Integrating Real-Time Fraud Detection Mechanism To Deliver Accurate Reporting & Resolution

Objective

The rise of e-Commerce and prevalence of mobile devices is enabling customers with ease for shopping. Especially during the holiday seasons with a high volume of purchase, data breaches and digital fraud are increasing at a rapid rate. Customers' personal information is potentially already available on the dark web for fraudsters to leverage.

Even though the security and privacy of customer data are one of the top priorities for the financial institutions today, they are facing a massive challenge with the implementation of a “real-time” fraud analysis mechanism. It is required to help customers safeguard themselves against becoming victims of stolen credit cards, log-in, and more. Though, the authentication process for fraud prevention is available only to an extent.

Our client wanted a solution that could seamlessly integrate into their existing core banking solution infrastructure. They were looking for a solution that is fraud tolerant, allows modifying the fraud detection rules on a proactive basis, and from the past transactions it can predict usage patterns, & potential fraudulent scenarios, while supporting millions of transactions per second and more.

Challenges

- End-to-end visibility into payments applications while managing the processing of million transactions per second
- Identifying ‘Fake’ processing due to switch malware and card compromise with millisecond tracking of transactions
- Discovering a pattern of transactions occurring on a particular terminal with a limited window for fraud discovery
- Addressing an abnormally high number of unexpected fallback transactions
- Creating visibility into implausible transacting scenarios (multiple devices/countries in a limited period)

Real Time Fraud Detection System

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Industry Segment

Finance

Customer Profile

Canada-based leading credit-union bank having 20+ years of experience offering quality financial services.

Technology and Tools

- Apache Storm
- Rabbit MQ
- Java SE
- Drools

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Approach

For our retail banking customer, who didn’t have an accurate Fraud Detection System in place, we created a lite component that rests on their payment processing infrastructure. It taps into their core banking transaction operations and processes the fraud detection engine asynchronously while the purchase is still in operation. The component performed fraud check in the window of sub milliseconds to ensure the overall payment process gets completed in milliseconds.

We developed an adapter to connect with the core banking endpoints as well as the switch gateways. It helped us to ensure that the core banking system does not have to change and at the same time. Also, it offered flexibility to integrate the fraud integration system seamlessly into the transaction workflow. The component acted as an early warning mechanism that provided real-time monitoring of transaction activity.

We created an intuitive Business Intelligence Dashboard that would help the financial institution to prepare better for an increasingly challenging business environment. It is designed to scale as fraud patterns emerge. The system will continually learn new fraud behaviors, provide continuous insightful into the financial institution’s compliance team to implement and craft additional rules. Our priority with developing the fraud prevention mechanism was to explore and develop ways to keep fraud out and enable transactions comfortable for the customers.

Business Benefits

- Improved operational efficiency by adhering to credit union security guidelines
- Enabled business analyst to monitor, tweak, add or update fraud rules based on emerging scenarios
- Enabled real-time blocking of card and online transactions based on fraud filters leading to happy and satisfied customers
- Transparent integration with the legacy switch gateway system, core banking solution and the fraud detection system
- Real-time insights to mitigate fraudulent attacks and take preventive action to save on costs and resources

About Rishabh Software

Rishabh Software is a CMMI 3, ISO9001, ISO 27001, Microsoft Gold Partner & Oracle Gold Partner providing application development services & solutions to mid-sized enterprises globally through our offices in the US, UK and India. We leverage the latest technology stacks in Cloud, Mobile, Business Intelligence and other Enterprise technologies helping clients to get the best value of their IT budget. With our team of 250+ application developers, we have implemented 1000+ successful projects across 24 countries. We work on .NET, Java, PHP, iOS, Android, Oracle, IBM and Open Source technologies.