



Thapovan
Info Systems Inc.
Intense Pursuit of Knowledge

**Your Dedicated IT Solution Partner in
US ✦ India ✦ Europe ✦ Middle-East**

**FINRA - TRADE
SUBMISSION SYSTEM**

Case Study



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The Client

The client provides technology solutions to top financial institutions by offering a platform that enables the for sell-side firms or broker-dealers to submit their daily trading activity to FINRA . The platform enables customer to construct and customize their own workflows for managing internal data in a faster, more cost-effective, and secure manner.

Business

The product is a cloud-based SaaS platform for sell-side firms or broker-dealers seeking a complete view of their real-time and post-trade reporting data for critical risk management at reducing operational costs across multiple operating streams with a one-step solution

Financial institutions and broker-dealers operating in the United States are required to comply with the trading regulations established by the Securities and Exchange Commission (SEC). To assist in ensuring compliance with these regulations, the Financial Industry Regulatory Authority (FINRA) provides a reporting and validation platform for institutions and broker-dealers.

Over the past several years, there has been a notable uptick in the amount of fines and penalties levied by US regulatory bodies such as the Securities and Exchange Commission (SEC) and the Financial Industry Regulatory Authority (FINRA) against financial institutions and broker-dealers. These fines are often imposed as a result of failure to report timely and accurate trade data.

Broker-dealers and financial institutions are required to submit their daily trading activity reports to FINRA by the beginning of the next trading day. The product provides a novel platform that assists these institutions in submitting their daily trade reports to FINRA for validation. Additionally, it also provides functionalities to poll responses from FINRA and make corrections to any errors reported by FINRA.

There are majorly two type of reporting specifications supported by FINRA and they are OATS (Order Audit Trail) and CAT (Consolidated Audit Trail)



One of the primary challenges faced by financial institutions when reporting trade data was dealing with the large volume of data being processed on a daily basis. The system has tackled this issue by offering a technical platform that can efficiently convert the high volume of trades received into individual reports, which can then be submitted to FINRA using customized workflows.

The platform facilitates clients in creating, testing, and implementing new workflows with ease to cater to their own requirements and those of the regulatory authorities.

The product support two functional models:

1. Off-the shell data workflows

Off-the-shelf workflows are offered through a managed services model, where the product company hosts the data and provides white-gloved data integration support.

2. Client developed workflows (SaaS Model)

The client can use this platform to create their own proprietary workflows. As a software-as-a-service solution, clients can easily create workflows to meet their own internal governance frameworks as well as to build new products. A full range of dedicated and hybrid cloud storage options are available for client needs.

The Business Challenge



One of the primary challenges faced by financial institutions was ensuring that the reports submitted to FINRA had an error ratio of 5% or less. This meant that on a daily basis, thousands of reports had to be submitted to FINRA from multiple clients, with each client's error ratio also being equal to or less than 5%.

The rules within the CAT and OATS workflows may vary for each broker dealer or financial institution, as each client may have specific requirements. While system will have base rules defined based on FINRA technical specifications, the system will derive values for the reports based on each client's specific needs, which may vary from client to client.



To ensure that the reports submitted by clients have an error ratio of 5% or less, the system tests the platform by sending batches of trade data from the past couple of years at regular intervals. The reports generated from these batches are then submitted to FINRA, and any feedback received is used to modify the workflow rules for the client. This process is repeated until a success rate of 99.99% is achieved.

Before moving to production, the system replays trades on its test, staging, and beta platforms to improve testability and reduce error rates. Additionally, FINRA provides test and beta environments for report submissions prior to going live, and product takes full advantage of these environments to ensure a smoother transition to the live environment.

Engagement

Thapovan was engaged for offshore development right from inception. The CEO of the company was the head of global market trade reporting at HSBC Global market and trading. When founded, the company was looking for a niche technology partner to outsource their end to end technical needs, including software development and support operations. The company chose Thapovan after months of due diligence covering various factors including technical metrics.

Technology

Thapovan played the role of the CTO office for the client. Thapovan and the Client chose Nodejs , Redis and MongoDB as the technical platform. Agile methodology was used in development.

Platform

The application is developed using open source technology mainly Nodejs, MongoDB and Redis.



QA

Developers will write Unit test suites for all the modules and libraries and all releasable products will go through a complete Manual QA process.

Security

The application is built based on FINRA Compliances. Continuous and periodic security vulnerability test are performed.

Performance

The application is built to handle very high volumes of trade transactions. Approximately one million trades will be processed in a day.

Process

The application is developed using Agile methodology.

It uses Jira as its project management tool.

Git is used for version control.

A Code review is conducted before all releases.

Continuous Integration/Continuous Delivery and Test-Driven Development is employed to ensure a defect-free product by maintaining four environments for the product – Development, QA, Staging and Production.