PARACCEL™

The ParAccel Analytic Platform: Fraud Analytics for Financial Services

For more information please contact us at info@paraccel.com or call 866.903.0335

www.ParAccel.com

Agile, complex, scalable analysis to detect and halt fraud, limit losses and improve customer satisfaction.

Financial services businesses need to detect and halt fraud before it undermines profits and customer satisfaction. To help stop crime at the point of sale, fraud detection teams must be able to identify key indicators of fraud through agile, iterative and accurate analysis using trillions of pieces of information.

But as they work to uncover complex fraud patterns buried deep within the data, they face several challenges that complicate their ability to quickly detect criminal behavior and implement a more predictive approach to fraud analytics:

- Exponentially growing data stores that bog down traditional analytic platforms
- Quicker shifts in fraud patterns make it more difficult to catch criminal behavior proactively
- Expanding sources of data have ramped up the sophistication required to identify suspicious transactions

In 2009, 71% of fraud incidents occurred within one week after the data was initially stolen, up from just 33% in 2005. Therefore, any limitations on the ability to rapidly analyze all stored data, including the most current information, can more evade detection, criminal organizations are turning to ever more creative and sophisticated schemes to avoid detection.

Traditional databases, optimized for highly transactional workloads, often find it difficult to keep pace without costly workarounds and delays.

This has led to reliance on a batch-based approach that forces firms to wait hours or even days before they are able to accurately identify all sources of fraud.

ParAccel in action for fraud analytics: Fidelity Information Services

FIS (NYSE: FIS) is one of the world's largest global providers dedicated to banking and payments technologies. It serves more than 14,000 institutions in over 100 countries, with about 50% of its $5B in revenue coming from FIS' Payment Solution business unit. In helping credit card issuers minimize fraud and better manage payment clearing and check processing services, FIS needed to scale its analysis across multi-terabyte data stores.

After evaluating a number of solutions, FIS chose PADB as the best-in-class analytics database. After selecting PADB, FIS engaged with ParAccel to build new customized functionality that could support their emerging business requirements.

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"With PADB, we no longer worry about structuring queries around the limitations of our analytic database. We can ask the questions we need, when we need to, and we can begin analysis immediately." Business Intelligence Analyst, Fraud

Requirements

- On demand performance that could keep pace with data growth estimated at 50% for the coming year, while also being able to handle much greater analytic complexity.
- Support for increased data granularity that could used in their analytics
- Linear and predictable scalability

Results

- 50X faster data load times compared to legacy solution enabled analysts to utilize the most current data available to identify fraud
- Deployment of new fraud pattern-based filters and triggers on demand, as analysts harnessed PADB's dramatically higher performance (up to 240X faster than their legacy solution)
- Grew the use of complex analytics throughout the organization while reducing operational administrative loads by 50%

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The Solution: PADB

ParAccel Analytic Database for Fraud Analysis

With the ParAccel Analytic Database (PADB), financial services businesses can move from a batch-oriented fraud pattern detection, to a dynamic on demand approach. This enables fraud analysts to pursue an iterative and deductive process that drives deeper investigation in near-time. Even as global transaction volumes continue to grow, analysts can still scale their analytics to match new requirements and exposures.

PADB's open and agile approach to analytics enables firms to leverage any data element from any data source to uncover fraud. This makes it possible to pull in new information and then quickly build and fine-tune analyses in less time than required to build and load data cubes, projections and materialized views in other solutions.

The use of embedded advanced analytics also enables companies to easily leverage sophisticated mathematical, statistical and data mining functions without specialized tools and skill sets. With PADB, analysts spend more of their time analyzing the most up-to-date data, shrinking the average loss per incident as new fraud patterns are quickly detected in hours rather than days or weeks.

The ability to tackle any size of data enables firms to utilize all of their data in complex analytics not just a limited subset. This can be used to detect all correlations and anomalies, not just those that were suspected. The ability to incorporate low-level detail enables companies to get past the analytic "noise" to uncover previously hidden sources of fraud worldwide.

The ParAccel Enterprise Analytic Platform

ParAccel, creator of the world's most powerful analytic platform, provides the agile and scalable analytic performance that financial services organizations need in the emerging era of "Big Analytics". Support for complex analytics avoids the need to dumb down analytics, limit the amount and/or variety of data in use, or leverage overly cumbersome multi-step processing. PADB's leadership in enterprise analytics is based on a multifaceted approach to analytics.

High-Performance

PADB has been architected from the ground up to handle the largest and most complex analytic workloads. Its multilevel approach eliminates analytic bottlenecks across processors, disks, and networks to enable analysts to push their analytic boundaries beyond the limits imposed by traditional solutions. ParAccel's patent-pending OMnE optimizer and its ability to fully compile incoming queries on the fly deliver multiple orders of magnitude improvement in performance compared to traditional OITP-optimized databases. PADB even provides more than 10X better performance compared to other analytic databases. Its MPP-based architecture enables analytics to be scaled from terabytes to petabytes, while still delivering answers in seconds.

Time-to-Analysis

Massively parallel loading of data directly into the database enables firms to rapidly pull in and integrate large volumes of data from multiple sources on an ongoing basis. Because PADB doesn't require data to be manually indexed, or populated into pre-built cubes or materialized views, analysts spend less time waiting for new data, and more time on fine-tuning and executing their analyses. This also ensures that analytic systems are using the most current data from all sources to ensure that analyses provide the most accurate results that incorporate the latest market data.

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Embedded Analytics

PADB's extensible analytic platform moves advanced analytics to the data, rather than moving the data to the analytics. This minimizes the delays and potential security exposures related to copying and replicating data to multiple environments. This also eliminates the need to create, maintain, and sync data across multiple islands of analytics.

Furthermore, all analyses leverage the same set of detailed data, ensuring consistency between different parts of the firm. Because the advanced analytics reside directly in the database, and not in an external purpose-built platform, they can also be leveraged by a much larger group of analytic tools and users using standard tools and SQl queries.

Analysts can also leverage all of the available data instead of a limited subset through PADB's highly scalable MPP-based platform rather than a traditional SMP-based approach.

Analytic Integration

The power of in-database analytics is augmented with the ability to use standard programming languages to create customized and flexible functions within the database. Any updates to the custom functions will be immediately available to all analyses that are subsequently run on PADB. This functionality can also be used to implement new data processing frameworks such as Map Reduce or R directly within PADB.

Custom connectors can also be built using this capability to connect to external sources of structured data (like Oracle, Teradata, etc.), as well as unstructured data (such as social media-related data located on an external Hadoop cluster). Data from a variety of sources can then be amalgamated and used in PADB for further sophisticated analysis.

Flexible Deployment and Protection

PADB's software-only approach enables companies to implement an enterprise analytic platform using the servers, storage, networking, and data management standards they have in place today. Deployment configurations that include in-memory, SSD and direct-attached disk enable firms to select the class of storage that best meets their performance requirements.

In addition, PADB's patent-pending SAN-based integration enables companies to use standard vendor/3rd-party tools for backups and recoveries, business continuity, and disaster recovery. To further protect sensitive data, column block-based encryption can be used to keep data safe from unauthorized access.

About ParAccel Inc.
ParAccel is the developer of ParAccel Analytic Database (PADB), the world's fastest, most cost-effective platform for empowering analytics-driven businesses. ParAccel enables organizations to tackle the most complex analytic challenges and glean ultra-fast deep insights from vast volumes of data. Data-driven businesses in financial services, retail, health care, government and more are taking advantage of ParAccel to tackle critical, time-sensitive questions outside the scope of conventional data warehouses and existing analytic tools.