



Windows Cluster Server Migration and Consolidation



Summary

Customer Requirements

- Migrate 4.2 terabytes of data from seven Windows cluster servers to 3PAR S400 Storage Server
- Expand LUN size from Windows Server Basic Disk to large LUN size offered by 3PAR
- Migrate data within planned maintenance period without disrupting weekday operations

Results

- Turnkey migration services from Vicom systems aided by appliance-based migration delivered migration in single weekend
- 3PAR S400 ready for service well ahead of start of weekday operations

Introduction

A 3PAR customer with large data collection and retention requirements selected 3PAR to meet the company's rapidly expanding data storage and consolidation needs. To fully capitalize on the capabilities of the new 3PAR S400 system, data on the company's on the Windows Cluster Servers would need to be migrated from smaller LUNs to larger LUNs on the 3PAR system. Moreover, the entire operation would need to be performed during a short-duration maintenance window without risk to the company's data services business.

Assured access to data is essential for the customer's operations. The customer provides employment and background screening services to more than 6,000 companies around the world. Services include background checks other key verification and assessment services for businesses and organizations from small to large. The company's clients range from Fortune 500 companies to small businesses across a broad cross-section of U.S. industries. Over a period of just four years, the company's revenues had grown by over 400 percent — testimony to exceptional customer satisfaction and a client retention rate.

The customer's business involves the collection and retention of large volumes of data, and rapid growth of the business pressed the company's existing EMC Clariion storage units to their limits. As a result, the company purchased a 3PAR S400 Storage Server to consolidate existing data and provide a path for expanding storage capacity in the future.

Challenges

Before putting the 3PAR Storage Server into service, the customer needed to migrate existing data from the old storage systems to the new system. The requirements for this data migration included:

- Non-disruptive migration of 4.5 terabytes of data for seven Windows Cluster Servers.
- Expansion of Windows Server Basic Disk size to larger LUN size offered by the 3PAR Storage.

The customer initially considered using host-based software tools to perform the migration, but the tools were unsuccessful in a test run on a Windows Cluster server. Windows Cluster servers share storage access, and the host software tools did not support the low-level software drivers that govern access between servers and storage systems.

Solution: Simple, Fast, Guaranteed Data Migration

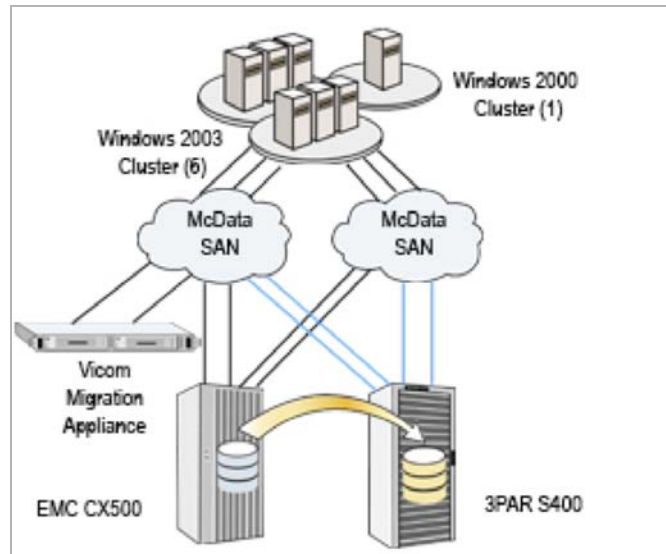
As an alternative, 3PAR recommended Vicom Systems' turnkey DMS (data migration service). The Vicom DMS solution is a migration service performed and managed by Vicom migration specialists from start-to-finish and is backed by a money-back guarantee of on-time completion.

Vicom specialists use Vicom's migration appliance and automated discovery tools to simplify the migration task. The appliance is a SAN-based, block-level data migration hardware tool that has been used in the delivery hundreds of enterprise SAN migrations. SAN virtualization and software automation eliminate much of the manual labor involved in setup and configuration of host software-based migrations, while the Vicom appliance moves data at a fast, up to 1 terabyte per hour. The Vicom migration appliance migrates data using block-by-block replication between the source and new storage. All data written to the new storage system is error-checked from end-to-end.

Seasoned Vicom specialists oversee each of the migrations, which are typically performed during weekend or planned maintenance windows.

Vicom specialists use Vicom's migration appliance and automated discovery tools to simplify the migration task. The appliance is a SAN-based, block-level data migration hardware tool that has been used in the delivery hundreds of enterprise SAN migrations. SAN virtualization and software automation eliminate much of the manual labor involved in setup and configuration of host software-based migrations, while the Vicom appliance moves data at a fast, up to 1 terabyte per hour. The Vicom migration appliance migrates data using block-by-block replication between the source and new storage. All data written to the new storage system is error-checked from end-to-end. Seasoned Vicom specialists oversee the migration, which is typically performed during weekend or planned maintenance windows.

Figure 1. Data Migration Configuration



Migration Operation. To initiate the operation, Vicom hand-delivered a portable Vicom migration appliance to the customer's data center in New York City. A Vicom specialist installed and configured the appliance, and in less than one hour, the SAN and LAN connections were tested and ready for migration. Pre-approved migration plans were checked against the physical setup. Storage system preparation and server remediation were then performed, readying the storage systems for migration.

When the migration operation started late Friday evening, production servers were shut down, and data migration was initiated. The clustered production server migration was grouped into four cutover sessions. The entire migration process was managed monitored by a Vicom specialist from a remote management station outside the data center. Progress and estimated completion time were confirmed with the customer's IT staff during the migration to allow preparation of server cutover.

Results

By Sunday afternoon, all applications were back in operation, well ahead of the planned migration window. Data was migrated to 3PAR storage problem-free and cutover of all seven cluster servers was successful. The storage volumes were expanded and data was verified following the migration. The Vicom migration appliance was then removed from data center without service interruption.

Migrations involve much more than data transfer between storage systems. Typically, physical and logical interfaces are modified; data layouts and storage volume configurations frequently change. When the migration is completed, application servers must run problem-free — all without delay or interruption of business operations. Planning and preparation, combined with Vicom's proven virtualization and automation technology, eliminates nearly 100 percent of potential problems when the migration is actually performed. As a result, Vicom is able to deliver problem-free migrations on time and without disruption.

Recognizing the importance of problem-free and on-time migration for this 3PAR customer, the Vicom specialist assigned to the account researched the migration with 3PAR system engineering two weeks ahead of the scheduled operation. Step-by-step work instructions were prepared for Windows Cluster server migration and volume expansion. Deployment procedures were then validated in a Lab environment at 3PAR's headquarters in Fremont, California.

"The migration project went flawlessly," said the customer's IT manager. "Vicom really delivered on its claims of 'simple, fast, and guaranteed'. In fact, we finished ahead of schedule," he noted.

The 3PAR customer needed a reliable migration solution at an affordable cost. Vicom reduced the estimated project time from several weeks to a single weekend, eliminating overtime and weekend staff use and yielding immediate payback of service costs.