



ParAccel Analytic Platform: Analytic Offload

Accelerating Innovation with Unconstrained Analytics

Top Benefits

- ▶ Get maximum value out of existing investments in data warehousing and analytics by aligning workloads with the right platform.
- ▶ Uncover hidden risks and capitalize on previously undiscovered opportunities with access to granular data.
- ▶ Make more accurate decisions that dynamically utilize all of the data, all of the analytic tools, and all of the analytic functions available
- ▶ Reduce hardware operational and acquisition costs and free up resources previously tied down with system maintenance and management

Many firms are hitting the wall when it comes to expanding and deepening their use of analytics across all levels of the organization. Growing numbers of users and more sophisticated workloads are placing ever-higher levels of stress on firms' traditional "single view" infrastructure. Not only are companies struggling to keep up with existing SLA commitments, they are failing to adequately support the next generation of analytic workloads just as customer demand for analytics is increasing.

At the same time investments in traditional platforms have helped drive better decisions through widespread use of standard reports and dashboards.

Since these systems continue to deliver value to many end-users and management, any interruption to existing flows of information could heavily impact the performance in individual departments or even the entire firm.

Challenges

In response to the performance bottlenecks of traditional platforms some companies are restricting access to valuable data and analytics. As a result, business users often lack access to the most current data, and are forced to wait hours or even days for key analyses to be completed. This severely impedes the ability of firms to dynamically respond to new risks and opportunities, resulting in costly delays and sub-optimal decisions.

This has an especially negative impact on power users, who are found across many levels of the organization and are often called business analysts, data analysts, or more recently "data scientists". Regardless of their specific titles, these users are the ones who often provide the most business value to their departments and firms in response to unexpected risks or hidden opportunities. Restricted access means limited value to the business.

Another way that companies have responded to the performance limits of their existing infrastructure is to reduce the amount of data used in their analysis. Using sample data, rather than all of the data available, brings data volumes to within the processing capacity of their current infrastructure. It also forces companies to adopt and maintain sampling strategies.

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Challenges

Traditional BI infrastructure solutions are struggling to keep up the expanding demand for a wide variety of analytic workloads across all levels of the organization.

The result is growing frustration as end-users are forced to use sample data, aggregate data and even placed under restricted access to the information in the standalone or enterprise data warehouses.

Solution

ParAccel Analytic Platform offloads analytic workloads with the highest performance for the widest range workloads, from analytic reporting to the most complex and dynamic analyses and modeling.

In addition, sampling exposes companies to the possibility that they may be overlooking hidden sources of risk and profit. Alternatively many firms have chosen to aggregate the data, for instance using disposable income by city, versus postal code or household. This also risks overlooking key insights that have been “averaged” away.

Other organizations continue to run analytics on traditional platforms, in spite of their inability to perform adequately. Excessive resources spent to support existing applications and workloads can often divert funds away from the development of new applications and analytics for the enterprise. This stifles innovation and restricts more widespread use of analytics.

As traditional platforms try to service increasingly diverse and advanced analytic workloads, the ongoing maintenance costs will continue to escalate.

Leading analytic-driven companies are adopting new technologies that support a broader set of analytic workloads, scale to support granular data, and create space for analytic innovation.

The Solution: Analytic Offload with ParAccel

The answer to meeting existing and future analytic requirements is to augment the existing infrastructure with a high-performance ParAccel analytic platform. A combination of the existing infrastructure and ParAccel boosts a firm’s overall analytic capability and increases overall reporting capacity. This offload strategy frees up the data warehouse to increase support for DSS and reporting workloads.

ParAccel sets the stage for unconstrained analytic performance regardless of the scale of data or the complexity of the analysis. Our platform is built from the ground up to power through all analytic workloads. ParAccel’s extensible platform expands the range of analytic functions beyond those normally available in traditional database-oriented environments, enabling companies to span the entire data and analytic lifecycle from discovery-based to operational analytics.

These advanced functions enable any end-user or BI tool to easily incorporate sophisticated mathematical, statistical and data mining functions into their standard queries. All of the analytic functions leverage the power of the core underlying database, including the patent-pending Omne optimizer for unmatched range of analytic execution. An MPP-based architecture enables consistently high performance at any scale, and ensures that any volume of data can be loaded directly into ParAccel without the need for costly performance workarounds like materialized views, projections, tuning or indices.

Organizations can also quickly access, import, and integrate data and analytic sources from throughout the organization using On Demand Integration (ODI) modules. These off-the-shelf and custom-built modules enable firms to get even more value out of their existing investments and help bridge multiple data and analytic silos as needed for any level of analysis. This includes the ability to work with structured, semi-structured as well as unstructured data (for instance, sentiment data from blogs or social media sites and services).

