

# Top 10 Ways Vantage is a Game Changer: The Complete Guide



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**Teradata Vantage™ is the platform for Pervasive Data Intelligence. It's the only analytic software of its kind, going beyond what other analytic platforms offer to deliver new answers using all of your data.**

Your business is held back by the complexity, cost, and inadequacy of today's analytics. You're overspending without getting the answers you need.

In today's ultra-competitive, fast-moving business landscape, gathering data and implementing the latest analytics is not enough. You need to rise above challenges. You need tools that turn data into action. You need answers that solve your most complex problems. That's why you need Teradata Vantage.

Vantage is both different and unique. The only platform for Pervasive Data Intelligence, it's challenging the status quo by allowing you to see 100 percent of your data. This lets you deliver the right answers to everyone, everywhere. You can now see your data in new ways, while also offering real-time intelligence to users and systems across your organization.

This leading hybrid cloud analytics software platform leverages all data to arrive at decisions based on the most accurate picture of the business, trends, and customer behavior. You can now analyze anything, anywhere, at any time, to solve your most complex business challenges and innovate with confidence.

**Here are the top 10 game-changing features and benefits Vantage offers to transform the world's largest companies—large scale users of data that demand integrated solutions, speed, and scalability—and reset the bar for the entire industry →**

# 1 CLOUD, MULTI-CLOUD, HYBRID CLOUD

With cloud, you can use and benefit from both on-premises and cloud deployment, to suit your business needs. Hybrid cloud is defined as on-premises deployment coupled with some type of cloud deployment. Multi-cloud is defined as two or more cloud deployments as part of the same analytic ecosystem.

According to a Teradata survey, 90 percent of Teradata customers plan to have a hybrid cloud environment in the next few years. Many customers are using a hybrid cloud with production on-premises along with test/development or disaster recovery in the cloud.

By offering the same Vantage software across all environments, Teradata makes it easy for you to migrate users and workloads to and from the cloud, whenever you want. You can move workloads between environments quickly without having to make code changes.

A cloud ecosystem can deliver the best of all worlds—on-premises when you need on-premises, and cloud when you need cloud. This flexibility lets you quickly and seamlessly adjust workloads between environments to match ever-changing business needs.

## Pick Your Deployment Option

Each Teradata software deployment option offers unique advantages:

- Public cloud options deliver convenience, a global footprint, and on-demand resources. Vantage is available via Amazon Web Services (AWS) and Microsoft Azure.
- Optimized Teradata IntelliFlex infrastructure provides maximum scalability and availability for mission-critical workloads because it is specifically engineered for Teradata software.
- Customer Cloud is when IntelliFlex is deployed and managed by Teradata on an as-a-service basis within a customer's data center.
- Private Cloud enables the benefits of cloud as well as deployment within a customer's facilities using customer-owned hardware coupled with VMware virtualization software.

## All the Benefits of Cloud, Nothing to Relearn

Many vendors fundamentally change their software for it to work in the cloud. Not Vantage—the software is consistent across all environments. This makes it perfect for hybrid cloud environments because there's no software to recode, and you don't have to learn new tools to use it.

## 2 UNIFIED DATA AND ANALYTICS ENVIRONMENT

Vantage delivers fast results to complex business questions by integrating your data and analytics in a unified environment. This lets businesses use a single platform for:

- Descriptive, predictive, and prescriptive analytics
- Autonomous decisioning
- Machine learning
- Visualization tools

