

# Teradata Vantage

## The Platform for Pervasive Data Intelligence

Companies rely on trusted answers to run their businesses; and analytics have become part of this process. However, choosing and implementing the right analytic platform to address a wide range of use cases can be problematic. For one thing, there's a vast landscape of analytic tools to choose from. There are also different types of users, such as business analysts and data scientists, who want solutions that meet their specific needs. Then there's the proliferation of different analytic functions and techniques, each with its own constituency of users.

These challenges typically lead to multiple ad hoc, use case specific implementations of analytic solutions. This, in turn, creates silos that are often never connected and end up delivering sub-optimal business insights. The silos also result in a departmentalized analytic environment riddled with significant overhead and redundancies.

In this environment, how can businesses benefit from the flexibility and agility of open-source technology? And how can they ensure that the structure and governance of analytic projects deliver impactful business answers that, when operationalized, achieve significant business outcomes? Can organizations deploy analytics on a single modern architecture while controlling costs and meeting their users' specific needs? With the right platform, the answer is yes.

### Empowering and Building

The impossible has now become a reality with Teradata Vantage, the only software of its kind, capable of managing all of the data, all of the time. This allows businesses to analyze anything, deploy anywhere, and deliver answers that matter.

Vantage is the platform for pervasive data intelligence; delivering real-time intelligent answers to users and systems across all parts of an organization.

It leverages 100 percent of a business's data, regardless of scale, volume, or complexity; in on-premises, cloud, or hybrid environments.

Vantage is a modern analytics platform that combines commercial and open-source analytic technologies to operationalize insights, solve complex business problems, and enable descriptive, diagnostic, predictive, and prescriptive analytics—including autonomous decision making.

### Best Analytic Functions and Engines

Teradata Vantage brings together the best analytic functions and engines, preferred tools and languages, and support for multiple data types within a single environment. Analysts no longer need to worry about where the function or data resides.

#### Answers Enable \$1.3M in Value

A global retailer had a website that sub-optimally delivered search results to potential buyers. With online purchases accounting for 25 percent of total sales, inaccurate search results negatively impacted the customer experience and the bottom line.

The retailer implemented Teradata machine learning algorithms, available in Teradata Vantage, to accumulate, parse, and classify search terms and phrases. The algorithms delivered the answers needed to identify search results that closely matched online customer needs. This led to more than \$1.3 million in incremental revenue from high-value customers, as measured by purchase volumes, over a two-month holiday period.

Vantage includes these analytic engines and functions:

**The NewSQL engine** includes embedded analytic functions. Teradata will continue to add more functions for the high-speed analytics processing required to operationalize analytics. New functions within the NewSQL engine include:

- nPath
- Sessionization
- Attribution
- Time series
- 4D analytics
- Scoring functions for decision trees

**The Machine Learning engine** delivers more than 100 prebuilt analytic functions for path, pattern, statistical, and text analytics to solve a range of business problems. Functions range from understanding sentiment to predictive part failure analysis.

**The Graph engine** provides a set of functions that discover relationships between people, products, and processes within a network. Graph analytics solve complex problems such as social network connections, influencer relationships, fraud detection, and threat identification.

From a user's perspective, Vantage is a unified analytic and data framework. Under the covers, it contains a cross-engine orchestration layer that pipelines the right data and analytic request to the right analytic engine across a high-speed data fabric. This allows, for example, a business analyst or data scientist to invoke analytic functions from different engines in a single application, such as Jupyter Notebook, without enduring the trouble of hopping from one analytic server or application to another. The result is a tightly integrated analytic implementation that's not restrained by functional or data silos.

Vantage embeds analytic engines close to the data, which eliminates the need to move data, allowing users to run their analytics against larger data sets without sampling and execute models with greater speed and frequency. This is made possible through the use of containers managed by Kubernetes, which allow businesses to easily manage and deploy new cutting-edge analytic engines, such as Spark and TensorFlow, both of which will be available in the near future. Another benefit of containers is the ability to scale out the engines.

## Preferred Tools and Languages

Business analysts and data scientists can use Vantage to get answers across any infrastructure. They can also use their preferred tools and languages. Some like to program in SQL, while others prefer R or Python. The same holds true with workbenches. While some prefer coding in Jupyter, others like the drag-and-drop interface of KNIME.

To ensure the best user experience for everyone, the Vantage ecosystem provides integrations to most preferred languages and tools. Languages include SQL, R, and Python. Workbenches and tools include Teradata Studio, Teradata AppCenter, Jupyter, and RStudio, with KNIME to follow.

## Support for Multiple Data Types

The data foundation is equally as important as the analytics. Vantage, which includes the world-renowned Teradata engine, is known for its effortless scalability through:

- Fully parallel operations
- Mission-critical availability
- Complex query performance
- Multiple data types, formats, and storage support

Data support ranges from relational, spatial, and temporal to XML, JSON, Avro, and time-series formats. In addition, Vantage leverages the Teradata data store for persistent storage. Support for S3 and other local low-cost storage options will also be added.

The versatility of Vantage de-risks the analytic platform buying decision by incorporating analysts' choice of analytic functions and engines, and by using their preferred analytic tools and languages across data types. This allows the best scalability, elasticity, and performance to drive superior business answers.

## Become 'Future Ready'

Vantage is built on the flexibility of Teradata Everywhere™, which allows businesses to become "future ready." The platform provides the same analytic processing across deployment options, including the Teradata Cloud and public cloud, as well as on-premises installations on Teradata hardware or commodity hardware. It is also available as-a-service.

In addition, Teradata provides software license portability that allows businesses to move their analytic workloads as their deployment strategy changes. The flexibility of Teradata Everywhere de-risks major decisions, allowing businesses to move forward confidently knowing that financial, architecture, and analytic investments are protected.

## About Teradata

With all the investments made in analytics, it's time to stop buying into partial solutions that overpromise and underdeliver. It's time to invest in answers. Only Teradata leverages all of the data, all of the time, so you can analyze anything, deploy anywhere, and deliver analytics that matter most to your business. And we do it on-premises, in the cloud, or anywhere in between. We call this pervasive data intelligence. It's the answer to the complexity, cost and inadequacy of today's analytics. And how we transform how businesses work and people live through the power of data. Get the answer at [Teradata.com](http://Teradata.com).

### **Delivering Benefits for Business Analysts and Data Scientists**

#### **Simplified data access**

Data and analytics are integrated to reduce data movement across systems.

#### **Easy access to cutting-edge technology**

Open-source and commercial analytic technologies are integrated within a massively parallel processing (MPP) architecture to run at speed and scale.

#### **Access to preferred analytic tools**

Most commonly used business analyst and data science analytic workbenches, programming languages, and user interfaces are available to enhance the user experience.

#### **Quickly operationalize analytics**

Quickly and seamlessly deploy advanced analytic models into production in the proven Teradata Vantage with reliability, security, availability, governance, and manageability—second to none.