



CASE STUDY:

**Leading Financial Services Firm Achieves
Real-Time Risk Monitoring and Analysis with
Innovative Digital Integration Technologies**



Today's financial services firms are under increasing pressure to effectively monitor and mitigate risk. Whether in support of investment and trading decisions, credit strategies, or other activities, risk management has become crucial to compliance, financial and operational performance, and customer experience. But in order to achieve unhindered visibility into risk and exposure, firms must ingest, process, and analyze massive volumes of data in real-time – often from disparate systems and sources. Without the right infrastructure in place, financial institutions will be challenged to make complete, correct, and timely data readily available for risk management initiatives.

One leading global financial services firm implemented a comprehensive risk management strategy in its equities trading business. At the heart of this strategy are innovative and agile data integration technologies, combined with an interactive dashboard, to give traders a real-time view of risk exposure. This helps the organization to better manage intraday risk and identify and address areas of risk that require immediate attention.



"Banks with dynamic risk models based on data and smart analytics will be more resilient in the COVID-19 new reality"

KPMG



"Almost one in three (29%) of banks now believe they can manage down costs of controls over the next three years by using data and technology to improve risk management"

EY

Business Challenge

The organization wanted to roll out an intuitive, interactive web-based risk analysis dashboard in support of its equities trading business. The goal was to empower traders, desk heads, and senior risk management professionals with a high-level summary of portfolio risk across all regions and desks, with the ability to drill down into specific risk measures such as NET P&L, DELTA, and MARKET VALUE.





Technical Challenge

Creating and deploying this environment called for collecting and summarizing vast amounts of ticking intraday risk data spanning two million positions, 7 million risk assets, and 100 million risk measures – each recalculated multiple times a day based on market changes. The company was experiencing very high data latency and was able to support only a small number of concurrent users. A robust infrastructure was needed to extract all this data, process it efficiently, and make it easily accessible to the web dashboard with low latency so users could slice, dice, and report on it.

Key Challenges:

Collect and summarize vast amounts of risk-related data to enable a complete, real-time view

Eliminate issues with high data latency

Support a high number of concurrent users and a large volume of queries

Solution

GigaSpaces Smart Digital Integration Hub (DIH) provided this leading financial firm with a Java-based distributed in-memory data grid for storing large volumes of data across multiple services. Data is stored in partitions across servers, with each partition containing a subset of the data (approximately six gigabytes worth), to enable maximum accessibility and ensure the highest performance and scalability for queries – more than 150 per minute conducted by 120 users across the globe. These partitions store over 20 million objects and receive about 50,000 updates per second. Partitions can be easily added or removed based on capacity requirements, and are fully replicated in backup partitions to eliminate the threat of system failure and promote continuous, uninterrupted data availability.

GigaSpaces' flexible data model makes aggregating and querying this data fast and easy. Developers can now focus on business logic, rather than dealing with data and infrastructure. Additionally, applications can be deployed within the GigaSpaces environment, to enable management from end-to-end, including automated restarts and event notification.

The organization plans to expand the environment in the future, to include other types of data such as on-demand scenarios, end of day and overnight scenarios, attributions, and market data. GigaSpaces' DIH will serve as the single source for all this information, making it readily available to the risk dashboard and other applications.



Results

“This is a really important tool for our traders and risk managers. They rely on it on a daily basis to make informed trading decisions by understanding exposure to underliers, measuring risk right down to the risk level, and immediately identifying when risk thresholds are met.”

Managing Director at Leading Financial Institution



Real-Time Visibility into Risk Exposure

Traders, desk heads, and risk management leaders can instantly achieve real-time insight into risk at a summary or granular level (by portfolio, category, or bank), to improve trading decisions.



High Performance

With GigaSpaces, the firm can efficiently support more than 120 users, who generate over 150 queries per minute with 100 millisecond response times.



Scalability

The GigaSpaces environment is designed to scale, allowing the financial institution to easily support a growing number of users or an increasing volume of data in the future.

ABOUT GIGASPACES

GigaSpaces is building on its in-memory computing and operational data store technologies to offer one of the market's first Digital Integration Hubs (DIH), an out-of-the-box solution that simplifies organizations' digital transformation, while drastically lowering legacy systems' TCO. Whether you need to accelerate one application with cache, or modernize your entire architecture with a Digital Integration Hub, the GigaSpaces in-memory data platform can future-proof your investment. Never before has it been this straightforward to accelerate API-powered digital applications to transform user engagement, legacy modernization, and 'Customer-360' software infrastructure projects. Smart DIH is part of the GigaSpaces Smart suite of products, alongside the award-winning Smart Cache solution.

GigaSpaces offices are located in the US, Europe and Israel with partners such as Capgemini and Cognizant around the globe; serving customers such as Morgan Stanley, Bank of America, CSX, Goldman Sachs, Societe Generale, Credit Agricole, American Airlines, Avanza Bank, Avaya, CLSA, Groupe PSA and UBS. For more information visit www.gigaspace.com.