# Teradata and Oracle GoldenGate Real-Time Data Solution

ALLIANCE PARTNER

## Just-in-Time Access to Enterprise Information for Faster, Accurate Decisions and Superior Results

Businesses have become increasingly driven by decisions based on micro-visibility to real-time transactions within their customer base and operations. As a result, data must be accessed, verified, and analyzed at the transaction level—often in real time—to make critical decisions faster than ever.

The demand for real-time, transaction level data within a business unit or across the enterprise is compounded by the exponential growth in data volumes and an IT environment that is typically a poorly connected mosaic of technologies. This creates a need for a solution that can consolidate critical data from different database sources into a single repository, is easy to implement, and has little impact on business-critical operational systems.

The proven, optimized integration between Teradata and Oracle GoldenGate consolidates and synchronizes data across multiple data sources and the Teradata Unified Data Architecture™. With support for the Teradata database on premise or in Cloud, the Teradata Hadoop Appliance and Teradata Unity, the solution delivers information to single departments, corporate resources, and operational users in different locations—in real time.

## Is Real-Time BI Data Really Necessary?

The big data challenge has made it more difficult than ever for operational analytics users to get real-time insight into business performance. These users need to stay ahead of unfolding business events and actually predict what is coming next, while making accurate and informed decisions in near real-time.

Businesses are responding to the demand for up-to-the-minute data by moving their business intelligence (BI) environments from batch load enterprise data warehousing toward active data warehousing. BI teams are evaluating different ways to achieve highly concurrent data in their Teradata platform including:

- Trickle feed data loading (TPump).
- Intraday batch extract-transform-load (ETL).
- Mini-batch data loading.
- Enterprise application integration (EAI).
- Change data capture (CDC).

## Teradata and Oracle GoldenGate

To support end users and influence what should happen next, the Integrated Data Warehouse needs to be in constant step with the underlying operational systems' dynamic data.

This is why a Teradata and Oracle GoldenGate Real-Time Solution, across diverse data sources, has become a leading solution for operationalizing business intelligence and delivering real-time data to a broader audience within the enterprise in a cost-effective, reliable, and low impact manner.

Teradata leverages Oracle GoldenGate Change Data Capture functionality to deliver:

- Real-time data delivery, enabling advanced, agile BI.
- Support for large data volumes and diverse data types.
- Low-impact, high-performance data integration loading into one or more Teradata Databases through Teradata Unity.
- Real-time, low-impact data acquisition that augments current ETL solutions.
- Freedom from reliance on batch windows.
- Exceptional flexibility, easy implementation, and maintenance.
- Robust data recovery after outages.

