

# Teradata Unity

## Simplify and Integrate Your Analytical Ecosystem

The business analytics landscape changes almost daily. As companies everywhere are collecting, storing, and analyzing huge amounts of data from ever-increasing sources, they're discovering that not all data is equal. Some must support mission-critical applications and be constantly available. Other data may be time-sensitive. And still other data is retained simply for historical or regulatory requirements.

One way businesses have chosen to deal with these different types of data is by employing multiple analytical systems; each tuned for its data and workload. These multi-system environments can be very effective when they're designed to add

value, not complexity. However, a multi-system environment introduces new challenges such as cost, multiple products, operational complexity, and the potential for fragmented or multiple versions of data.

### Enter Teradata Unity

Within a Teradata analytical ecosystem – or multi-system environment – Teradata® Unity provides a unique capability to simplify and synchronize systems. Teradata Unity is a redundant system that provides end users with a single access point into the analytical ecosystem. It provides user and query routing between systems, database synchronization, data synchronization, and a query auto resubmit capability all in one product.



In addition, Teradata Unity helps you and your company with high availability and disaster recovery initiatives, as well as workload optimization across your Teradata systems. And it works with all members of the Teradata Purpose-Built Platform Family.

### Meet Your Challenges Head-on

The Teradata Analytical Ecosystem leverages three key Teradata Unity functions to address today's multi-system environment needs:

#### Query Management

Teradata Unity enables routing of users and queries between redundant Teradata systems. This is actually two distinct requirements – routing users to a system that has the data to satisfy their queries and re-routing users during planned or unplanned system outages. These two requirements may differ in their goals, but they provide end users with the same ultimate benefit – continuous, transparent access to data.

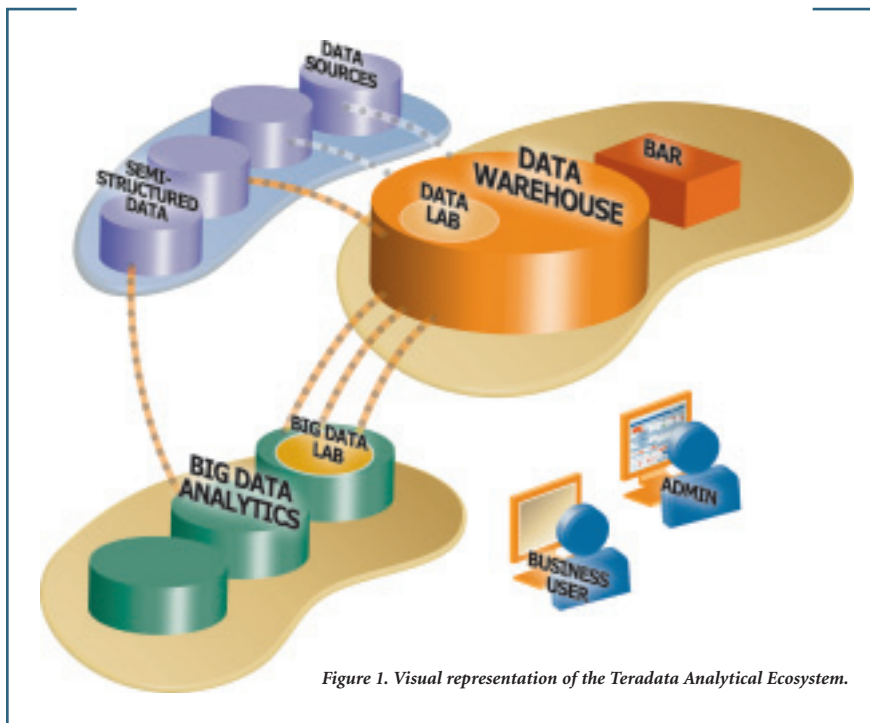


Figure 1. Visual representation of the Teradata Analytical Ecosystem.

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Routing users based on data location requires the ability to direct queries based on SQL objects. Teradata Unity can parse queries and determine which database objects (tables, views, etc.) are available and are needed to fulfill the request. The solution also knows which Teradata systems have these database objects. It will transparently route to the system that can satisfy the request and has the most up-to-date data. This provides the benefit of having the queries handled automatically through database intelligence and does not require a DBA to determine where queries belong. This, in turn, simplifies running multiple active systems each of which is designed and optimized for a specific analytical workload.

Rules-based session routing is needed to direct users for high availability and failover. DBAs predetermine the rules for where user sessions will go during normal operations, and more importantly, where user sessions will go during system outages (planned and unplanned). Forethought and planning are needed to determine how to deal with planned and unplanned outages and which data, applications, and users require high availability based on business priorities.

## **Data and Database Synchronization**

Another benefit of Teradata Unity is the capability to synchronize multiple Teradata systems. Teradata Unity delivers on two levels: data and database synchronization.

The SQL Multicast feature delivers SQL commands to all participating systems in

## **Full-Featured Functionality**

### **Teradata Unity offers you an array of features and benefits, including:**

- > Helps maintain a single view of data across Teradata systems.
- > Provides users with continuous, uninterrupted access to the data warehouse.
- > Enables companies to run a broad range of analytics against data on different purpose-built platforms without the complexity that's usually associated with a multi-system environment.
- > Enables companies to host data and applications on the right sized, right priced Teradata platform for the job.
- > Delivers query routing, database synchronization, and data synchronization across multiple Teradata systems through a single product.
- > Enables user routing between Teradata systems to meet business needs during normal operation and planned and unplanned outages.
- > Routes users automatically to where their data resides.
- > Helps you implement a multi-system environment quickly and more easily.
- > Integrates seamlessly with other Teradata products.

the Teradata analytical ecosystem. Teradata Unity will automatically queue up and dispatch the incoming SQL commands in the order in which they're received, maintaining consistency and integrity across systems.

Through the use of SQL Multicast, Teradata Unity keeps database changes in sync across systems by processing SQL commands (DDL and DCL) in the order in which

they arrive. For example, commands such as CREATE TABLE, ALTER TABLE, and CREATE USER, are processed in order.

Similarly, SQL-based data changes (DML) are kept in sync across systems. Update queries that change data will be executed across participating systems, making the same data changes everywhere they're run. Also, new data coming into the warehouse through SQL-based utilities such as

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Teradata TPump or the Teradata Parallel Transporter Stream Operator will also be applied to all participating systems.

## **Auto Resubmit**

Protection against database restarts can be greatly enhanced in multi-system environments by avoiding the need for users to resubmit queries when the database comes back online. Having to resubmit the query impacts end-user productivity and requires users to know when the database becomes available. Organizations can deal with this inconvenience by embedding logic in their applications that will automatically resubmit queries when the database is

back online. However, doing so puts the burden on IT to custom build and maintain the logic.

If queries abort due to a database restart, Teradata Unity automatically resubmits them to an alternate Teradata system that can satisfy the query. This makes the entire event transparent to the user or application and ensures a better end-user experience that doesn't burden IT.

## **Strengthen Your Analytical Ecosystem**

Teradata Unity's powerful features directly address and overcome the challenges you

face in a multi-system environment. It automates and simplifies tasks that were once viewed as hurdles and enables multiple active Teradata systems to work together as one analytical ecosystem.

## **For More Information**

To find out more about how Teradata Unity can help you make the most of your analytical ecosystem and grow your business, contact your local Teradata representative or visit [Teradata.com](http://Teradata.com).

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