GigaSpaces – Merrill Lynch Case Study

THE CHALLENGE

Concerned about burgeoning IT infrastructure expenditures, and especially those connected with market data, Merrill Lynch tasked its IDS Technology Group with finding a feasible, grid-based solution for reducing complexity and cost of market data transport.

Market data is the "fuel" which runs Merrill Lynch's multi-billion dollar financial services, and the supply of market data is a mission-critical, 24/7, multi-million dollar task. Market data processing infrastructure is a significant part of Merrill Lynch's IT overhead, primarily due to the complexity of deployment of the systems that receive, process, and publish the data. Designed for peak loads, these systems are generally over-provisioned from both a network and hardware point of view – making them a significant cost center, with high maintenance overhead.

THE SOLUTION

Merrill Lynch's IDS Technology Group turned to GigaSpaces to enable a radical reduction in market data transport costs. Merrill Lynch was looking for a grid solution based on open standards (Linux, Java, XML and Web services) that would provide very high-capacity, real-time distributed data sharing , extreme scalability, full interoperability between Unix and .Net office desktops, and very low latency. Data feeds would be received using MDDL, an XML based protocol.

In the space of six weeks, Merrill Lynch and GigaSpaces built and implemented a system based on the GigaSpaces' grid server for real-time transaction processing. The system enabled rapid in-memory parallel parsing of MDDL data feeds, highly-efficient caching, content-based routing, and secure distribution of market data to end user applications.

The GigaSpaces' Peer-to-Peer grid server demonstrated its ability to let numerous and diverse market data applications, operating on different platforms, leverage one virtual shared memory "cloud" housed on low-cost, open standards-based Linux Blade servers. With each server processing over 2500 MDDL events per second, the system delivered an excellent cost/benefit ratio from a platform perspective.

THE BENEFITS

GigaSpaces delivered a paradigm-altering, real-time transaction processing solution to Merrill Lynch. Following the GigaSpaces pilot, it became clear that the application of grid principles to the highly demanding real-time environment was both feasible and extremely cost effective.

By delivering in-memory parsing speeds without significant infrastructure allocation, GigaSpaces demonstrated that use of XML-based data protocols was feasible for real-time use. Finally, in an era of IT infrastructure austerity, GigaSpaces delivered to Merrill Lynch the possibility of drastically lower infrastructure overhead for market data transport and other applications, with no need for compromise on performance or scalability.