Companies also experience innovative technology without disrupting data center standards. Our software-only solution ensures that companies can continue to use their preferred server and storage vendors and systems. Integration with industry standards such as ODBC, JDBC and ANSI SQL also provides for use of ParAccel with a wide variety of Data Integration and BI Tool vendors and such as Informatica, Information Builders Inc., and MicroStrategy. This flexible implementation approach supports rapid spin-up and spin-down of analytic data marts on demand with deployment on and off-premise, in both physical and virtual environments.

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Benefits

Get more value out of existing analytic investments.

Moving analytic workloads to ParAccel allows firms to realign previously dedicated resources back to the reporting and DSS workloads where they can be used most effectively. This offload strategy means companies can extend the useful working life of their existing data warehouse by multiple years. At the same time, high value analytic projects get the attention and support they require. All types of users, from those using analytic reporting, to power users, to “data scientists” can now dynamically leverage all of the detailed data at any level of scale - from terabytes to petabytes.

Uncover hidden risks and capitalize on undiscovered opportunities.

The straightforward use of sophisticated mathematical, statistical and data mining functions provides much more accurate insights. In addition, the analysis of granular data enables companies to identify previously hidden risks and opportunities. The ParAccel advanced functionality also ensures that as data volumes grow in size, useful insights can still be gleaned using all of the lowest level data available.

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.

Reduce both operational and acquisition costs.

ParAccel's analytic platform can deliver up to 100 times improvements in price/performance over existing infrastructure for analytic workloads. A smaller data center footprint enables companies to also reduce subsequent power, heating and cooling-related operational expense. ParAccel further lowers operational costs by eliminating the manual tuning, monitoring, and indexing often required to prop up the performance of traditional platforms. Reductions in acquisition and operational costs can free up funds and personnel to focus on new projects and initiatives that are more closely linked to the needs of the end-users and business.

Make more accurate decisions.

The performance of the ParAccel platforms eliminates the need for sampling, averaging, or aggregating data. All users can query the most detailed “raw” data available to extract previously buried or overlooked insights. Companies driven by high risk situations or impacted by highly competitive markets, the value of accurate decisions can mean millions of dollars.

Key Takeaway

The ParAccel Analytic Offload solution takes on enterprise-wide analytics to align the right workloads with the right platform for optimal performance across the widest range of users and workloads.

The solution accelerates analytics across the entire enterprise, opens the door to business innovation, and extends the life of existing data warehouse investments.

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FEATURES & BENEFITS

FAST AND SCALABLE

Columnar Orientation	Optimizes data retrieval for analytic processing efficiency
Adaptive Compression	Maximizes memory efficiency and effective scan speed
Omne Optimizer	Accelerates complex queries using patent-pending cost-based query optimization techniques
Scalable Communication Fabric	Delivers linear scalability for high performance MPP supercomputing with flexible expansion options
Parallel Loading	Reduces data acquisition time and ensures load scalability
Blended Scan	Balances I/O and storage across local disks and SAN for greater performance
Massively Parallel Architecture	Shared-nothing architecture distributes processing across multiple nodes for virtually unlimited scalability and performance
Extensible Analytics	Runs advanced analytics directly inside the database as “Class A” objects to deliver dramatically better performance

SOPHISTICATED, YET SIMPLE

Built for BI	Reduces TCO with built-in performance and manageability
Data and Analytic Integration	Custom and off-the-shelf On Demand Integration (ODI) modules starting with ParAccel's Teradata, Hadoop and NYSE Technologies ODI modules
Fully Transactional	Meets ACID requirements (Atomic, Consistent, Isolated, Durable)
Complex Joins	Efficiently plans queries with unlimited table joins
Load-and-Go	Ensures quick setup—ready for queries in minutes
Schema Neutral	Speeds implementation and design, facilitates Operational Data Stores
Supports Standard Interfaces	Uses existing developer skills (ANSI SQL, ODBC and JDBC)
Extensible Analytics	Scalar and table UDF's allow custom extensions inside the database
SQL Compatibility	Functions and language support to ease Oracle and SQL Server migrations
Window Aggregates	Supports standard SQL:2003 functions for advanced window partitioning, ordering, and framing
Column Encryption	Secures data from unrestricted access
System Tables	Simplifies capacity and performance management and administration

ENTERPRISE READY

Software Only	Use your standard Data Center server, storage and data protection tools and processes
Auto Failover and Rebalance	Continues processing with minimal disruption and optimal performance
SAN Integration	Leverages enterprise data management solutions for HA, DR, backups and cloning
Backup and Recovery	Online incremental backup and recovery ensure business-critical data is always protected

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