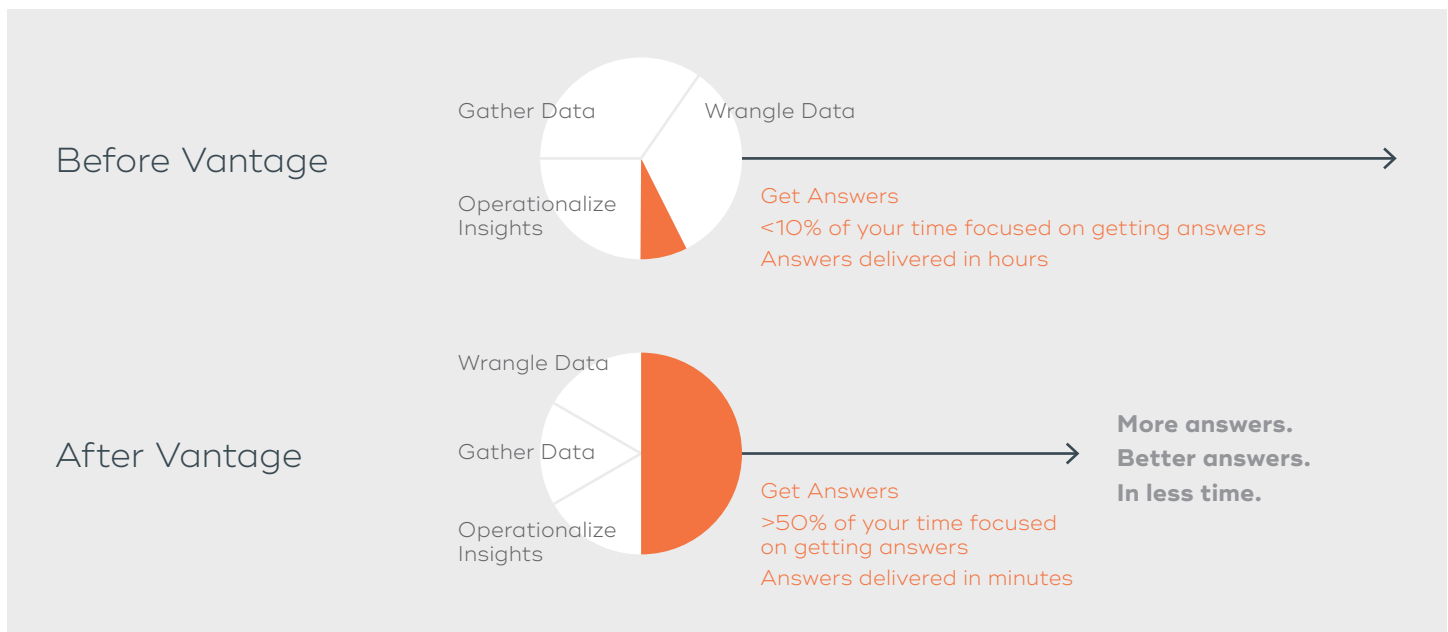
This is important because as organizations collect more data from more sources than ever before, they're also using a variety of analytics and techniques to make sense of it all. Optimizing a single environment allows you to get the answers you need in less time.

Traditionally, analysts spend much of their time prepping and moving data; bringing the data to the analytics. For example, writing in *Harvard Business Review*, Edd Wilder-James, currently Open Source Strategist, Machine Learning at Google, notes, "Just as 80% of the work in any data analysis is data preparation, expect 80% of the work in becoming data-driven to be integrating your data, and making it available to meet the needs of your company as a whole."

Vantage brings the analytics to the data. Everything you need—data and analytic techniques—are together in the same platform, eliminating the time-consuming need to move or duplicate data, or use data samples instead of all of your data, to perform analytics.

As you know, collecting data isn't enough. You need to be able to analyze all of it—and share the insights throughout the organization. As companies are discovering, data and answers are not pervasive across their enterprise. But they need to be. That's why 81 percent of senior business leaders and IT decision makers at some of the world's largest companies want data analytics to be more pervasive in their organizations, according to a global survey by Vanson Bourne.

This is another area where Vantage can help. It delivers Pervasive Data Intelligence, which is the ability to leverage all of your relevant data to provide real-time, intelligent answers to your most challenging business questions. Operationalizing your analytics allows all users throughout the company to consume and benefit from the insights.



### 3 FULLY INTEGRATED DATA FOUNDATION TRUSTED BY THE WORLD'S LEADING COMPANIES

Trusted by the World's Leading Companies. Innovative companies use Vantage to perform their mission-critical analytics against integrated data, delivering cross-functional analytics at scale. That's because Vantage is based on "built from the ground-up" database and analytic technology. It is enterprise-class software with proven high-availability and performance on mixed workloads to deliver on stringent service level agreements (SLAs).

