

Financial Case Study

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Director of Systems Integration
Proprietary Trading Firm

RDBMS:

Sybase® database server version 11.9.2
Sybase replication server version 11.5.1

Application:

Online trading and portfolio analysis

Hardware:

HP N-class sever-6 CPUs, 12GB RAM
HP disk array
TIBCO Information Bus (TIB)

Solid Data Solution:

Excellerator™ 600

Overview

A Chicago-based proprietary trading firm specializing in equity and index options needs real-time data for trades and portfolio risk analysis. The company creates markets to buy and sell options; its proprietary tools let its portfolio managers identify areas where prices are higher or lower than what they believe to be the actual value and act accordingly. To accurately monitor the company's investments and maintain appropriate levels of risk, these managers must have accurate, up-to-the-second data on trade status.

As trades are executed, they're entered into a Sybase database running on Hewlett-Packard N-class servers and replicated to a TIBCO Information Bus (TIB) in real time for risk analysis. The company identified a serious bottleneck in getting trades posted to the system: the HP 5-disk RAID subsystems were unable to keep up with the high-demand application. As a result, trade entry throughput slowed, increasing publishing latency (the time between a trade's entry to the database and its publication to the TIB) -- the company found the system could only handle about 20 trades per second, resulting in latency times of 100-200 milliseconds before a trade was published.

According to the company's director of systems integration, one possible solution would have involved purchasing a transaction server and the necessary software applications, plus considerable time in rewriting their own code to accommodate the new setup. Instead, they decided to try integrating Solid Data's Excellerator file-caching technology into the application. Since the physical disks in the RAID system couldn't keep up, heavily accessed files such as trade database syslogs, key trade database tables and the Replication Server disk partition were moved to the zero-latency Solid Data devices.

"The Excellerator allowed us to speed up our architecture without having to change our applications. Without any reengineering, we saw our transactions report go from 20 transactions a second to 50," says the systems integration director. In addition to the improved reporting speed, performance improved system-wide, he says: "The transaction logging is the key thing, but because we have practically our whole database on solid-state, it helps in every area where you do writing. That's why we piloted these devices; we tested them, we've got what we thought, and we bought them."

Summary

A Chicago trading company was able to turbocharge its e-trading application by integrating Solid Data Excellerator file cache. By moving "hot files" from traditional disk subsystems to the Excellerator, the company increased trade entry throughput by 150% and improved overall system performance.

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