Teradata® Aster® Discovery Portfolio provides a suite of ready-to-use SQL, SQL-MapReduce® and Graph functions for fast and easy discovery of business insights from big data. Part of the Teradata Aster Discovery Platform that also includes the Teradata Aster Database, The Discovery Portfolio consists of four modules of SQL, SQL-MapReduce and Graph functions: Teradata Aster Data Acquisition Module, Teradata Aster Data Preparation Module, Teradata Aster Analytics Module, and Teradata Aster Visualization Module. The Discovery Portfolio provides new high-value insights for a wide variety of business use cases such as customer churn, social network, path to purchase, marketing attribution, product affinity, fraud, manufacturing optimization, and more. All this is possible on a single platform and through a single query that integrates all the discovery process steps. It is meant for all user types and obviates the need to maintain disparate tools, hire people with niche and expensive skill sets, and maintain silos of metadata.

TERADATA ASTER DISCOVERY PORTFOLIO—KEY CAPABILITIES

Data Acquisition Module
This module includes functions that enable access to multi-structured data stored in Apache™ Hadoop™, Teradata Data Warehouse, and other RDBMS systems.

Data Preparation Module
Ready-to-use data adaptors and transformers enable interpretation and preparation of data such as Web logs, XML, emails, and machine logs for analyses. A sample set of included functions provides capabilities such as:

- **Outlier filters** to remove outliers from data
- **Apache™ Log Parser** to support custom log formats from Apache™ Web servers as defined by the user
- **XML Parser and JSON Parser** to parse and prepare XML logs generated by applications like Web logs and POS logs at retail stores and outlets
- **Sampling** to execute various sampling techniques for robust statistical analyses

Data transformation functions include **sessionization** and **unpack** to transform complex, unstructured data into meaningful formats suited for analytics.

Analytics Module
This includes a vast array of ready-to-use functions for time series, statistical, text, graph, and SQL analysis in addition to custom SQL, SQL-MapReduce, and Graph analytic functions. A sample set of functions includes:

- **PageRank** assigns importance or influence values to individual nodes in a network which can be used to determine value, importance, or influence of that node
- **nPath™** identifies the most common consumer paths to defined events such as buying a product, abandoning a shopping basket, or closing an account
- **SAX** enables machine data analysis, such as analysis of sensor data in manufacturing, in addition to identifying anomalies in manufacturing processes
- **Attensity™** ASAS entity/event extraction, classification, sentiment analyses
- **Confusion Matrix** enables machine learning for quantifying the performance of an algorithm to improve predictive models
- **Single Decision Tree** enables building and applying a single decision tree for classification and identifying important variables that are critical to decision-making
- **Distribution Matching** allows hypothesis testing of data origins from a specific distribution and parametric estimation
Visualization Module

Visual SQL-MapReduce functions that are massively parallel, in-database, in-process and out-of-the-box, provide novel visualizations to make it faster and easier to discover new insights from big data. They complement existing business intelligence and visualization tools by providing purpose-built visualization capabilities best suited to represent the in-depth insights offered by Teradata’s patented SQL-MapReduce framework.

A sample set of capabilities includes:
- **Flow Visualizer** to understand the path taken that leads to an outcome such as purchase or downloads
- **Affinity Visualizer** to understand how two sets of seemingly different products or services actually have a close connection and hence can be bundled
- **Hierarchy Visualizer** to organize all discrete entities and interactions into hierarchies to better understand and comprehend the relationships and behaviors

A good visualization (see Figure 2) highlights the solution’s ability to be rapidly iterative while quickly zeroing in on the most relevant signals during the discovery process.

KEY BENEFITS

- Introduction of a powerful Graph Engine (SQL-GR®) that enables massively scalable, iterative data processing and includes pre-built Graph functions that are invoked via SQL.
- Expanded library of 90+ pre-built SQL, SQL-MapReduce, and Graph functions for easy and fast discovery via a single statement execution of the four steps in the discovery process: Data Acquisition, Preparation, Analysis, and Visualization.
- Synergistic multi-genre analytics leverage multiple analytical techniques (SQL, MapReduce, statistical, text, and Graph) to unlock new insights.
- Support for in-database text and sentiment analysis via Attensity®, in-database R analytics, and in-database PMML execution via Zementis®

FOR MORE INFORMATION

Teradata Aster Discovery Portfolio can help you take advantage of big data volumes in a fast, efficient, and cost-effective way while you improve your decision-making capabilities and grow a stronger, more productive business. To learn more about Teradata Aster Discovery Platform, contact your local Teradata representative or visit Teradata.com.

Figure 2. Teradata Aster Visualization Module.