



# THE COMPUTERWORLD HONORS PROGRAM

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## CASE STUDY

### ORGANIZATION:

CLSA Limited

### PROJECT NAME:

Storage Area Network

### Summary

CLSA, the leading provider of equity brokerage, investment banking and asset management services in Asia Pacific, was the first in Asia to build a storage area network (SAN) infrastructure with fully automated recovery capabilities in 2003. This was CLSA's swift response to support large financial institutions' move to trade online and their requirements for high quality trade execution.

This EMC-powered SAN infrastructure protects the company's 20 core trading-related applications, supports 1,000 employees, consolidates 18 terabytes of data from distributed systems, and centralizes distributed IT operations from 15 branches worldwide into one consolidated SAN environment in Hong Kong.

Before the SAN was implemented, CLSA had a manual backup process that was inefficient to maintain and would have required several days to recover system data if there was an outage. Now, CLSA can automatically recover its system infrastructure and services whenever they fail. This ensures maximum uptime so that financial institutions can trade timely.

### Introductory Overview

#### Specific Context:

As the leading provider of equity brokerage, investment banking and asset management services in Asia Pacific, CLSA recognized that in order to raise customer service levels and meet the customer preferences for online trading, it needed to ensure around-the-clock-availability of its business-critical trading applications. In response, CLSA decided to implement a consolidated SAN in Hong Kong to minimize potential data loss and risk exposure.

#### Goals:

CLSA wanted its larger financial institution customers to trade online in an effective and efficient manner especially during peak periods, which is of critical importance to their businesses.

Of equal importance was to make CLSA's IT staff more productive and their work more enjoyable by automating manual tasks such as data backup and system monitoring. CLSA also

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YEAR:  
*2006*

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*Finance, Insurance and Real Estate*

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*EMC*



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wanted to make the test environment for new applications easier to set up.

### Methods:

After a 12-month solution evaluation, CLSA decided to collaborate with EMC to design and implement a SAN infrastructure. The first step was to consolidate the company's storage from 15 branches across the globe onto an EMC Symmetrix storage system in Hong Kong. Once the consolidated storage infrastructure was in place, CLSA and EMC Services implemented a business continuity strategy, replacing their previous backup-to-tape implementation with a long-distance data replication and automated recovery of data.

At present, CLSA relies on EMC SRDF (Symmetrix Remote Data Facility) business continuity software to synchronously replicate data from the production center in Hong Kong to the disaster recovery site located in Kowloon 30 kilometers away. The EMC SRDF replication software ensures continuous transaction consistency between the high-end EMC Symmetrix storage systems at the two sites. In addition, CLSA has implemented EMC AutoStart software to ensure CLSA's servers and applications are available through failovers, scheduled system maintenance, and other situations that present downtime risks.

The Kowloon site also serves as a testing and application development facility, providing CLSA with added value from its business continuity investments. In this capacity, the remote site allows CLSA to conduct lengthy maintenance projects for applications without affecting day-to-day production operations.

### Scope:

The 18-terabyte SAN supports CLSA's 1000 employees worldwide, its accounting and human resources applications, and a risk management and research database.

### Achievement:

Customers are able to trade effectively and timely online even during peak periods. Employees are happier and highly productive because they can focus on meaningful development work instead of mundane manual tasks like data backup and system monitoring.

## Benefits

### Customers:

The project is helping CLSA customers be more efficient and effective. The CLSA SAN allows more customers to trade online and reap the benefits of trading anytime, anywhere in a user-friendly environment.

### Employees:

The IT team is now more productive and content because many of the manual tasks such as data backup and monitoring are automated. They can focus more on creative applications, service design and development work

### Customers:

The SAN not only supports their huge trading volume, but also the multiple-fold increase in trading activities at peak periods when 2,000 out of the 5000 financial institution customers are active simultaneously. CLSA is the first to Asia to offer a powerful system for enhanced online



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trading. The system benefits its customers and improves the work setting for employees. The company has demonstrated to its peers how technology can be used not only to control costs but to raise customer service standards and empower employees.

With the SAN in place, CLSA has achieved 99.99 availability of the critical applications including those related to trading. CLSA can receive and execute quickly the time-critical, mega volume trades, which could be as large as 10% of a company.

In addition, CLSA is empowered to enter new markets and offer new services needed by customers rapidly. For instance, it took CLSA less than two months to enter the Japan market, swiftly allowing customers more trading opportunities in hot markets in Asia.

Employees:

The IT team employees find their work much more enjoyable. Sixty to seventy percent of the IT team now performs development. The SAN allows CLSA developers to minimize manual tasks and instead focus on meaningful application development designed to help customers.

The new infrastructure enables CLSA staff to create new services more rapidly. In the past, it used to take the IT team 15 to 16 hours to create a service testing environment. Now, it can be done in less than 30 minutes.

### The Importance of Technology

The technology selected was vital to the success of this project and has provided CLSA with a major competitive edge in Asia's burgeoning financial industry. Due to CLSA's SAN with automated recovery capabilities, the company has maximum uptime of its 20 core trading-related applications, which are critical to the quality execution of the huge-volume online trades of large financial institutions worldwide.

In addition, CLSA is able to meet customer needs quickly because the SAN provides a reliable storage infrastructure to support rapid rollout of new services required by financial institutions.

EMC business continuity software, such as SRDF, EMC TimeFinder, and AutoStart, and EMC Symmetrix storage allow CLSA to synchronously replicate data from the production center in Hong Kong to the disaster recovery site. CLSA also creates non-disruptive, point-in-time copies. These point-in-time copies allow the production applications to remain online throughout the backup process, and insulate production from any performance impacts that are imposed by the backup process. This replication process ensures continuous transaction consistency between the EMC storage systems at the two sites.

Should an application fail, AutoStart software immediately restarts it, ensuring no interruption in productivity and applications processing. This is important since CLSA's critical applications can't afford to fail for more than a half hour without significant cost to the business.

The technology infrastructure has also given the company a simplified, standardized and open IT infrastructure. With data requirements expected to double in the coming year, coupled with plans to introduce a second disaster recovery site, CLSA can depend upon its SAN to be flexible and scalable to support its changing business continuance requirements and ongoing expansion.



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### Originality

This implementation was Asia's first SAN infrastructure with fully automated recovery capabilities that allows financial institutions to conduct online trade efficiently, effectively and worry-free.

### Success

This project has exceeded its goals. In addition to meeting customer needs for high quality online trading, CLSA has entered the Japan market swiftly. This has surpassed the customers' expectations and catapults CLSA ahead of its competitors.

The project has not only increased the productivity of the IT team, but has also improved employee satisfaction by allowing them to work on more creative development projects. Their development tasks has also been made easier because it now only takes less than 30 minutes to set up a testing environment, versus 15 to 16 hours before.

The project is fully operational. The 18-terabyte SAN supports CLSA's 1000 employees worldwide, its accounting and human resources applications, and a risk management and research database, as well as 5000 top-tier financial institutions worldwide.

As online trading presents colossal opportunities to financial institutions, they have quickly embraced CLSA's SAN-enabled online trading services after its launch. 75 % of trades by CLSA customers are now conducted online, compared to only 5% before the SAN was built.

### Difficulty

The lack of storage and SAN expertise in Asia remains the biggest issue. However, CLSA's SAN has always been well supported by local storage experts supplied by EMC.

EMC helped build the CLSA SAN and their experts tend to CLSA's storage systems. CLSA employees are also learning new storage skills from EMC when they send their storage professionals to work in the CLSA office.