By integrating data from all parts of the organization as well as data from external sources such as the Internet of Things (IoT), Vantage provides more context to answers. Plus, integrating more data increases the number of questions you can ask to solve problems or accelerate innovation.

Vantage also gives companies the simplicity they're looking for. Business leaders say there's too much complexity in their analytics technology. For example, a global survey by Vanson Bourne found that 74 percent of business leaders say their organization's analytics technology is complex, and 42 percent say one main issue driving complexity is that technology isn't easy for all employees to understand.



From a technology standpoint, Vantage supports row-based, column-based, and hybrid storage. It also supports multiple data types, including structured and semi-structured such as JSON, BSON, AVRO, and CSV.

Using Teradata QueryGrid™, companies can integrate data in real-time from data stores and analytic engines across the organization.

The unique features and capabilities Vantage offers for data and analytics are why Teradata ranked the highest in every use case in the **2019 Gartner Critical Capabilities for Data Management Solutions for Analytics**.

#### What Other Data Analytic Platforms Can't See, Vantage Does

Vantage is only software of its kind. It can manage all of the data, all of the time to deliver analytics that matter and deliver actionable answers faster.

What others can't see, Vantage does. This gives businesses a unified, integrated environment that delivers that best analytic functions and engines at scale.

All your data, any way you need it. Companies benefit from flexible support for multiple data types, formats, and heterogeneous data storage.

Your tools, your way. Analysts can work with the tools and languages they prefer to quickly build and use the analytics they need.



## 4 LINEAR MULTI-DIMENSIONAL SCALABILITY

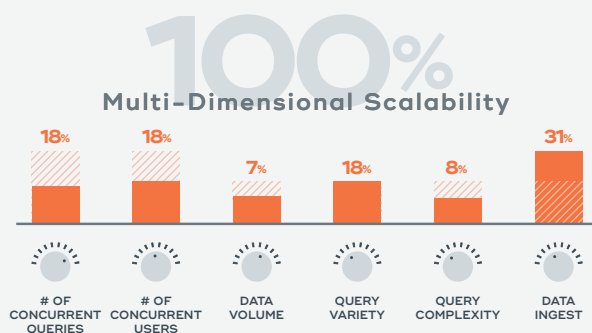
Vantage enables you to scale performance, data volume, concurrency, and number of users to keep up with your evolving business needs; all without compromise or at the expense of one another. A shared-nothing architecture enables massive linear scalability, including across complex queries and analytic functions. The graphic below shows how Vantage offers effortless scalability across essential business functions.

Vantage is the only analytic solution with true multi-dimensional scalability. Other vendors' offerings can scale only one or two dimensions at a time—if they try to scale additional dimensions, it comes at the expense of others. Likewise, with other systems, adding more data causes performance to suffer, adding additional users causes concurrency to suffer, and adding more complex analytics causes query performance to suffer.

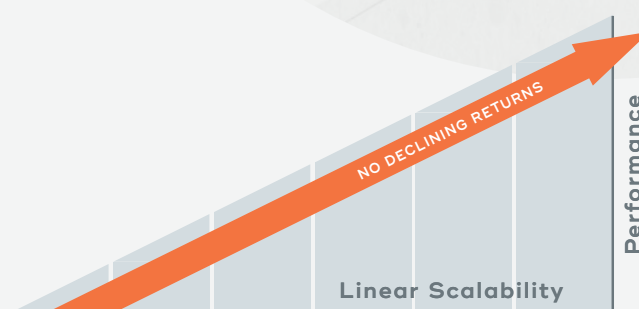
With Vantage, you benefit from relational data modeling—integrating data in a relationship model allows you to answer any question, at any time, for any function. This means you can drill down to the lowest level of detail from your data to get the answers you're looking for.

### Effortless Scalability

Vantage is fully capable, accessible, and scalable. It offers support for multiple data types with effortless scalability through fully parallel operations, mission-critical availability, and complex query performance.



