

The Power of a Single Data and Analytics Platform

Embracing SAS[®] 9, SAS[®] Viya[®] and Teradata Vantage[™] to Generate Factual Insights Faster



The Data Explosion: Creating New Opportunities and Challenges

In the digital era, every organization is operating in uncharted data territory. IDC Research predicts that by 2025, the world will create 163 zettabytes of data every year. Across the world, structured and unstructured data volumes are exploding beyond imagination, and with new varieties that must be collected, managed and analyzed. And regardless of industry, organizations are acquiring data at a much higher velocity; end users are responding with demands for daily, hourly and even continuous database refreshes so they can run analyses on the latest data and make decisions faster and with greater confidence.

All this data creates tremendous opportunity for organizations with the right skills, human resources and advanced analytics - and big challenges for others. New research from SAS and Teradata indicates every day, many organizations struggle with common

challenges related to data overload and lack of resources. Consider your own organization - do these issues sound familiar?

- "How can I integrate data management and analytical process to run faster with SAS[®] 9, SAS[®] Viya[®] and Teradata Vantage[™]?"
- "Accessing and preparing my data for analytics takes days and weeks, and I can't afford to wait that long."
- "My analytical process takes days and weeks to complete, and by the time it is done, the usable data is outdated."
- "My data scientists are spending too much time with mundane data management tasks and not enough time focusing on strategic exploration, such as using open source technology."
- "Should I consider a cloud strategy to manage data complexity and enable enterprise analytics?"

To respond to these challenges, it's time to radically rethink your data management and analytic practices and enabling technologies.

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It's Time to Evolve How You Manage and Analyze Data

What's needed is a vastly more effective way to capture, access, sort and analyze data at scale - anywhere and anytime. Think more effective, efficient operational and business processes that empower people to analyze massive volumes of data from a plethora of data sources that reside in silos.

In the era of digital business, this is critical to success. The fact is, enterprises are yearning for the ability to make sense of all their data. They want factual insights to make more accurate and timely decisions that will enhance their competitive advantage in today's highly competitive and opportunistic global economy. And hidden in massive volumes of streaming and complex data are fresh ideas, insights, answers and innovations that can transform business landscapes, uncover new opportunities to drive profitable growth, and transform how work gets done.

That's why more companies are implementing a single, integrated data management and analytics platform from SAS and Teradata that can meet their needs today *and* tomorrow, even as data volume, variety and velocity increases.



Choose the implementation approach that's best for your business: on-site, cloud or hybrid - and realize significant, positive impacts on profitability while transforming the way your business operates.

Providing a Powerful, Integrated SAS[®] Platform on Teradata Vantage[™]

SAS and Teradata have developed an integrated platform that allows you to capture, access, sort and analyze all your data anytime and anywhere. The platform combines SAS 9 and SAS Viya with Teradata Vantage to enable a single, consolidated source of data for faster data preparation, advanced analytics and machine learning, and optimal enterprise data management and analytics.

In addition, because the platform combines industry-leading technologies - from SAS and Teradata - you can take insight-driven actions more rapidly than ever. For example, as shown in Figure 1, your organization can:

- Apply analytics and machine learning with open source software, SAS 9 and SAS Viya.
- Centralize and consolidate all data sources in Teradata Vantage for easy data access.
- Deliver timely, fact-based insights to executives and all levels of the enterprise.

Once in place, the SAS Viya platform on Teradata enables you to:

- Alleviate the complexity of data governance.
- Shorten analytical processes.
- Provide decision makers with timely, factual insights that result in greater business value such as a better understanding of customer behavior, more accurate anticipation of patient needs, and enhanced marketing efficiency to expanded product and service offerings.

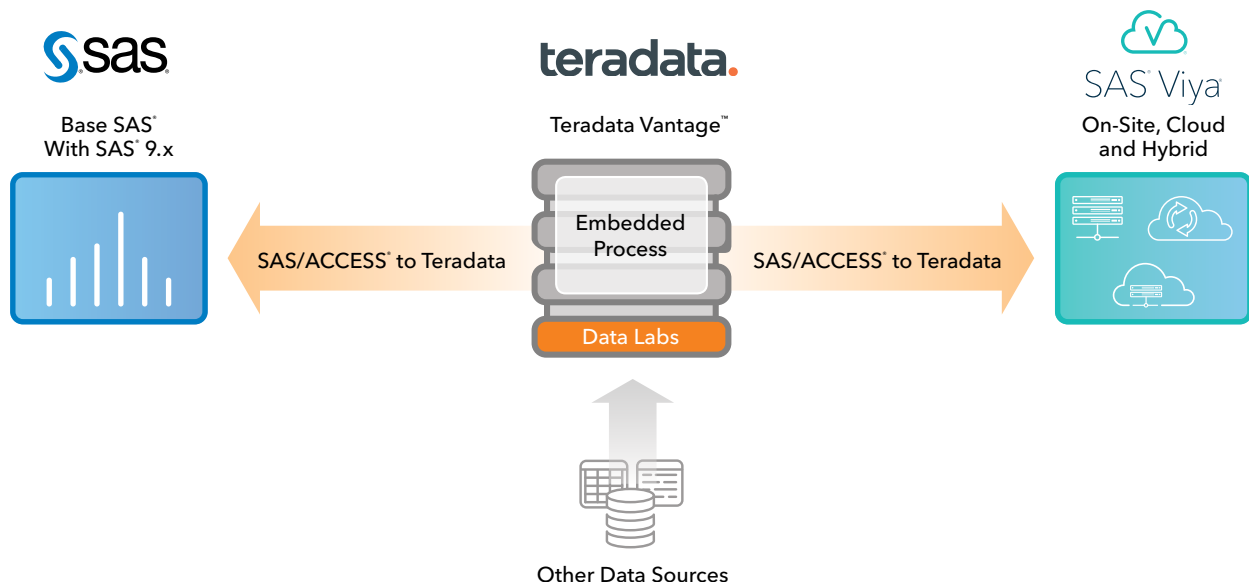


Figure 1: Integration of SAS and Vantage - an integrated platform for data management and analytics.

