SAS and Teradata Analytic Advantage Program: An Overview

Top business challenges

In an effort to maximize the value of enterprise data, most organizations struggle to fully leverage their analytical modeling potential, including their people, processes and technology.

- The lack of alignment between IT and business analysts causes each to develop different processes that often circumvent each other rather than produce an integrated solution.

- Customers often use their database and analytic technologies in a fractured and competing fashion that requires massive data movement between the analytic and database environments. This results in data replication and data latency issues.

- These inefficiencies affect the model development and deployment process, which ultimately lessens the ability to leverage analytics across the enterprise.

Traditional approach (without an integrated solution)

Organizations are using analytics and data warehousing or data mart tools to gain insights from data and make better decisions. These two technologies are implemented, in many instances, in segregated environments, as shown in Figure 1: Traditional Architecture.

Using this traditional approach for analytic development requires large volumes of data to be extracted from different data sources, including the enterprise data warehouse, and pushed into SAS® for further processing and analysis. Lack of properly integrated analytic data preparation and exploration tools can result in IT and analysts spending unnecessary time and effort to integrate processes and transform data for analytic model development.

If businesses want to run models in the database, to eliminate data movement and accelerate model scoring, the business analysts often manually translate scoring code to SQL. Lack of automated model deployment processes can result in delayed analytic results and higher labor costs. In addition, the segregated analytic and data warehousing environments can create a barrier between IT and business analyst teams and lead to limited or restricted use of analytics in specific departments or divisions.

SAS and Teradata's in-database approach

The SAS and Teradata Analytic Advantage Program leverages the Teradata® data warehouse and SAS Analytics to deliver an integrated model development, deployment and management capability, as depicted in Figure 2: In-Database Architecture. The objective is to optimize the analytic modeling process by eliminating excessive data movement and replication. This is accomplished by leveraging the Teradata system and Teradata Data Set Builder for SAS as the environment for data exploration and data preparation.

SAS® Enterprise Miner™ is used for analytic model development, providing the breadth and depth of analytic techniques for additional data exploration, model building and model validation required to complete the analytic development process. The SAS Scoring Accelerator for Teradata then translates the SAS Enterprise Miner model into an embedded function for deployment inside the Teradata system. SAS Model Manager combined with the Teradata Data Set Builder for SAS helps customers effectively manage their models across their life cycles.

Figure 1: Traditional Architecture

Figure 2: In-Database Architecture
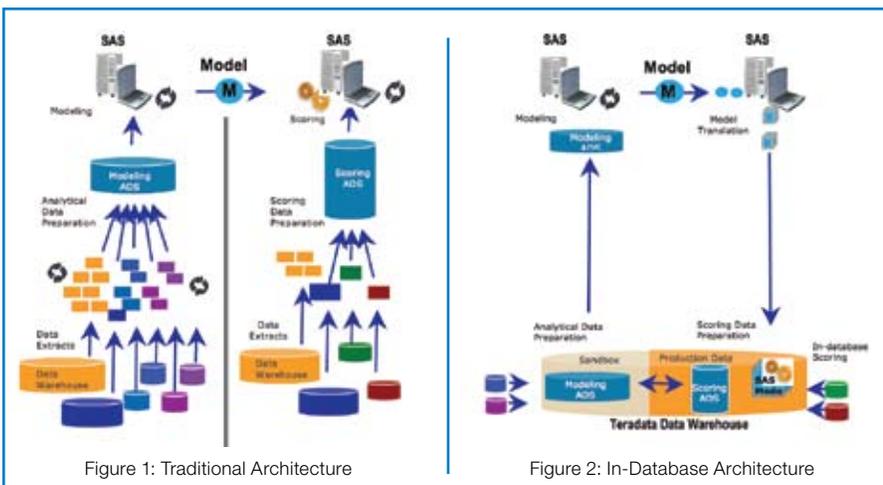
This new approach greatly simplifies the data preparation, model development, deployment and management process, resulting in accelerated time to value.

Offering description and packages

The SAS and Teradata Analytic Advantage Program includes the components for data exploration and preparation, model development, deployment and management. Three offerings are available to meet customers' growing analytic requirements:

- **SAS Analytic Advantage Express for Teradata** – An offering for a department or group wanting to explore business questions using a programming-tools approach for statistical analysis and discovery.

- **SAS Analytic Advantage Advanced for Teradata** – A comprehensive offering for both established and expanding analytic organizations. By leveraging SAS and Teradata in-database technologies, this package takes organizations to a new level by streamlining analytic model development and deployment processes.

- **SAS Analytic Advantage Enterprise for Teradata** – A powerful offering for mature analytic organizations that maintain a large and diverse portfolio of analytic models.

The Teradata data warehousing package includes the data warehouse, Teradata Database and the Teradata Data Set Builder for SAS. The Teradata package also is scalable, supporting clients who are exploring data marts all the way to those needing an active data warehouse.

- **The Teradata Purpose-Built Platform** – Each member of the platform family comes ready to run for a distinct need, from basic analytics to full active enterprise intelligence capability. It is simple, affordable and scalable to meet your business needs.

- **Teradata Database and Client Software** – Designed with a unique internal parallel architecture, the Teradata Database simplifies system administration and analytic application development while providing industry-leading capability and performance.

- **Teradata Data Set Builder for SAS** – An SQL generator that automates data exploration and preparation tasks and generates optimized SQL to support model development leveraging SAS Enterprise Miner.

SAS and Teradata offer a set of recommended services to ensure successful implementation, knowledge transfer and sharing of best practices. A dedicated SAS and Teradata Center of Excellence (CoE) increases the effectiveness and quality of your key business initiatives by optimizing the performance of your current analytic infrastructure and recommending enhancements to support business goals. Services include:

- **Analytic Advantage Services from SAS and Teradata** – A comprehensive set of services helps you through every step of your analytic life cycle. Services are available to prepare a reusable, shareable analytic data set, integrate an analytic development environment with the data warehouse, model development, in-database model translation and deployment, and data and model management. These services have been designed to guide and assist you to implement an in-database analytic environment to meet your business needs.

- **Teradata data warehousing services** – This service facilitates the implementation of an analytic appliance or a single subject data warehouse in support of SAS Analytics. Duration, scope and deliverables vary based on the services selected.

Key customer benefits

The in-database analytic architecture addresses these challenges by providing an integrated and proven environment that accelerates model development and deployment tasks, helping customers make decisions with greater confidence and efficiency.

Minimize risk and maximize value

- Invest in the best analytics and data warehouse solutions to enable a streamlined analytic modeling approach.

- Improve business performance with broader use of operational data and analytics.

Better, faster analytics

- Improve efficiency and reduce time to analytic results with streamlined analytic data preparation steps.

- Increase confidence with improved precision, accuracy and freshness of analytic models.

Efficiency and manageability

- Accelerate model deployment with automated translation of models into in-database objects.

- Reduce data movement, redundancy and latency by leveraging in-database processing.