Adjust the allocation of your system resources in real-time, without compromise, to meet your business needs.



EXAMPLE: Double system size—do double the work, or do the same work in half the time.

# 5 MULTI-GENRE ANALYTICS

Vantage answers your most challenging business questions by combining multiple analytic techniques within a single workflow to deliver faster, better insights. Vantage also gives you the ability to explore new data and combine it with curated data, then easily perform sophisticated analytics to uncover new answers.

To meet today's constantly evolving business needs, analytics must be multi-genre. This means multiple techniques are intelligently applied in unison. Vantage offers more than 180 pre-built advanced analytic functions that span multiple genres such as:

- Machine Learning
- Path and Pattern
- Text and Sentiment
- Graph
- Statistics
- Data Preparation

With Vantage, you can employ specialized engines to build analytical models and score your data. You can perform complex analysis by combining multiple analytic techniques in multiple engines integrated in the same platform, without moving data or requiring the use of multiple tools.

Multi-genre analytics let you get a comprehensive answer to a complex business question using a single workflow, within a single statement. Otherwise, this would require multiple analytic steps across disparate analytic tools, and require you to move your data.

## Single Workflow Efficiency

Vantage lets you use a single workflow, which allows your business teams to perform more analytics in fewer steps without having to switch tools or export data into a different platform.

## 4D Analytics: The Next Dimension of Business

Teradata offers the industry's first 4D Analytics, which uncovers new answers based on time-series, geospatial, and temporal data. This capability combines 3-dimensional geospatial data with the 4th dimension of time. The advanced analytic functionality is particularly helpful in use cases involving logistics, travel and transportation, customer service, and retail.

You can use 4D analytics in a variety of enhanced applications, including:

- Studying sensor data from a vehicle fleet, such as travel times and routes, to optimize operations and predict the probability of a breakdown.
- Analyzing data from individual vehicles to understand the difference between an accident and a near miss, making all vehicles smarter and safer.
- Analyzing patterns of trains, subways, cabs, automobiles, traffic lights, street traffic, and general pedestrian movement, resulting in new insights to make smart cities smarter.
- Using wearables and personal medical devices to analyze patient data to understand medication compliance.
- Enabling transportation-as-a-service by combining time-series and geospatial data with demographic information and weather data to create highly targeted custom offers sent to devices in near real time.

## 6 RELIABLE, SECURE, AND TRUSTED RESULTS

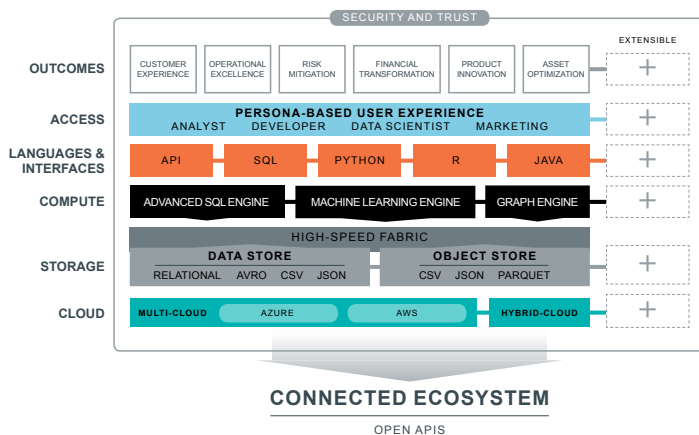
The unified data foundation in Vantage gives users across your organization clean, governed, secure, and curated data that everyone trusts. You have only one version of the truth, without silos, and at scale. When your data is trusted, more people across your organization will use it—and use it with confidence.

The statement “garbage in, garbage out” holds true today as much as ever. Informed business decisions can only be made based on the best analytics performed on reliable data that everyone in the organization trusts and knows is accurate.

Another benefit of having data and analytics together in the same platform, along with multiple analytic tools and the ability to use different languages, is that you don’t have to extract and move data. Duplicating data can lead to it being changed from its original form and even potentially exposing it to a breach. Not having to duplicate data eliminates that exposure, helping keep the data secure.

