CirrusData®

"[CMO is] one of the best appliances and tools I have ever seen and used in my lengthy IT Career."
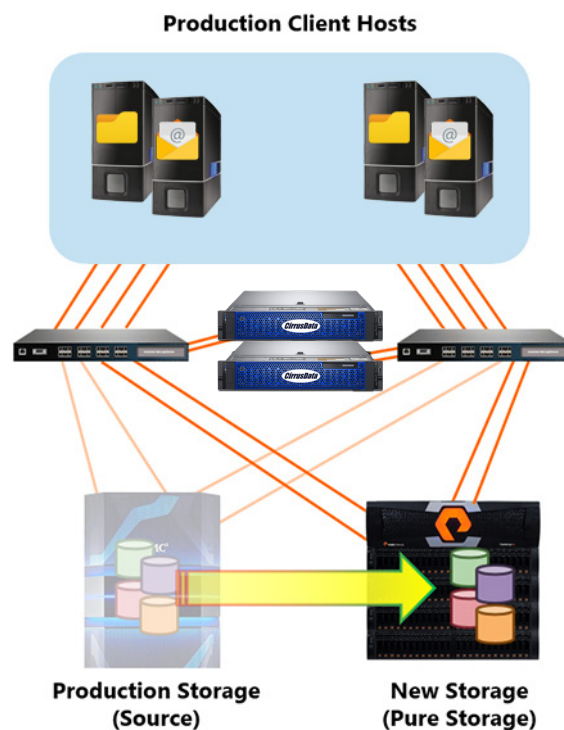
Manager – Solutions Architect

THE CHALLENGE

As with many data migrations, the impetus for the migration was a storage refresh. This educational services company which focuses on providing quality, career-focused learning was updating its legacy Dell® EMC VMAX storage solution to a Pure Storage M70 Array solution. This online company is recognized for its innovation in higher education with new personalized learning technologies. Its adaptive learning platform hosts classes 24x7 so downtime for their hosts and applications was not an option due to the requirement for constant availability.

Another major factor in this data migration project was time. The client needed to migrate from the costly Dell EMC VMAX storage as fast as possible. Also, a major factor to consider was data protection; the client needed to securely erase all data from the legacy storage before giving it back to Dell EMC. Scrubbing existing storage can add to data migration costs while also adding more hours to the data migration's overall timeline.

In order to keep their nationally-recognized programs running day and night, the data migration solution had to be seamless—zero impact to the environment, quick—to avoid costly fees on the legacy storage, and most importantly—zero application downtime during the entire migration process.

Production Client Hosts

Production Storage (Source)

New Storage (Pure Storage)

After synchronization, CMO stands-in for old source storage, thereby allowing for immediate storage cutover and removal without downtime.

For this project, Cirrus Data's pMotion technology took advantage of the clustered host environment to perform a true zero-downtime cutover.

THE SOLUTION

Familiar with Cirrus Data's Cirrus Migrate On-Premises' unique capabilities, Cirrus Data's partner looked at the requirements and knew that CMO was up to the challenges presented in this data migration project.

The client had Windows clustered hosts and applications; therefore, with Cirrus Data's unique pMotion technology, they were able to offer a truly zero-downtime data migration solution. pMotion enables the new storage to stand-in for the old storage indefinitely allowing the client to remove the old storage—before final cutover. Additionally, the fact that CMO has a built-in secure erasure feature also weighed in on the decision.

At the onset of the project, Cirrus Data assisted the client and partner onsite for the initial 50TB of the 160TB data migration. With training from CDS, the client's personnel were able to perform the remaining migrations with little to no consulting help needed from the partner or CDS.

Each step of the migration project went smoothly from start to finish. At the onset of the migration project, the insertion of the CMO appliance was seamless since it could be performed any time of the day or night without downtime or impact to the client's environment. The appliance was placed into the FC fabric using Cirrus Data's patented TDI technology, which allows SAN insertion without any downtime and without making any changes to any host, the FC switch zones, or the production storage.

