



CASE STUDY



Chinese security and futures brokerage improves transaction speeds, while reducing cost

Solution Focus

- Financial services
- Database performance
- Transaction processing

Summary of Benefits

- **66% improvement** in maximum transaction loads
- **43% savings** in total operating cost

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At SanDisk, we're expanding the possibilities of data storage. For more than 25 years, SanDisk's ideas have helped transform the industry, delivering next generation storage solutions for consumers and businesses around the globe.

Background

Established in 2007, the customer is one of the largest security and futures brokerage firms in China. From its headquarters in Beijing, the firm covers securities brokerage, investment consulting, securities underwriting and sponsorship, financial advisory services, and asset management.

The Challenge

The firm was experiencing slow response times from their system, due primarily to heavy database queries and workloads. The firm communicated that they were considering replacing their legacy UNIX system with a more powerful, more reliable, and faster Lenovo x86 architecture.

The Solution

To address the issues in their core trading platform, which was built on Microsoft SQL Server 2014, the firm deployed a new architecture which consisted of:

- Two Lenovo System x3950 X6 servers with four 400GB exFlash™ DIMM (ULLtraDIMM 400GB* DDR3 SSDs) devices in each server
- Four 400GB exFlash DIMM devices, configured as RAID 0 using the driver function
- 10Gb Ethernet connection between two servers for fast data sync
- Microsoft Windows 2012
- Microsoft SQL Server 2014

One server was deployed as the primary write-only database, while data was synchronized to the other node immediately after it was committed to a local exFlash DIMM device. The second node was acting as the read-only database node. All data related to query or analytic traffic was directed to the read-only node.

The Result

Not only did the firm experience improvements in maximum transaction loads by 66 percent, but also saw savings of 43 percent in total operating costs. The firm can now easily process up to ten million transactions per day—an average of 2,500 per second without experiencing any bottlenecks or performance issues.

1 GB = 1,000,000,000 bytes. Actual user capacity less.

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