

Industry

Finance with supplemental e-commerce and online services

Solutions Addressed

- Low latency processing
- Massive scalability
- Real-time data analysis
- Enhanced dynamic transaction processing
- Real-time dynamic data value
- Content delivery
- Data warehouse load time reduction

Results

- 70 times increase in throughput rate
- Real-time fraud detection means lower costs and fewer losses
- Efficiency of on-the-wire fraud detection reduces data warehouse load time
- Improved risk management

Using XPRESSmp™ for Real-Time Fraud Detection and Notification

Business Requirements

- Real-time detection and interception of fraudulent activities for e-commerce financial services
- Delivery of real-time alerts as fraudulent or suspicious activities occur
- Increased throughput performance—beyond the current maximum of 100 transactions per second—for improved customer experience

The Story

A financial services company needs to implement fraud detection with its existing traditional online transaction processing (OLTP) methodology: after processing, transactions are checked for legitimacy with batch scanning and reporting. The organization is looking for a way to intercept transactions in progress, and stream reports of possible fraud based on real-time bank card use and a permissions use and ratings policy.

This requires immediate analysis and notification during transaction processing as well as the ability to scale up throughput far beyond the current rates of 100 events per second. The company has considered polling tables for exceptions when transactions arrive, but this would introduce latency and inefficiencies and would not be conducive to scaling.

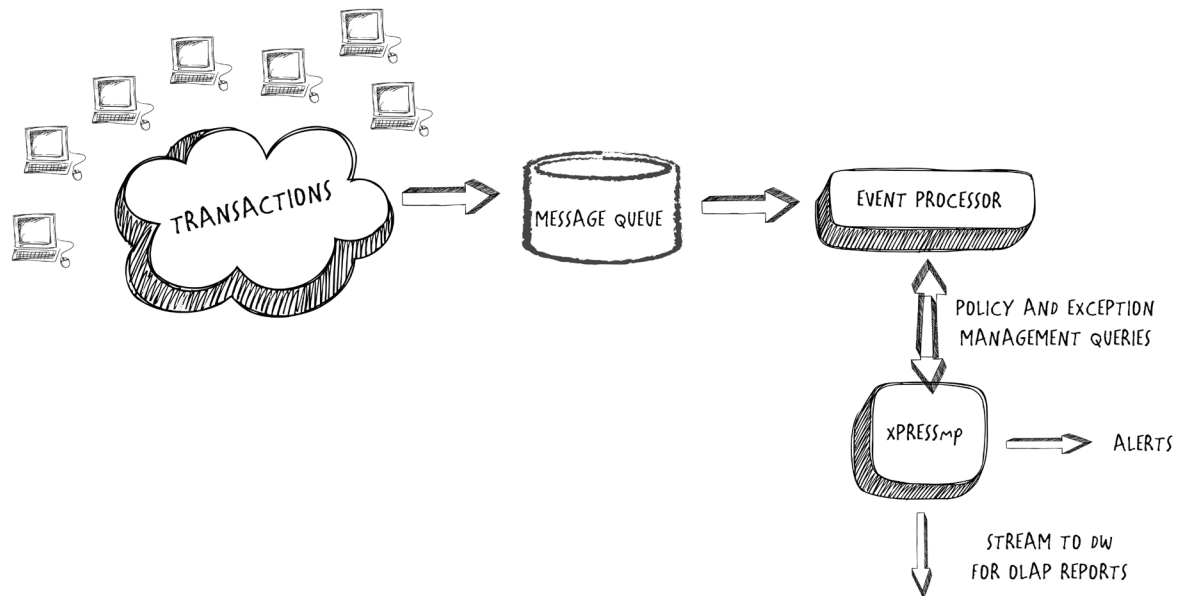
XPRESSmp handles exceptions by continuously running SQL queries that send notifications to an application (also deploying XPRESSmp), that continuously runs SQL queries for policy and exception management. Transactions identified as fraudulent or suspicious trigger alerts that are sent immediately to the relevant dashboard or user. The company's goal is to process 1,000 transactions per second. XPRESSmp exceeds the goal with 7,000 transactions per second (14,000 SQL queries per second) on a 4-core server with transactional logging to disk. XPRESSmp not only accelerates throughput by 70 times, it also identifies, reacts to, and reports potentially fraudulent activity with the immediacy and accuracy required by the company.

XPRESSmp Use

- Lowest-latency processing to handle more transactions per second
- Transaction processing with real-time query policy management to detect fraudulent activity sooner
- Immediate delivery of policy management results to users

XPRESSmp™ Capabilities

- + Accelerate.
 - + Time-Critical.
 - + Dynamic Data.
- Use of dynamic business rules to check veracity of live transactions
 - Real-time streaming individual dashboard updates and alerts to relevant recipients
 - Streaming updates to data warehouse for online analytical processing (OLAP) reports



Results

- 70 times higher throughput rate; 7,000 events ingested and processed per second (14,000 SQL queries per second with transactional logging to disk)
- Real-time transaction intercept for event verification and earlier detection of fraud, resulting in lower costs and fewer losses
- Improving performance in pre-load-processing of fraud detection reduces data warehouse load time
- Improved risk management
- A business model that gives the company competitive advantage

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XPRESSmp™: In-Memory Processing for Time-Critical Big Data. Only from uCIRRUS.