This graphic shows how functions and capabilities are integrated together to make Vantage the most powerful and flexible tool available for uncovering reliable, rapid, actionable intelligence and delivering meaningful results:

### Vantage



Vantage also makes sure your data is always available to answer questions. It ensures your data is:

- **Scalable:** Your ability to use 100 percent of your data is essential to efficient automation, which has become a key differentiator for businesses. Gaining a holistic view of the business by leveraging all data is vital in a fast-moving, complex marketplace.
- **Frictionless:** When you have seamless access to data and analytics that influences your daily decision making, innovation takes place across functions quickly and more effectively.
- **Omnipresent:** Pervasive data never sleeps—it’s always available when it’s needed.

#### Effective AI Starts with a Solid Data Foundation

Businesses are looking to implement machine learning (ML) strategies to enable a wide variety of use cases, such as enabling automation, detecting fraud, predicting maintenance needs, boosting profits, and delighting customers. For ML to deliver optimal results, it must access reliable, ubiquitous, pervasive data.

Successful ML starts with a trusted and integrated data foundation because accurate machine learning and ML models can only be trained by accurate data. The more pervasive the data, the better the models can make predictions and connect the dots.

Teradata built its reputation making data easily reusable, reliable, and sharable across thousands of users. With Vantage, you can now have all of your data in a single environment to improve the outcomes from ML and make answers available to everyone, and everything, in the organization.



## 7 CHOOSE FROM ALL OF YOUR FAVORITE TOOLS AND LANGUAGES

Vantage enables users across your company to perform analytics using their preferred tools and languages, based on their business needs. It does this by bringing together the best analytic functions and engines, analysts' favorite tools and languages, and support for multiple data types into one environment. You don't have to worry about where the function or the data resides.

The ability to choose tools and languages lets users throughout the organization with different skills and preferences analyze the integrated data and achieve consistent answers. Analysts can use languages such as SQL, R, Python, Perl, and Java so they don't have to learn a new language to use Vantage. Tools include Teradata Studio, RStudio, and Jupyter—each tool is supported through plug-ins, extensions, and connectors—as well as popular BI tools like Tableau and Qlik.

This enhances the user experience by allowing them to utilize their favorite analytic tools and languages while addressing the needs of a broad user group—from business analysts to executives. Vantage reduces the learning curve across the entire analytic community.

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 to invoke analytic functions from different engines in a single application, such as Jupyter Notebook, without enduring the trouble of hopping from one analytic tool or application to another. The result is a tightly integrated analytic implementation that's not restrained by functional or data silos.

Vantage also embeds the analytic engines close to the data, which eliminates the need to move data. As a result, users can run their analytics against large data sets instead of using data samples and execute models with greater speed and frequency.



### Get Answers With Your Preferred Analytic Engines

Vantage offers full integration with leading analytic engines, including:

- Advanced SQL Engine offers a wide range of embedded analytic functions, enabling descriptive, predictive, and prescriptive analytics utilizing integrated data.
- Machine Learning Engine allows data scientists and analysts to write powerful and highly expressive machine learning functions. Teradata provides more than 180 prebuilt analytic functions to transform, prepare, analyze, and visualize multi-structured data to address myriad business use cases.
- Graph Engine provides graph analysis that identifies and measures relationships between people, products, and processes. Teradata provides prebuilt graph analytic functions to easily solve complex business problems such as social network/influencer analysis, fraud detection, and supply chain management.

## 8 ANALYTIC ECOSYSTEM INTEGRATION AND SIMPLIFICATION

Vantage simplifies your ecosystem by empowering users to access data through a single lens. This lets you focus on solving complex business problems rather than worrying about what system has the data you need.

Teradata does the “heavy lifting” for customers. We handle the engine and tool certification as well as the integration so you don’t have to worry about them. If the data source is not integrated within Vantage, then you can use Teradata QueryGrid to access it.

