Large Financial Services Firm implements real-time, proactive transaction monitoring
Nastel Autopilot™ Customer Case Study: Large Financial Services Firm implements real-time, proactive transaction monitoring

Founded more than 150 years ago, a large financial services firm provides clients in more than 50 countries with financial advisory services, products and solutions. As an integrated bank, the company consists of multiple global divisions (including: private banking, investment banking and asset management) and employs more than 40,000 people.

Problem
In the financial field, conducting business in real-time is a crucial part of staying competitive. For this large financial services firm, the massive amount of operational and transactional data that traveled via applications was a hassle to monitor—especially without an effective enterprise-wide automated program for monitoring.

As the firm researched the effectiveness of its existing monitoring solutions and found there were almost as many as there were divisions, it also discovered that over 60 percent of the time its users were finding problems before IT. The bank’s help desks were backlogged with problems and often required expensive tier two and three support assistance to resolve problems. Resolution times were long and getting longer. A belief became common in the bank’s users that IT was not responsive to their needs. This was expensive in terms of productivity both for users and in effectiveness of business processes. It also increased risk—something a financial services firm in today's economic and regulatory climate would need to immediately attend to.

When problems did occur (as they so often do when you have such a large volume of multifunctional applications running in the same environment), the best strategy available to the IT teams involved was to hold long, drawn-out firefighting sessions to try to solve the problem.

Unfortunately, these sessions often boiled down into blame-game scenarios. The firm’s IT director explains: “With management of the production environment in silos, it was pretty regular for one group to recognize another as the cause of the previous problem and point the finger at them as a result. However, the answer is never that simple, and eighty percent of the sessions would be spent identifying and analyzing the problem, leaving 20 percent of the time for actually dealing with and solving it.”

What did a business problem look like in practice? Say the IT group confirms a trade was completed, but the customer complains that the order disappeared. Management brings the problem into a single room with the net, web servers, app servers and DB management and development groups. No group claims responsibility for the problem—so management orders everyone to remain in the room until the problem is resolved. This might last as long as eight hours. On top of that, it’s an extremely expensive problem resolution process that decreases service levels to customers and causes a high number of tickets to open at the service desk.

After analysis of their current situation, the following requirements were agreed upon:

- Real-time transaction monitoring across Java, middleware and CICS.
- Trending to anticipate problems.
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• Capacity planning.
• Support for monitoring legacy applications written in "C" and "C++."
• Ability for support to easily answer the question from a customer, “Where is my trade?” Is it stuck in a queue, an integration broker, an application or a database? Today, they could not answer this question.
• A similar ability to answer the question, “Where is my message?” Their business transactions are made up of multiple IT transactions, some asynchronous and some executing in parallel. They needed to understand these physical IT activities in a business context and how, for example, they relate to a specific trade.
• Ability for support to answer the questions, “Why are my business transactions taking ½ hour to complete? What segment is causing the delay? Has the delay been increasing over time?”
• Proactive problem detection.
• Improve the performance quality of releases moving from development to production.

The financial firm’s IT environment was diverse; however, the environment that needed first consideration consisted of WebLogic Application Servers, WebSphere MQ and Message Broker middleware, TIBCO EMS middleware, CICS Transaction Server on the mainframe and MS SQL Database.

To help alleviate hundreds of thousands of dollars in wasted time, the only option for the firm to compete in real-time and function in the most efficient way possible would be to find a way to proactively monitor the production environment. Manual monitoring would be impossible; there was simply too much going on to get an accurate bird’s eye view of transactional and operational data.

A monitoring solution would benefit a wide range of business users. The IT group would get comprehensive detection of application problems and improvements in support time. Enterprise architects would benefit from the software by ensuring a supportable solution across multiple departments and users that integrates with existing tooling. Ensuring service levels are met, performance is compliant with regulations, the appropriate transparency is provided and quality of service is high are key factors for the head of trading. And development teams could use the solution in UAT (user acceptance testing) to ensure that new releases were performance compliant before they were provisioned to production.

The enterprise-wide need for monitoring elicited many questions from the IT director: “Do we buy different tools for each department? What about tools already in existence? Does it still make sense for us to look at these issues from a silo-based perspective?”

The large financial firm would need a robust monitoring system with real-time alerting that could manage transaction processing with high volume and volatility across a global environment including many platforms, systems and applications. It would have to work proactively to alert staff and resolve problems immediately when they arose. But where would they find a solution that was scalable and dynamic enough to handle such a large infrastructure at a reasonable price?
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Solution

“In reality, nobody has the time to constantly look for delays or breaks occurring in business transactions throughout the course of the business day,” said the financial firm’s IT director. “On the other hand, no one wants to be caught flat-footed at a time-critical window with a customer complaint that something has gone missing, and now they’re under the gun to investigate. A proactive approach would enable us to define temporal SLA thresholds for the business flows at different levels (e.g. each flow segment, whole transaction) that are automatically monitored for each individual business transaction, and when these SLA thresholds are breached, alerts can be automatically emitted to a variety of destinations, including an operations dashboard, e-mail and instant messaging.”

