



# Oracle GoldenGate Veridata

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## Oracle GoldenGate Veridata Overview

In today's complex, hybrid (Cloud and On-premises) IT environment with the same data stored in multiple locations, or while migrating the data from one system or application to another, some data discrepancies are almost inevitable. If not discovered and addressed, bad data can lead to poor decision-making; failed service level agreements; and ultimately, operational, financial, and legal risk. Oracle GoldenGate Veridata 12c provides an easy-to-use yet powerful solution for identifying out-of-sync data before it negatively impacts the business. While Oracle GoldenGate Veridata can work independently of Oracle GoldenGate's real-time data integration and replication solutions, deployed together the products help ensure your most critical data is continuously available, up to-date, and consistent.

### ORACLE GOLDENGATE VERIDATA

#### KEY FEATURES

- High-speed, efficient heterogeneous data comparison and repair
- Comparisons while both data sources are online
- Low impact by performing processing outside of the database
- Selective, parallel comparison
- Support for Oracle and non-Oracle databases, and very large volumes
- Flexible reporting for varying roles and access levels
- Intuitive Web interface
- Unattended execution

#### KEY BENEFITS

- Enhance enterprise data integrity
- Reduce the time and resources required for data validation
- Nonintrusive operation to enable real-time data comparison without impacting performance
- Resolve data replication issues

Oracle GoldenGate Veridata 12c is a high-speed, low-impact, heterogeneous data comparison, and repair solution. Working primarily outside of the database system it quickly identifies, reports on, and fixes data discrepancies between databases without interrupting the ongoing business processes automatically.

The new Oracle GoldenGate Veridata 12c release also gives users the power to selectively repair and revalidate any out of sync data through intuitive user interface or by generating the repair SQL file, and execute the file later in their own database tools. Using this application, companies can audit and verify large volumes of data shared across different business applications with absolute certainty. Oracle GoldenGate Veridata 12c reduces the amount of time and the number of resources required to compare data, minimizes the impact of human errors, and accelerates the discovery of potential problems for rapid resolution. Some of the key use cases and related benefits are as follows:

## New Features in Oracle GoldenGate Veridata 12c

Oracle GoldenGate Veridata 12c brings many new features. Some of the key new features are described as follows:

### ORACLE GOLDENGATE VERIDATA

Oracle GoldenGate Veridata provides a rapid, robust platform to compare and repair data accuracy across systems to ensure enterprise data integrity.

### RELATED PRODUCTS

The following products enable organizations to more completely optimize their infrastructure for real-time and accurate information

- Oracle GoldenGate
- Oracle GoldenGate Foundation Suite (Veridata, Management Pack, and Studio)
- Oracle Management Pack for Oracle GoldenGate
- Oracle GoldenGate for Big Data
- Oracle Stream Analytics
- Oracle Active Data Guard

### Generate Repair SQL

The new generate repair SQL feature in Oracle GoldenGate Veridata generates the repair SQL statements that you can execute by yourself on any of other database tools. It allows you to review the repair SQL statements prior to updating the database environments. This option is in addition to the existing automated repair functionality provided by Veridata. It allows users to fix out –of-sync data with a single click and gives the ability to select which tables and rows should be repaired and when. By accelerating the resolution of data discrepancies, it further increases IT productivity.

### Delta Comparison

Oracle GoldenGate Veridata compares a source database table to the target database table. When all the rows in the table are compared, it is a Full Comparison Job. During the subsequent runs of a comparison job, the comparison of the tables can be performed based on what has changed in the tables from previous job run; these jobs are Delta Processing Jobs. Delta processing is suitable for use with very large Enscribe files and SQL tables that, otherwise, would take long time to Process.

### Auto Key Column Mapping

In the absence of unique identifiers, such as the primary keys and unique indices, which can uniquely identify each row, the user needs to manually define any column or columns to be used as a unique identifier. These mappings are automated by using the Auto key column mapping options in the Manual Mapping tab and the Pattern Mapping tab. It boosts the productivity, and remove the user's lot of redundant work.

### Big Data Hive Comparison

The Veridata is true heterogeneous comparison product, which helps users validate the Big Data Hive as source/target. The user can validate the data ingested into Hive just like any other relational database. The hive end point can be compared with any other Veridata supported database. For example, SQL Server to Hive, Teradata to Hive, etc.

## High Availability

The need of continuous verification using the GoldenGate Veridata tool is truly fulfilled by providing the High Availability support for Veridata Product. The GoldenGate Veridata supports the Active/Passive High Availability. That means if your Primary Veridata server is down, all the new requests will be served by the secondary Veridata server. Veridata Agent also supports the HA using VIP.

## Large Partition Tables Comparison

Oracle GoldenGate Veridata supports selecting a subset, or partition, of rows for comparison by means of a SQL predicate statement or Enscribe partition range. Using partitions allows you to compare source and target tables or files that have the same structure but a different number of rows. For example, you could compare a production table to a data warehouse table that may contain more rows because of historical data. Using raw partitions speeds throughput by splitting the load into multiple processing streams.

