

# Teradata Aster MapReduce Platform Solution Overview

**aster data**  
— more data. big insights. —

“Teradata Aster’s unique SQL-MapReduce® framework enabled us to use the existing application code for our inbound marketing analytics suite without a major rewrite needed to move to non-relational DB platforms.”

Alexander Balva,  
VP of Engineering  
Eightfold Logic

## The New Realities of Big Data

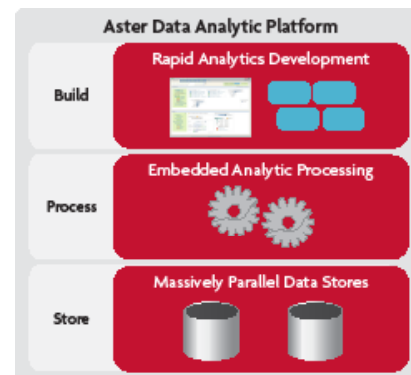
Operating a business or organization without comprehensive insight into data is simply not an option—success and competitive advantage depend on extracting the full value from your data. However, big data presents organizations with challenging new realities in extracting that value:

- **Massive data growth.** Organizations confront an explosion in the amount of data available to them, particularly complex multi-structured data from an ever-growing array of new digital data. This deluge of new data not only needs to be managed, but also quickly explored and processed to extract the high-value insights hidden in it.
- **Need to process new data types and sources.** A rapidly increasing share of data growth is multi-structured data from new data sources and types that is not easily managed and processed in traditional systems. Examples include data from clickstream, social networks, mobile devices, application logs, machine logs, and sensor data.
- **Need for a new class of data science-based analysis.** Organizations need a new class of analysis to find the deep, high value insights in their big data. These analytics need to rapidly explore and investigate large volumes of multi-structured data using a broad array of techniques such as pattern and graph analysis. They also need to support new analytic processes that go beyond SQL to include tools such as MapReduce, Python, R, C, C++, and Java.
- **Cost and complexity of developing, managing, and delivering big data analytic applications:** Mapping the science of data to the language of business can be a significant hurdle, requiring specialized resources and tools and significant administrative overhead. As a result, organizations find it impossible or impractical to take full advantage of their data.

## Addressing the Needs of Big Data Analytics

The combination of these realities creates a critical need for solutions that can deliver “Big Data Analytics” — analytics that analyze massive volumes of multi-structured data quickly and efficiently to enable rapid, on-the-fly exploration that finds the deep, high value insights locked within it. These solutions need to simplify and accelerate the development of data science applications without requiring new skills and administrative resources.

A new category of technology has emerged to deliver this solution — the analytic platform. The analytic platform embeds analytic processing such as MapReduce within massively parallel data stores to rapidly deliver valuable insights. It processes new classes of data science-based analysis that uncover value in massive volumes of multi-structured data types and sources. The analytic platform complements, extends, and enhances the value delivered by the data warehouse — it processes new data types and sources that are not typically stored in a data warehouse, leverages data modeled in the data warehouse to enhance its analysis, and quickly finds the high value data and deep insights that need to be incorporated in the data warehouse for strategic and operational intelligence.



The Aster MapReduce Platform delivers powerful capabilities for big data analytics

**“An analytic platform is an integrated and complete solution for managing data and generating business analytics from that data.... It solves important problems, and customers are deriving enormous value from it, creating new classes of business applications and driving top-line growth.”**

TechTarget BeyeNetwork Research Report, “Analytic Platforms: Beyond the Traditional Data Warehouse”

## Teradata Aster MapReduce Platform

The Aster MapReduce Platform delivers a powerful solution for storing, processing, and building big data analytics. It puts data science in the hands of business users without requiring specialized new skills and without the complexity of traditional alternatives.

The Aster MapReduce Platform is a massively parallel software solution that embeds MapReduce analytic processing with data stores for big data analytics on multi-structured data sources and types to deliver new analytic capabilities with breakthrough performance and scalability. It can store and process large volumes of multi-structured data such as Web logs, social network data, and machine data for rapid, on-the-fly exploration and investigation that uncovers the relationships and value in that data. Its embedded MapReduce analytic processing engine and patented SQL-MapReduce® framework make powerful MapReduce processing easily accessible to standard business intelligence tools and SQL-based interfaces. Its integrated development tools and library of pre-built MapReduce analytics accelerate and simplify building rich analytics. These capabilities enable new types of analysis such as pattern analysis, graph analysis, and path analysis to uncover new insights from multi-structured data.

## Conclusion

Teradata is the leader in big data analytic solutions, empowering businesses to unlock the full value of their big data. The Teradata Aster MapReduce Platform complements the strategic and operational intelligence on structured big data delivered by Teradata's integrated data warehousing solutions by enabling exploration and investigation of multi-structured big data that typically has unknown relationships and is not stored in a data warehouse. Together these offerings provide solutions that address the full array of big data challenges, delivering powerful insights to organizations.

## Key Benefits

- **Enable new analytics:** delivers a framework for big data analytics such as pattern and graph analysis that are hard to define and execute in SQL.
- **Accelerate data science development:** unique architecture, pre-built libraries of analytic functions, and tools to simplify and streamline development.
- **High performance and scalability:** patented technology delivers high parallelism and massive scalability for complex analytics to enable iterative, on-the-fly data exploration and analysis.
- **Cost-effective big data analytics:** software-only, cloud, or appliance delivery options to meet your enterprise deployment needs.

## Example Use Cases

- **Digital marketing optimization:** cross-media analysis of user behavior, intent and actions across search, ad media, email, and web properties.
- **Fraud detection and prevention:** on-the-fly analysis of transactions, interactions, and systems to detect, block, and prevent malicious users, networks, and programs engaged in fraud.
- **Social network and relationship analysis:** uncover deep social relationships and interactions hidden in purchase behavior, online activity, and social networks.
- **Machine data analysis:** identify diverse patterns within sensor, telematics, and machine-to-machine communications to optimize production efficiencies, location-based analysis and after-sales service.

**“Every month we have billions of ad impressions coming into our servers that we need to analyze for our clients. By moving to an in-house solution with Teradata Aster, we have been able to run advanced analytical queries on big data and provide insights in as close to real-time as possible. This speed is an extreme value-add, both to us as a company and to our customers, as we help them optimize marketing initiatives across all media channels.”**

Marc Ryan  
SVP, Chief Research Officer  
InsightExpress

## **About the Aster MapReduce Platform**

The Aster MapReduce Platform is the market-leading big data analytics solution. The Aster MapReduce Platform embeds MapReduce analytic processing for deeper insights on new data sources and multi-structured data types to deliver analytic capabilities with breakthrough performance and scalability. The Aster solution utilizes Aster's patented SQL-MapReduce® to parallelize the processing of data and applications and deliver rich analytic insights at scale.

**For more information visit [www.asterdata.com](http://www.asterdata.com)  
or call 1.888.ASTER.DATA**