Eventually, the firm came across Nastel AutoPilot. One of the most dynamic suites of its kind on the market, AutoPilot gives businesses like the financial firm the ability to gain 360º situational awareness™ across the enterprise. To proactively monitor the production environment, AutoPilot uses a complex event processing engine (CEP) using automated algorithms that process events and metrics to determine if the IT situation is normal or abnormal without users setting thresholds. In addition, it provides governance capabilities enabling user-defined business rules to determine if the IT states have business impact and if so, what should be done about this. Businesses simply create the rules based on knowledge of their unique production environments, and the CEP engine compares the rules, automatically fixing the problem or alerting the staff anytime a “business abnormal” state is reached. This capability enables users of the solution to be proactive and remediate problems often before users or processes are impacted.

Based on the firm’s evaluation criteria for a monitoring solution, Nastel AutoPilot was a perfect fit. The solution provided both transactional and operational monitoring, scalability, strong middleware domain expertise and mainframe support—all prerequisites for a monitoring solution.

The financial firm initially launched AutoPilot for its prime brokerage and equities cash securities trade booking flow. “Multi-segment business transaction flows have both sequential and parallel sequencing. Transactions span multiple platform environments, like app servers, Solaris, Linux and the IBM mainframe. Intercept points are possible at the application/MQ boundary.”

Another initial implementation involved orders and post-trade processing through the SWIFT gateway (MINT). This one required a solution robust enough to monitor multi-segment business transaction flows traversing multiple geographic regions and gateway hops. The security restrictions for SWIFT gateway entry/exit used to affect visibility and monitoring capabilities—but AutoPilot’s functionality was powerful enough to keep everything up and running. This was a rather unique challenge in that in order to determine what a business transaction was, AutoPilot had to view the contents of middleware messages and use this information to automatically “stitch” together diverse IT transactions into an actual business transaction and then store this in a database. This finally gave support the ability to answer the question from a customer, “Where is my trade?” Support could look up a trade in the historical performance database using the same trade ID the customer had.

Now, the large financial institution uses AutoPilot to monitor all aspects of the messaging environment for EMS and MQ, including trade booking, validation, clearing, settlement and payments. “With AutoPilot, we more accurately process SWIFT and syndicated loan payments, routing out to the DTCC and SIAC, Fedwire payments and more.”
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Benefits
“Insight into real-time transaction activity isn’t easy to come by, but it’s key to the delivery of high-quality service that helps establish market leadership,” mentioned the IT director. “AutoPilot gives us that insight in a simple, central dashboard.”

It doesn’t stop there. AutoPilot also helped with trending to anticipate problems and capacity planning. The solution was able to handle legacy applications written in “C” and “C++”—programming languages that they had no adequate tools for prior to implementing AutoPilot.

In the end, AutoPilot proved to be scalable enough to meet the needs of the large financial firm. While the firm hasn’t yet put a dollar amount on the actual money saved on providing end-to-end visibility, transaction profiling and eliminating the blame game, the financial benefit was significant. At this point they have substantially lowered the number of incidents at their help desk and the amount of expensive support personal that are required for problem resolution. “Instead of spending our time identifying the cause of problems, AutoPilot recognizes them right away.”

AutoPilot’s out-of-the-box functionality led to a quick implementation. With a solution that tracks and monitors the environment and automates problem resolution, the long firefighting scenario mentioned earlier disappeared, raising service levels and reducing the number of tickets at the service desk.

“AutoPilot helps ensure our service levels are being met and our thresholds aren’t being reached,” the IT director commented. “The program has been a huge help for general customer views into the system.”

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About Nastel AutoPilot

Nastel’s application performance monitoring solution, AutoPilot ensures the availability and performance of critical business applications via auto discovery, business transaction profiling, real-time monitoring, role-based dashboards and automated problem resolution.

Our customers in the line of business, development and IT utilize AutoPilot to guarantee high application performance, compliance, reduced user impact, fewer incidents, lower costs and greater productivity.

About Nastel

Nastel Technologies is a premier global provider of business transaction performance™ solutions for mission-critical applications. Nastel is a privately held company headquartered in New York, with offices in the U.S., the U.K., Germany and Mexico, and a network of partners throughout Europe, the Middle East, Latin America and Asia. For more information, visit Nastel's website at www.nastel.com.