Even though you don’t need to worry about where the data resides or how to reach it when you’re performing analytics, Vantage makes the data location and movement transparent, regardless of technology. You can manage and optimize ecosystem operations based on where you want the processing to take place, with minimal data movement using push-down processing.

Teradata also makes upgrading to Vantage pain-free and predictable, making it easy to remove complexity from your analytical ecosystem. When you upgrade, you benefit from:

- New features and capabilities: Optimized software gives you access to more than 130 new enhancements since Teradata Database 15.00.
- Lower maintenance costs: Modernizing your ecosystem can decrease operational costs—no more managing and maintaining old IT systems.
- Increased flexibility and agility: Gain maximum availability, scalability, and agility while de-risking IT decision making—the software can be used across all deployment options.



### API's Enable Seamless Orchestration

Teradata QueryGrid facilitates the use of multiple analytic engines and file systems not integrated in Vantage. That’s because the high-speed parallel data fabric lets you analyze data across a heterogeneous analytical ecosystem. This frees your time to focus on analytics. You can easily access all data and analytic engines, which eliminates the problem of data siloes that restrict analytic agility.

## 9 YOU RUN IT, WE RUN IT, YOUR CHOICE

Organizations are increasingly turning to cloud-based, as-a-service solutions because they enable the business to be more agile and responsive, and add new capabilities as they're needed. This allows them to easily take advantage of the latest software releases and reduce their technical debt.

You can have Teradata provision and manage the Vantage environment for you as-a-service. This option includes software, infrastructure, patches, updates, security, and daily backups. Or, you can run it all yourself. Either way, whether you choose the as-a-service or the run-it-yourself option, you're in charge. With the latter option, you can subscribe to and deploy Teradata Vantage in your own Amazon Web Services (AWS) or Microsoft® Azure® public cloud subscriptions—and run everything yourself.

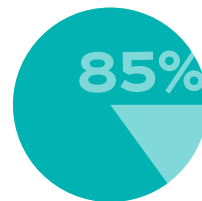
Vantage is available as-a-service on AWS, Azure, Teradata Cloud, and Customer Cloud. This allows you to use Vantage in your preferred environment. The choice and flexibility are also highly supportive of hybrid and multi-cloud environments.

*Teradata monitors and manages the infrastructure, guarantees system availability, and offers the lowest cost per query at scale of any analytics platform on the market today.*

Once your as-a-service subscription has been activated, you can spin up Vantage's capabilities quickly, accelerating time to value. You have the ability to scale up or down quickly on a self-service basis as business requirements change. Teradata monitors and manages the infrastructure, guarantees system availability, and offers the lowest cost per query at scale of any analytics platform on the market today.

With Vantage delivered as-a-service, you only pay for what you provision. This eliminates large capital expenditures and reduces risk. Alternatively, with consumption pricing, you only pay for what you use, offering more freedom of choice and reduction of risk.

If you choose to run-it-yourself, you can deploy and manage Vantage using standard AWS and Azure infrastructure in your own public cloud accounts. With flexible subscription pricing from Teradata and the ability to completely customize your ecosystem, you can analyze anything, anywhere, on your own.



### Businesses Want Answers, Not IT

According to a Teradata customer survey, 85 percent of organizations expect to buy as-a-service for analytics in the next few years. This allows them to focus on answers, not IT.

### Uniquely Qualified Consultants

Only Teradata has thousands of experts globally in Pervasive Data Intelligence. They have the experience and expertise to understand what's possible for companies, then build the roadmap to get the desired outcomes.

These world-class consultants work across any infrastructure. They help organizations determine when to move to the cloud or evolve to a hybrid cloud architecture. In addition, they can help companies with deployment options, the selection process, and operationalizing analytics. Their expertise enables businesses to use all their data to drive results and accelerate time to value.

# 10 LICENSE PORTABILITY

Vantage license portability means you can easily move workloads between on-premises and cloud with no license transfer fee. Customer Cloud is when IntelliFlex is deployed and managed by Teradata an as-a-service basis within a customer's data center. Vantage software subscriptions were designed from the ground up to be portable between deployment environments. You can move your license back-and-forth in any direction between on-premises, public cloud, and private cloud.