ORACLE Gold Partner

TERADATA

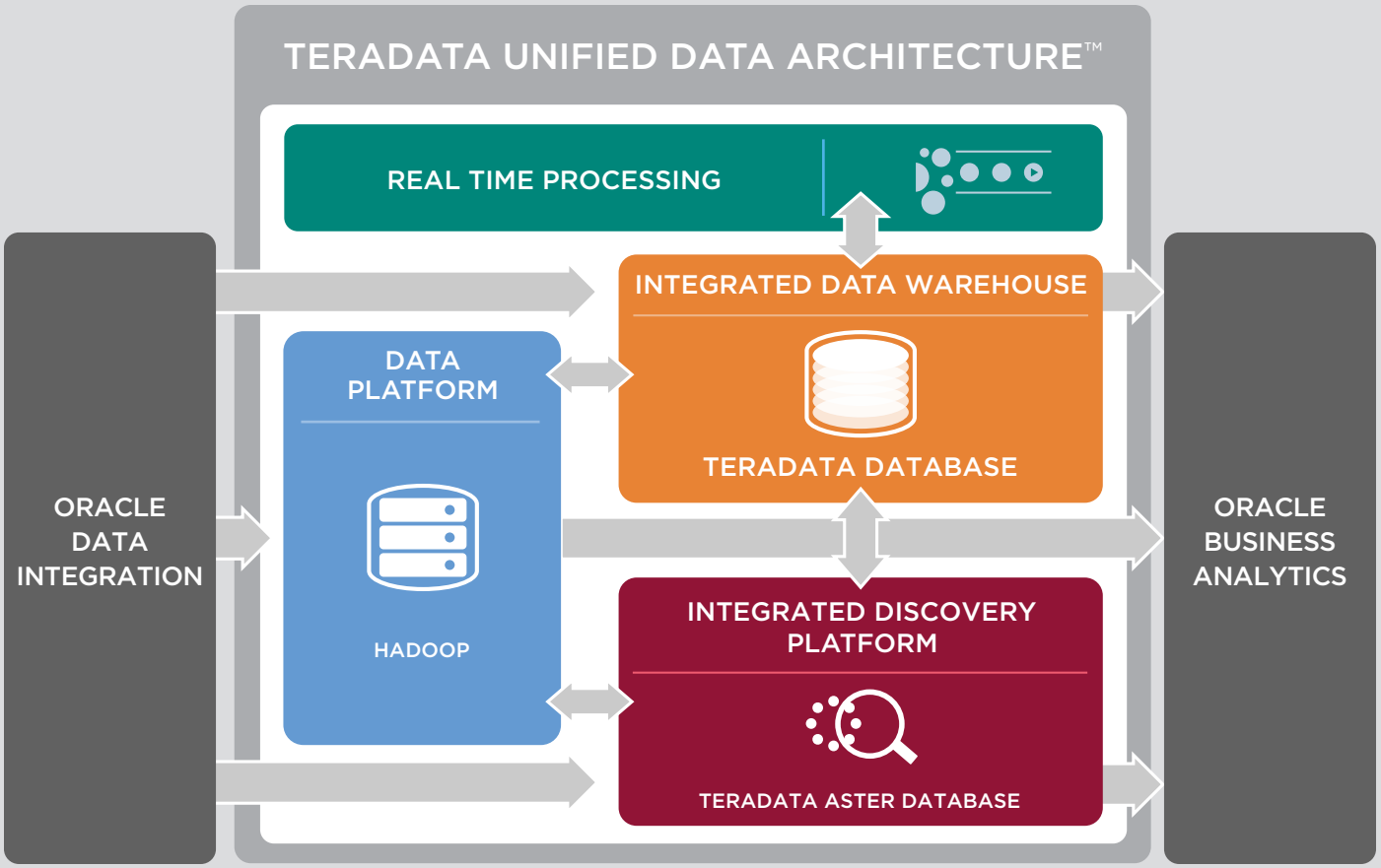


Figure 1.

- Movement of read-consistent data with referential integrity.
- Integration with Oracle Data Integrator for high-performance ELT.

Companies leveraging real-time data—loaded and integrated from multiple sources for BI in their Integrated Data Warehouse from Teradata—for daily operations have seen significant improvements in efficiency, quality, and customer service.

## Teradata and Oracle GoldenGate Real-Time Solution: How Does it Work?

Oracle GoldenGate moves data between heterogeneous databases to the Teradata Database (See Figure 1). This can be from DB2, SQL Server, Oracle, flat-file or many other supported data sources.

The software operates at the database level, and the capture component is typically installed on the source database server outside of the DBMS.

- GoldenGate Capture reads native transaction logs and captures transactions as soon as they commit, and takes them outside of the database system to be queued. It only moves changed, committed transactional data—and therefore operates with extremely high performance and very low impact.
- It allows filtering at table, column and/or row level. Transformations can be applied at this capture stage or later when delivering.
- GoldenGate then converts the committed transactions into a universal data format stored in trail files.
- Using source and target trail files, it eliminates any single point of failure and ensures data integrity is maintained, even in the event of a system outage.
- GoldenGate pumps the data to the GoldenGate Delivery component.

This configuration enhances the fault tolerance and reliability of the overall GoldenGate environment. In the event of a network failure (between the source and the target systems), the GoldenGate Capture component can continue to capture transactions since the data can be

queued up locally on the source system within trail files, enhancing the recoverability in case of database failures.

- The GoldenGate Delivery module is installed on the mid-tier server, where Queued Transactions are stored in the trail files and applied to the target Teradata Database through the Teradata ODBC Driver using native SQL. For environments consisting of multiple Teradata Database instances, such as disaster recovery and distributed workload, GoldenGate can be used with Teradata Unity for automated data synchronization across multiple systems.
- By comparing data points and ensuring they are consistent, companies decrease their risk exposure, especially where the data is used for regulatory compliance.
- Knowing that the data in the Teradata Database matches the data from the source OLTP systems and other diverse databases confirms users' ability to get a single view of the data.

