

Brokerage Case Study

HSBC USA, Inc.

"Based on the results thus far, I think we will have a very powerful system that will dramatically improve the level of service we provide our traders."

Jim Dowers
Assistant Vice President
HSBC USA, Inc.

RDBMS:
Sybase

Application:
OLTP, decision support,
batch processing

Hardware:
IBM RS6000

Solid Data Solution:
Excellerator™ 800

Overview

Risk analysis is a key ingredient of any global trading system. HSBC USA, Inc. of New York has a market trading risk system that supports up to 20 traders and risk analysis personnel while receiving incoming real-time feeds of trades and market data. The high level of transaction activity and limited CPU power produced an I/O bottleneck, which significantly hampered performance.

The risk analysis database is updated and accessed nearly 24 hours a day, so system reliability and availability are key. "We support global trading, so the system is active all the time. But the peak activity occurs during the New York opening, which is the London afternoon," said Jim Dowers, assistant vice president of HSBC USA, Inc. "We had a lot of activity on our trading risk system and we did not have enough horsepower. We were CPU-bound and I/O-bound. We needed to do something immediately to improve database performance," Dowers said. HSBC delayed upgrading to a new larger Unix server and instead concentrated on solving its I/O bottleneck. "The goal in getting the Solid Data system was to improve the performance on the I/O side, knowing that we would still have a CPU-bound system," said Dowers. "Then when we upgrade our hardware to a much larger Unix server we can move the Solid Data system to the new Unix environment, because it is a SCSI device," he said.

HSBC moved its Sybase tempdb and Sybase transaction log onto an Excellerator system and the performance improvements were immediate. "Any query that is accessing tempdb or writing temporary tables has sped up because our I/O bottleneck has disappeared," said Dowers. Some of the longer queries are running 25-40 percent faster.

Dowers added that the Solid Data system greatly accelerated HSBC's inserts and updates to the database. "The Solid Data system helps us keep our database up-to-date," Dowers said. "Our real-time feeds were taking far too long to get into the database," Dowers said. "Now they are nearly immediate because the data is no longer queuing up. The real-time feeds are 20-40 percent faster, and that's significant in our business."

Summary

HSBC USA, Inc.'s global market trading system supports traders and risk-analysis personnel while receiving incoming real-time feeds of trades and market data. Peak activity was straining the system during the morning opening in New York City, which was afternoon in London. HSBC needed to increase performance so that traders and risk analysis personnel could place trades and receive information without delays. After installing Excellerator 800, performance for longer queries increased by 25-40 percent and real-time feeds became almost immediate. HSBC was able to delay upgrading their server, and the level of service they've been able to provide their traders has greatly improved.

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