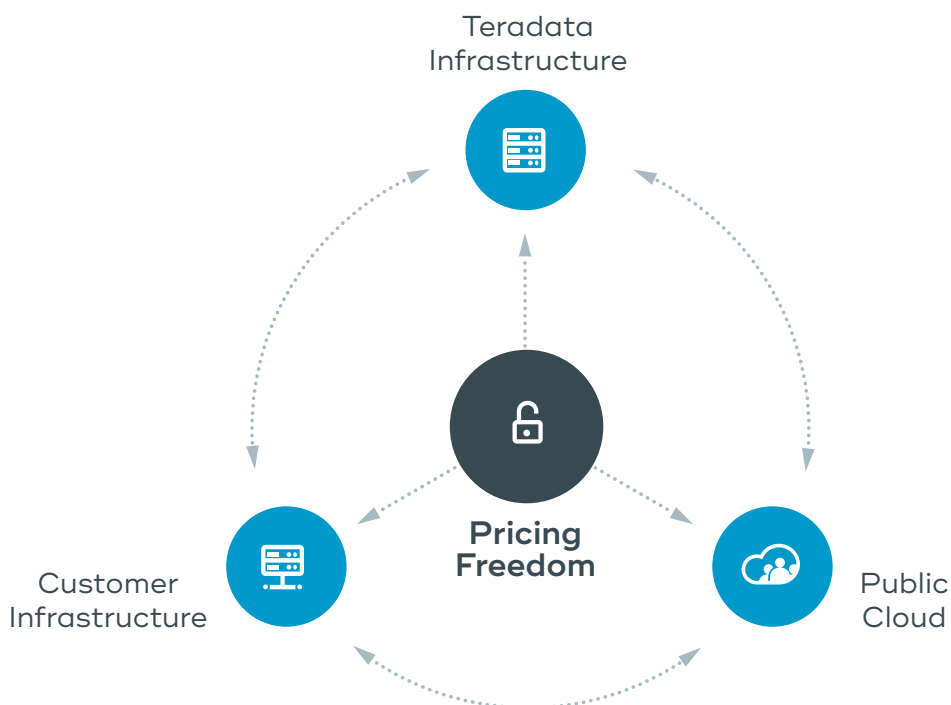
This license portability also de-risks your deployment decisions because you will never be locked in and you can change your mind about deployment selections without incurring a penalty or fee.

Vantage allows businesses to become future-ready by providing the same features across all deployment options as well as being available as-a-service. The software license portability allows businesses to move their analytic workloads as their deployment strategy changes. This flexibility removes the risk from major decisions, allowing you to move forward confidently knowing that financial, architecture, and analytics investments are protected.

## Benchmark Proves Leading Capabilities

A recent Teradata white paper "Choose the Analytic Solution to Meet Business Requirements" summarized benchmark results from comparing software solutions. Teradata solutions were shown to give organizations the highest performance, the best cost per query, and the flexibility to move across deployment options as needs change.

The benchmark revealed that Teradata software platforms outperformed alternatives from other vendors, regardless of the underlying infrastructure. Teradata delivered a higher total number of queries, more queries per hour, and the shortest time required to run a specific number of queries in the benchmark.



## A New World of Data Demands a New Approach

These are only the top 10 reasons for using Teradata Vantage—there are many more that can help transform your business. Everything that Vantage does is designed to empower you to analyze anything, deploy anywhere, and deliver analytics that matter.

Let's face it. You rely on trusted answers to run your businesses. Analytics have become an essential part of this process. However, choosing and implementing the right platform to address a wide range of use cases can be problematic. There's a vast landscape of analytic tools to choose from, different types of users to consider, and a proliferation of different analytic functions and techniques.

These challenges often 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.

Teradata overcomes these problems while controlling costs and meeting users' specific needs. Vantage offers a modern 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. You get the answers you need fast, at scale, to solve your toughest challenges and enable desired outcomes.

## 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](https://www.teradata.com).