Delivering an Entire Suite of Integrated Technologies

Together, SAS and Teradata offer an entire suite of technologies that simplify data capture, place analytics at employee fingertips and empower people to run data visualizations on their mobile devices and desktops. At the highest level, the platform includes:

- **Teradata Vantage** - captures, stores and prepares data for analytics and other applications.
- **SAS[®] 9** - offers traditional SAS capabilities with effective direct coding connections within workflows (such as SAS Studio, SAS Enterprise Guide[®] and SAS Data Integration Studio for integrating data and analytics).
- **SAS Viya** - provides super-fast processing for large-scale data manipulation, exploration, artificial intelligence and machine learning.

All these technologies are integrated in one platform with speed and precision.

Simplifying Data Preparation for Analysis

Through this platform, SAS and Teradata Vantage offer innovative approaches to preparing data for analytics with in-database and in-memory processing:

- **Option 1:** Some in-database functionality is built into SAS/ACCESS[®] Interface to Teradata, while other capabilities are offered through SAS' purpose built, in-database technologies (specifically, the code accelerator, data quality, analytics accelerator and scoring accelerator). Compared to the traditional method (which involved copying or moving data from a system into SAS, analyzing it inside SAS, and then moving the results back to the system), this in-database approach increases performance and streamlines the processing of data and analytics. It also uses the resources and power of the Teradata Vantage platform to process large volumes of data faster, thanks to its unique, direct connectivity to SAS data.
- **Option 2:** You can also use Teradata Data Lab with SAS, which enables self-service, agile analytics by simplifying the provisioning and management of analytic workspaces within the data warehouse. By allocating space in the Data Lab environment, your data scientists and analytic users gain easy access to critical production information without moving or replicating that data.



The Teradata Data Lab provides your entire business with flexibility to self-provision space, load other types of data, experiment with the new data, and test theories and business ideas without compromising data quality or performance.

Creating Differentiated Value

When you deploy the SAS and Teradata integrated platform, you benefit from:

- **Increased performance:** SAS Viya on Teradata uses massively parallel processing to deliver superior performance for the entire analytical life cycle: data preparation, data visualization, data modeling and model scoring.
- **Improved economics:** The platform's proven, integrated technologies minimize the risk of failure for your business while reducing the costs of data duplication and management of data silos.
- **Better governance:** Now you can centralize all data sources in Teradata Vantage - the data that's used in downstream SAS solutions - and use the in-database, in-memory and data lab capabilities to apply analytics anytime, anywhere for better governance.
- **Openness:** The platform also frees you to use open source technologies such as R, Python, Lua, RESTful APIs and more to complement your architecture for data management and analytics.

Explore Real-World Use Cases

The best way to understand the power of the SAS and Teradata integrated platform is to explore how it's used in the real world. Here are just a few use cases of how organizations can use it to capture, access, sort and analyze data at scale - anywhere and anytime - and eliminate barriers to timely, accurate insights.

Use Case No. 1: Health Care

Using SAS[®] 9, SAS Viya and Teradata Vantage, health care providers can capture, consolidate and analyze patient data and apply machine learning to improve patient care and health management. Easier access to and analysis of patient data reduces costs for patients and providers by supporting faster, more accurate treatment recommendations.

Use Case No. 2: Finance

Banks can use the integrated platform to combat fraud and prevent money laundering. Together, SAS[®] 9, SAS Viya and Teradata Vantage deliver near-real-time insights to prevent fraud before it happens, as well as proactively identify money laundering activities to reduce adverse business impacts and other illegal activities.

Use Case No. 3: Retail

Retailers can move from descriptive analytics to predictive and prescriptive analytics using the SAS platform and Teradata Vantage. For example, they can use it to build thousands of models and score the models in near-real time to forecast sales, demand for products and more to maximize growth and profitability. They can also use machine learning algorithms to determine the probable outcome of different loyalty programs and select what will best enhance the customer experience.

SAS and Teradata were the first in the industry to deliver end-to-end data management and analytics capabilities.



Why SAS and Teradata?

SAS and Teradata have been strategic partners for more than 10 years. We've delivered integrated technologies to more than 200 customers, helping them create optimal and agile data and analytics environments. Our offerings combine the strengths of SAS industry-leading analytics and data management with the power of Teradata Vantage. They are also backed by well-defined services delivered by SAS and Teradata skilled professionals for quick implementations and rapid return on investment.

Together, we are pioneers delivering the following benefits through our integrated platform:

- **Integrated technology** to effectively manage complex data and analytics.
- **Support for the full analytics life cycle** - from data access and data discovery to model deployment.
- **Rapid implementation and time-to-value** with experienced implementation resources.
- **Flexibility and agility** with on-site, cloud and hybrid deployment options.
- **Minimal business risk** due to proven success and customer validations.

Learn More

The integration of SAS[®] 9, SAS Viya and Teradata Vantage on a single platform empowers your organization to make more accurate, consistent, insight-driven decisions and take the right action from a consolidated view of all data sources - both structured and unstructured. To learn more, contact your SAS or Teradata representative or visit sas.com/teradata or Teradata.com/SAS.

For more information: sas.com/teradata or Teradata.com/SAS

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