## Teradata and Oracle GoldenGate Real-World Customer Solutions

### A U.S. Media Provider

Business Challenges:

- Offload transactions from Oracle's Siebel CRM to Teradata Integrated Data Warehouse
- Meet corporate-wide SLA: Perform analysis and decision support on data that is 15 minutes old
- Handle growing data volumes: 150–200 million records per day into the Teradata Integrated Data Warehouse
- Improve field technicians' responsiveness by optimizing call routes
- Support major hardware migration without application downtime

The Teradata – Oracle GoldenGate Solution Benefits:

- Successfully off-loaded real-time data from production Siebel/Oracle system to Teradata Database
- Supports multiple databases, applications, and platforms
- Moves Oracle's Siebel CRM data to the warehouse with latency of only 1.5 seconds.
- Loads 150–200 million records per day into Teradata Database.

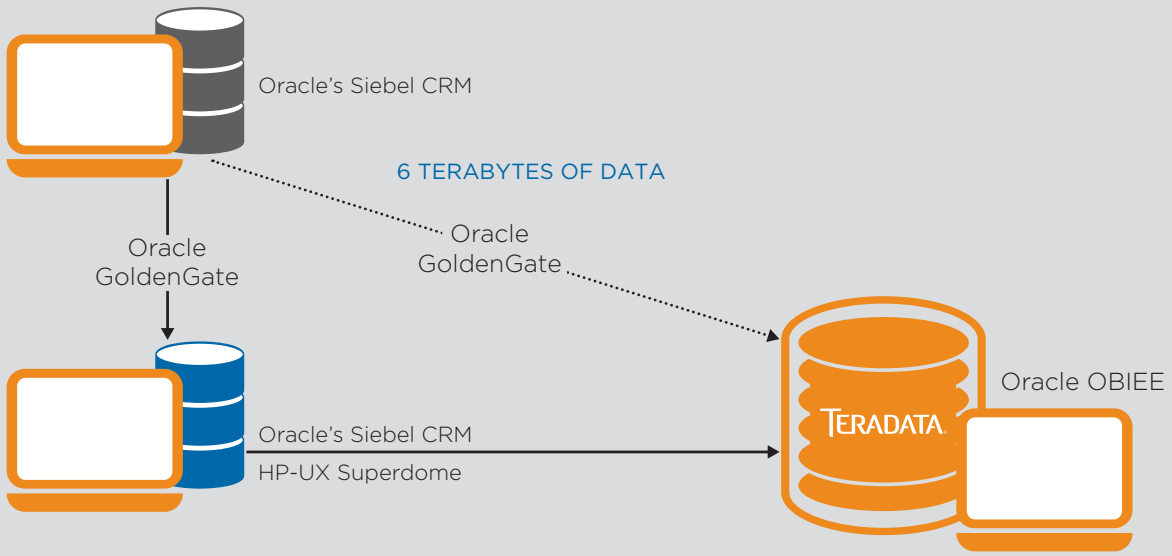


Figure 2. Real-Time Warehouse and Migration

## Teradata and Oracle GoldenGate Delivers:

- Real-time data for a broader enterprise audience.
- A cost-effective, reliable, and low impact real-time data solution.
- Real-time data loaded from multiple sources in the enterprise data warehouse from Teradata for BI and daily operations.
- Significant improvements in efficiency, quality, and productivity.
- Support for end users to influence what should happen next by staying in constant step with the operational systems' constantly changing data.

### Benefits

- Support for Teradata Unity, Teradata Cloud, and Teradata Hadoop Appliance.
- Real-time data for enabling more-advanced, agile BI.
- Support for large data volumes and heterogeneity.
- Low-impact, high-performance data integration loading into Teradata Database.
- Freedom from reliance on batch windows.
- Real-time, low-impact data acquisition which augments existing ETL.
- Exceptional flexibility, easy implementation, and maintenance.
- Robust data recovery after outages.

### Differentiators

- Sub-second latency for data movement.
- Low-impact capture, routing, transformation and delivery of transactional data.
- Open, modular architecture.
- Supports heterogeneous sources and targets.
- Agile and adaptable to modern data integration architectures.
- Maintains transactional integrity.
- Resilient against interruptions and failures.
- Fast recovery after process interruptions.
- Integration with Oracle Data Integrator for high-performance ELT.

For more information, contact your Teradata representative, or visit **Teradata.com/Partners/Oracle-Corporation**.

10000 Innovation Drive, Dayton, OH 45342 **Teradata.com**



08.15 EB4261

ORACLE Gold Partner TERADATA