The client's online courses are hosted on Windows Clusters with many of these clusters running MS SQL databases. In a clustered storage environment, CMO uses pMotion to bring the source array offline, while the other destination array functions normally—all transparent to the hosts, databases and end users. Cutover can then be performed to the new storage array without interruption or downtime. This was incredibly useful for this online education company as courses must be available day and night.

CMO's Intelligent QoS feature (iQoS) allows the maximum use of all available bandwidth for copying data without impacting production I/O quality. iQoS functions by monitoring the actual load on each source LUN, automatically pausing migration when the LUN is too busy, then resuming when traffic on the LUN decreases. During this migration the iQoS function worked flawlessly and allowed a faster migration with no impact to current operations and processes, all with zero application downtime during and throughout the whole migration process. CMO's iQoS feature enabled the client to meet the tight deadline and get off the source storage before incurring additional hefty fees.

Secure disk scrubbing was available as an add-on feature of CMO and therefore additional tools or other vendor products did not have to be purchased or engaged to securely erase the client's data from the source Dell EMC array which was being decommissioned, once again significantly lowering the cost of the entire migration project by using CMO.

Migrations are not often thought of as a simple task; but choosing the right migration tool and partner will help resolve complications quickly. One complication encountered during the migration was due to two instances of mis-set features in the arrays. In both instances the problems were resolved within 24 hours and the migration was completed flawlessly all without impact or downtime. Once all hosts were connected to the destination Pure Storage array, the disk scrubbing of the Dell EMC source array was successfully completed on time.

During the entire migration, support and training from both the partner and CDS were exceptional. With CMO's simple and intuitive operation, the client was able to perform the migration without much assistance. When problems did arise, CDS support was excellent and provided assistance quickly to identify, provide corrective action steps, and assist in the corrective action plan. This allowed the migration and secure erase disk scrubbing operations to continue and complete on time and within budget. The education services company stated that CMO is one of the best tools they have ever encountered.

CHALLENGES

- Very tight timeframe—needed to migrate to Pure Storage quickly and get off costly Dell EMC VMAX storage as fast as possible.
- No downtime available to any applications or online classrooms or databases.
- Dell EMC data disk required scrubbing and secure erasure before it was returned.
- Mis-set settings in the storage arrays.

SOLUTION

- The client performed over two thirds of the migration themselves after an initial consulting and training engagement with CDS for the first 50TB.
- Insertion of CMO was seamless without downtime or impact to environment.
- CMO offered scrubbing and secure erasure of source storage.
- Cirrus support worked to identify and resolve technical issues.

RESULTS

- Migration completed on time in less than two months from insertion to secure erasure of source storage.
- No impact to current operations and processes during the migration.
- Zero application downtime throughout the entire migration process.
- Significant cost savings incurred using CMO's secure disk scrubbing feature.

QUICK FACTS

Customer Type
Online Educational Services

Source Storage
Dell EMC VMAX

Target Storage
Pure Storage M70

Number of Hosts
24, clustered

Host Types
Windows and RedHat Linux

Host Applications
Varied

Migration Type
Local, with pMotion

Number of CMO and model
2 x CMO8000

Insertion Method
Logical via FC Zoning Method

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The best tools for moving, accelerating,
and protecting your SAN storage

ABOUT CIRRUS DATA

Cirrus Data Solutions Inc. is a leading technology provider of next-generation solutions for data mobility, specializing in block data migration and protection. The company distributes its solutions through systems integrators, managed service providers, channel resellers, and partners including HPE, IBM, Dell Technologies, Microsoft Azure, AWS, Hitachi, NetApp, Pure Storage, Infinidat, AEBS, AHEAD, CDW, SHI, Park Place, Presidio, ePlus, Insight, Computacenter, Sirius, WWT and many others. Cirrus Data Solutions is headquartered in Syosset, New York and has offices located in Dublin, Ireland, and Nanjing with sales and support offices in Boston and Chicago.

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