Leicestershire County Council

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S O L U T I O N S

"The migration went on with end-users not being aware that it was taking place. It just happened. They noticed no degradation of service at all."

- Matthew Rennolds, Infrastructure Manager

Project Background

Leicestershire County Council provides a variety of services to its citizens, including in the areas of social care, road and traffic management, education, culture and leisure. Applications which are essential to the provision of those services run on two clusters. Many of these applications are custom-developed. The clusters are sized equally so each can serve as the backup for the other.

Business Challenges

Leicestershire County wanted to refresh its technology by switching its servers and SAN storage from Sun to Dell. It also wanted to change its virtualisation platform from VMware to Microsoft Hyper-V, to eliminate £20,000 per year of VMware licensing and support costs because Hyper-V is included with Microsoft Windows Server.

However, the migration presented challenges. Some applications facilitate vital services, such as support for police and for vulnerable children, which must be available around the clock, with no time for downtime. Consequently, the traditional approach of unloading all data and applications from the old servers and storage and reloading them in the new environment, which would have required days of downtime, was unacceptable.

The clusters posed another challenge. Because the SAN storage was mapped to multiple servers, simply copying the data from the old SAN to the new one wouldn't work. The storage had to be remapped to the new cluster.

The IT staff at Leicestershire County had used migration tools to move from VMware to Hyper-V in the past, but those tools succeeded only about half the time. The county needed a more reliable solution that would virtually eliminate migration downtime.

Company Profile

Company name:
Leicestershire County Council

Headquarters:
Glenfield, Leicester, UK

Industry:
Municipal Government

Business environment:
Serves more than 60,000 people
- Split between small urban areas, suburban areas and rural settlements
- Provides critical services around the clock
- 2013/2014 budget: About £ 356-million

Implementation team:
Leicestershire County
Dell GICS
Vision Solutions

Solutions

Leicestershire County contacted Dell Global Infrastructure Consulting Services (GICS) about its migration challenges. Dell recommended Double-Take Move. With Dell GICS acting as overall project manager, the county used Double-Take Move to complete its migration in less than three months from planning through to completion, with almost no downtime.

Double-Take Move begins by copying all of the data and applications—including file system metadata like permissions, attributes, compression and encryption settings—from an old server to a new one. This happens in the background, without the need to shut down applications.

After the initial copy operation is complete, Double-Take Move continues to replicate all of the changes made on the old server to the new one in real time for as long as necessary. As a result, Leicestershire County was able to schedule the cutover of servers at a convenient time, and only after it had verified the readiness of the new cluster.

Because Double-Take Move turns server migration into a consistent, repeatable process, Leicestershire County was able to complete the migration of all of the servers in its clusters very quickly. Switchovers took less than 30 minutes per server, with almost no downtime during that time. Consequently, the county was able to switchover 20 to 30 servers in a single night.

Matthew Rennolds, Infrastructure Manager, reported that Double-Take Move was, "really easy to use. Almost every time, it just worked straight off the bat."

Because it was so easy to use, the county was able to do about 90 per cent of the work itself, with Dell GICS providing project management support and Vision Solutions supplying tools and training.

Double-Take Move also gave the county a high level of confidence in the solution. "Because the old system was still there, we always had a back-out plan," explained Rennolds. "If [for example] the networking was slightly more complex than we thought, we could have just turned off the new machine and brought the old machine back up again. So we always had a 'get out of jail card.'"

Results

- Migrated the servers, SAN and virtualisation platform with virtually no downtime.
- User applications continued to function as normal.
- Significantly reduced the labour required to perform the migrations.
- Eliminated system vulnerabilities throughout the migration.
- Eliminated £20,000 in annual costs by switching to Hyper-V.

Technologies

Software:
- Double-Take Move
- Microsoft Windows Server and SQL Server
- VMware (old) Microsoft Hyper-V (new)
- 400+ applications, many custom-built

Hardware:
- Sun clusters and SAN (old)
- Dell clusters and SAN (new)

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