



The ParAccel Analytic Platform: Stress-Testing and Scenario Analysis for Financial Services

Definitively Assess Risk Exposure On-Demand and at Any level of Granularity

ParAccel in Action for Financial Services

A top-five investment bank needed to forecast risk exposures for its executives and to satisfy the demands of regulators, using standardized scenario analysis and stress testing. The bank spent more than a year looking for an analytic database that could perform such testing before selecting the ParAccel Analytic Database (PADB) as their best-of-breed platform.

For more information please
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www.ParAccel.com

The Challenges

The recent financial crisis has put financial services organizations under unrelenting pressure to prove their health and stability. The Federal Reserve has recommended the use of regular stress testing as a way to quantify their exposure to risk. Stress testing uses scenario analysis of possible future events to determine how those events could expose a business to market, credit and operational risk. It also helps executives make better strategic decisions and determine if future plans will drive optimal profits with acceptable exposure. However, organizations conducting stress testing face key challenges in generating holistic and timely results:

- Multiple analytic silos create a myopic and incomplete view of risk
- Stress testing demands increasingly sophisticated scenarios, requiring data from many sources
- Traditional analytics solutions don't allow for on-demand analytics

Whether they are testing for dynamic, volatile events that require quick reaction to a crisis – such as a natural disaster or stock market decline – or whether they are legally obligated to update or respond to regulators, financial services businesses need precise, rapid answers.

With the ParAccel Analytic Database (PADB), financial services businesses have the means to test a broad range of scenarios, using as much data as necessary, at any time and as often as they need to demonstrate their ability to weather a fiscal storm. An operational approach to stress-testing enables institutions to free up valuable Tier 1 capital that can then be re-invested to generate increased profit.

¹ The Federal Reserve's "Interagency Policy Statement on Funding and Liquidity Risk Management," March 17, 2010, <http://www.federalreserve.gov/boarddocs/srletters/2010/sr1006.htm>

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Requirements:

- ▶ Support regulatory and business imperatives to forecast real-time risk exposure at any level of granularity.
- ▶ Enable highly complicated scenario analysis through advanced iterative queries.
- ▶ Execute high performance analytics for on-demand risk analysis and stress testing

Results:

- ▶ PADB's high-speed, parallel loader enabled analysis of the most current data available in conjunction with a vast store of historical data.
- ▶ Not having to preprocess the data meant that they could quickly iterate queries, and then ask deductive questions that helped them analyze the end result in any given scenario.
- ▶ Unlike their previous RDBMS, ParAccel's linear scalability enabled continued productivity even as the amount of data and the iterative complexity of the scenarios increased.

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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.

The Solution

ParAccel Analytic Database for On Demand, Precise Stress Testing

The Federal Reserve recommends financial institutions be proactive about assessing risk and engage in regular stress testing, but there are concerns organizations lack the database and infrastructure capability to conduct such testing effectively – or to do so in a timely manner. And when a real crisis looms, timing is everything.

The Basel Committee on Banking Supervision in 2009 said of the recent economic downturn: "At the most fundamental level, weaknesses in infrastructure limited the ability of banks to identify and aggregate exposure across the bank. This weakness limited the effectiveness of risk management tools – including stress testing."

The PADB allows financial institutions to perform the complex analysis needed for scenario analysis and stress testing – for instance, providing a real-time 360 degree view of enterprise-wide risk exposure from vast sources of disparate, historical and current portfolio data.

ParAccel enable financial institution worldwide to stay on top of:

- **Regulators**
- **Traders and Managers**
- **Market Events**

ParAccel allows analysts to move away from a static, batch-oriented approach to a highly interactive and deductive process:

On-demand Analytics

PADB allows financial services businesses to conduct analyses intra-hour and on-demand – meaning they can respond quickly and accurately to regulators or internal departments. They can also identify and track risk exposure associated with specific traders or business units that could impact revenue, making these analyses an effective early-warning system.

Flexible Scenario Frameworks

Financial organizations can test and iterate scenarios in near-real time, without needing to pre-build ancillary data structures that also restrict them to a subset of analytical dimensions in their analysis. Financial Services firms can now pull in data from previously isolated datasets, enabling them to establish their risk-based "six degrees of separation" when running their assessments.

No need to pre-organize data

Because PADB is a schema-neutral analytic database, it does not require financial organizations to re-organize or waste cycles preparing the data. Businesses can load massive amounts of data in-parallel, and then immediately begin to perform scenario and stress testing. This enables firms to conduct stress-testing using the most current data available while identifying potential sources of risk at whatever level of granularity is required.

Enable Enterprise-Wide Risk Management:

With PADB's massively parallel processing, businesses have the linear scalability necessary to perform holistic tests that examine potential risks across all sections of the organization. now, stress testing can be done at all levels, from individual instruments and contracts, all the way up to the entire institution. ParAccel enables firms to centralize their stress-testing on PADB, ensuring that replicable consistency across all levels and teams in the organization.