FIXED INCOME RECONCILIATION AND LATENCY MONITORING

DASHBOARD

SOLUTION OVERVIEW:

The solution incorporated a tailored bond pricing and RFQ latency monitoring workflow. This workflow measured latency by comparing response times to transaction times for bond pricing. For RFQs, it tracked latency across various stages, such as "quote requested" and "dealer requested," to identify specific points of delay. We built a highly interactive dashboard designed for intuitive exploration of the latency data:

Tree Visualization: A collapsible tree structure allows users to view and aggregate data by instrument ID or gateway ID,

Drill-Down Table: This table dynamically updated based on the selected tree node, displaying detailed latency statistics for specific gateways or instruments.

Stacked Bar Chart: A bar chart that visualizes latency across different workflow stages (e.g., "quote requested," "dealer requested").

BUSINESS PROBLEM:

Lack of Advanced Charting and Drilldown Capabilities: Faced limitations in creating sophisticated visualizations and performing in-depth, interactive analysis on their data in their internal system.

Poor Data Accessibility: The data, often in raw or complex formats such as logs or MongoDB entries, is difficult to interpret.

Disconnected Data Across Multiple Systems: Data was dispersed across numerous platforms (MongoDB, internal logs, KDB) making it challenging to consolidate and analyze.

Limited Interoperability: Difficult to integrate different systems and technologies seamlessly which hindered efficient workflows and data utilization.

OBJECTIVE:

This client required a solution for monitoring latency for fixed income instruments, focusing on two key sectors: Credits and Rates. They wanted to integrate multiple data sources, including KDB and MongoDB, and parse log files to extract detailed instrument information. This would enable them to calculate latency across each hop, including crucial metrics like gateway time. They also wanted to integrate the charts from 3forge into their internal system.

KEY STAKEHOLDERS:

- IT Operations/Infrastructure Team
- Business Analysts
- Support team

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KEY RESULTS:

Enhanced Performance Visibility: By integrating KDB and MongoDB, as well as parsing log files, the system provided a comprehensive view of latency across various hops and stages. This granular visibility allowed stakeholders to pinpoint bottlenecks and inefficiencies in the workflow, particularly in critical sectors like Credits and Rates.

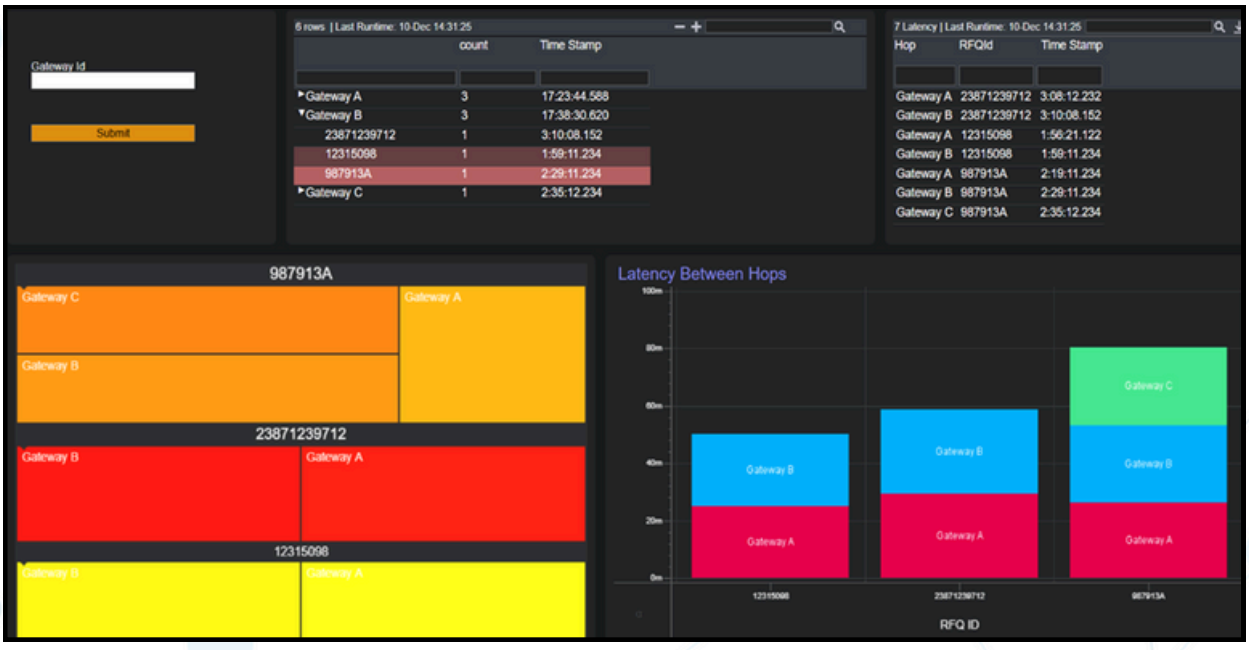
Improved Decision-Making: The detailed latency metrics, including gateway times and RFQ stage-specific delays, enabled data-driven decisions to optimize processes. This not only streamlined operations but also improved the overall efficiency of the system.

Increased Responsiveness: Monitoring latency for bond pricing and RFQs in real-time allowed the client to respond proactively to issues. Identifying delays at specific points, such as during dealer requests, ensured quicker resolutions, which enhanced service reliability and client satisfaction.

Competitive Edge: In financial markets, speed and efficiency are paramount. This solution provided the client with a competitive advantage by enabling faster transaction processing and decision-making, particularly in the time-sensitive fixed-income sector.

CONCLUSION:

3forge provided a high-performance latency monitoring solution that transformed the client's inefficient log-based analysis into an intuitive and actionable system. By consolidating disconnected data sources like MongoDB, KDB, and logs into a unified view, 3forge streamlined data integration with their internal systems. Additionally, the implementation of interactive, drillable charts enhanced their fixed-income latency monitoring capabilities. The seamless integration of these charts via iFrames and dynamic URL handling significantly improved the client's ability to analyze and act on key metrics.



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