBM sales representative or visit: **ibm.com**/systems/storage/disk/storwize_v7000

To learn more about Applied Technologies, visit:
www.applied-tech.co.uk

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