Loan Provider Cuts Data Migration Effort by 75 Per Cent

Customer Case Study

Provident Financial uses Cisco MDS Data Mobility Manager to reduce the impact of overnight data migration.

EXECUTIVE SUMMARY

Customer Name: Provident Financial

Industry: Financial services

Location: Bradford, United Kingdom

Number of Employees: 3700

Challenge

- Reduce time and effort needed for major data centre migration
- Smoothly allocate data to specific priority tiers within new data centre structure
- Quickly migrate data to new devices

Solution

- Cisco MDS Data Mobility Manager

Results

- Reduced migration effort 75 per cent by automating data backup, restore, and qualification processes
- Cut downtime by up to 90 per cent by carrying out migrations while services are still running

Challenge

Provident Financial is a financial services group, specialising in the provision of personal credit products for consumers in the United Kingdom nonstandard lending market.

Data is critical for the business, and in 2009, the company was relying on four data centres in different locations within the UK: a primary and backup centre at its headquarters and a secondary backup site, managed by a service provider.

At that point, a move to new headquarters combined with a reconsideration of the data centre operations. Accordingly, Provident Financial decided to consolidate all its data centre operations at two sites.

The act of migrating data to two new infrastructures and then ensuring data is allocated to the most appropriate storage tier once all existing storage resource was relocated introduced a considerable challenge.

Clearly this re-assigning exercise would involve a large number of migrations, which if carried out in a traditional fashion would take up significant manpower resources. “It was a resource-intensive activity,” says Paul Overend, senior technical storage analyst.

The question for Overend was how to get through this grueling process without significant cost to the business.

"One of the great benefits of Cisco MDS Data Mobility Manager is the ability to dynamically implement and use without introducing any impact to live service."

Paul Overend
Senior Technical Storage Analyst
Provident Financial

Solution

Overend, who has a Cisco networking certification, was aware of a product called Cisco MDS Data Mobility Manager (DMM) for the Cisco MDS 9000 family of multilayer switches, which is a storage area network (SAN) fabric-based software application for enabling movement of blocks of data across heterogeneous devices.

The Cisco MDS DMM feature can be introduced transparently without the need to reconfigure or rewire the existing SAN infrastructure, and it can be enabled or disabled using a command-line or graphical user interface.

No configuration is required on the host, because the host initiators are unaware of Cisco MDS DMM service being inserted in the fabric. Similarly, no reconfiguration is needed on the target, because the target also does not know that the Cisco MDS DMM service is inserted in the SAN. Also, no need exists for any SAN-based configuration such as zoning or virtual SAN configuration.

Overend considered using MDS DMM for the original data centre migration, but was unable to do so because of an unrelated firmware issue. The issue was soon resolved, however, and MDS DMM came into its own as the process of allocating data to tiers started.

Within the new data centre setup, devices are rated in three different tiers according to their reliability and power. Thus, two enterprise-class storage systems are classed as tier 1, and assigned the company's most mission-critical data.

Below these are two mid-range tier 2 devices, which are used for less critical data and applications. Finally, the third tier of storage at Provident Financial includes a range of entry-level devices, some of which are due for replacement, which are used for low-level and archive data.

Provident Financial is using MDS DMM to allocate data to these tiers in two ways.

Some of the migrations are carried out during office hours, using DMM's rate-flow feature to help ensure the migration process can be completed on a drip-feed basis, without imposing any appreciable load on the storage arrays or causing service disruption for users.

Larger migrations are still outside of hours, but with these migrations, the storage team is able to use DMM to automate the backup, restore, and data qualification stages of the process.

This capability means the team can leave the migration running overnight and arrive the next day to begin immediately with the user acceptance process.

DMM has also proved its worth in accelerating the process of decommissioning storage arrays in which DMM was pivotal in the migration of data to the total of 30TB.

Results

Because much of Provident Financial's storage estate is utilised by Structured Query Language (SQL) server databases that are quite large, Overend is clear that the Cisco DMM has brought major efficiencies to the migration process.

Migrations were traditionally carried out overnight or over weekends, and might typically require an eight-hour commitment from each of database, storage, network, and server experts. "You would have to coordinate several teams," Overend says.

"We would have to set up a new storage device, present it in parallel to the existing device, perform a backup, restore the data, qualify it in terms of consistency, carry out user acceptance to return services to the appropriate service-level agreements, and maintain the originals for several weeks as a failsafe."

The amount of elapsed time involved in such traditional migrations was very significant. Overend estimates this time has been reduced by as much as 75 per cent thanks to MDS DMM. At the same time, because some of the migrations have been performed during daytime while applications were still live, much less downtime has occurred as far as users are concerned. “The downtime has dropped from eight to 10 hours to one or two hours per migration, upwards of an 80 per cent reduction in downtime,” Overend estimates.

More generally, the data tiers programme that MDS DMM is being used for is expected to benefit the business in two ways. First, it will reduce data centre costs by accelerating the process of retiring older storage arrays and replacing with newer models that occupy less space and use less power.

Second, by helping ensure the business’s most critical data is hosted on the appropriate storage tiers, the storage team can improve application performance and availability.

Overend believes one of the biggest advantages of MDS DMM, however, is that it enables his team to achieve these benefits with minimum disruption to the business, because the software is fabric-based rather than appliance - or array-based.

“One of the great benefits of Cisco MDS Data Mobility Manager is the ability to dynamically implement and use it without any impact on live service” he concludes. “MDS DMM is an ideal piece of software, and we are leveraging a lot of its benefits.”

For More Information

To find out more about the Cisco DMM, please go to:
www.cisco.com/en/US/products/ps8507/index.html

Product List

Storage

- Cisco Data Mobility Manager
- Cisco MDS 9000 18/4-Port Multiservice Module
- Cisco MDS 9222i Multiservice Modular Switch
- Cisco MDS 9000 NX-OS Software Version 5.04

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