## Scripting Tool

The scripting tool allows users to bypass the interface and bulk load comparison configurations from an XML file directly into the Oracle GoldenGate Veridata repository. This reduces the time required to define repetitive tasks, creates re-usable configurations, and ensures that the test configuration mirrors the production environment. The existing GoldenGate users can create comparison pairs from their existing Parameter files to boost the productivity and consistency across various replication and verification tools.

## IPv6 Support for Java Agents

The Oracle GoldenGate Veridata provides IPv6 support for Java agents.

## Purging Old Reports and Repository

The Purging feature helps users remove unwanted job reports and data to better control the disk size and report volumes. Along with that, the Veridata repository can be purged to better sized your repository database and improve the database performance.

## Support for Single Sign-On

Oracle GoldenGate Veridata supports single sign-on (SSO) mechanism for authentication. To configure SSO, users set the SSO properties for GoldenGate Veridata Server and configure the logout URL for the SSO session.

## Active Directory

Oracle Veridata is integrated with Active directory so that you can continue manage all your network resources (Users, groups, applications) using Active Directory. The new Active Directory roles are created in Veridata.

## Security Enhancements

Oracle GoldenGate Veridata supports the following security enhancements:

- Support for Secure Sockets Layer (SSL) Communication - Oracle GoldenGate Veridata supports both Secure Sockets Layer (SSL) and plain socket communication between the GoldenGate Veridata Server and multiple Veridata Agents that are connected over a network.
- New security roles for Oracle GoldenGate Veridata users. IT teams can assign security roles to GoldenGate Veridata users to control their access to the product functions some of which expose selected data values from the database.
- Oracle GoldenGate Veridata provides you with an option to encrypt the comparison report files (.rpt, .oos, .oosxml).
- Vericom utility provides an option to read the password directly from the Oracle wallet.

## Installation via Oracle Universal Installer

Starting with the new 12.1.3 release, Oracle GoldenGate Veridata uses Oracle Universal Installer (OUI) to install and configure the Oracle WebLogic Server domain that hosts the Veridata.

## Perform Data Migration Validation Before Switching Over

Any time data is relocated or consolidated, it runs the risk of becoming invalidated or lost. The larger and more complex these migrations are, the greater the risk. These data migration events are also prime opportunities to ensure legacy data has not been stored using out of bounds national characters or bad dates, which often result in unusable data or nulls. This type of invalid legacy data is the most common issue Oracle GoldenGate Veridata discovers; its cause often lost in history. Before moving users to a new system, it is prudent to first ensure that all data, new and old, has been validated and repaired.

## Make Sure High Availability Also Means Highly Accurate Data

Fast bulk load operations that bypass transaction (redo) logs on source systems, evolving conflict detection routines in multi-master replication configurations, and human error are common causes of why some of the standby systems in high availability (HA) solutions become out of sync. Using Oracle GoldenGate Veridata on a regular basis for HA systems helps quickly identify and fix data discrepancies so that IT teams focus on identifying and fixing their root causes.

## Achieve Single Source of Validated Data

Data integration solutions often feed a consolidated “single source of truth” system from many source systems. The team managing the consolidated (target) environment

## Enhance Compliance and Auditing Procedures

As compliance requirements expand, corporations and their executives are expected to maintain extraordinary levels of accountability. Oracle GoldenGate Veridata helps companies ensure the accuracy of the enterprise data reflected in their statements, so they can quickly and confidently comply with regulatory demands.

The screenshot displays the Oracle GoldenGate Veridata web interface. The main content area shows a 'Job MyVeridataComparison' report. The report includes a summary table for Compare Pairs, Rows, Inserts, Updates, Deletes, and Bytes. Below this is a section for 'Repair Configuration Options' with fields for Database User Name, Password, and Job Profile. The main section shows '1 Repair Groups' with a table of comparison results for 'MyVeridataComparison' and 'JAN03JAN13'. A detailed view of 'Out-Of-Sync Rows Details' is also shown, listing columns like \*CUST\_CODE, CREATE\_DATE, NAME, CITY, and STATE, along with their status and operation.

Compare Pairs	Rows	Inserts	Updates	Deletes	Bytes
Initial Out-Of-Sync	3	1	1	1	
Repaired	0	0	0	0	
Failed Repair	0	0	0	0	
Not Repaired	1	3	1	1	

Rows	Inserts	Updates	Deletes	Bytes
Initial Out-Of-Sync	3	1	1	1
Repaired	0	0	0	0
Failed Repair	0	0	0	0
Not Repaired	3	1	1	1

Select	Status	Operation	*CUST_CODE (VARCHAR2)	CREATE_DATE (DATE)	NAME (VARCHAR2)	CITY (VARCHAR2)	STATE (CHAR)
<input checked="" type="checkbox"/>	🔴	Update	100	2012-05-20:00:00:00	tsalPTEfaWeb	MARPWFA8CII	PG
<input checked="" type="checkbox"/>	🟡	Delete	200	2014-07-03:02:00:05	Larry Kurian	Washington D.C.	VA
<input checked="" type="checkbox"/>	🟡	Delete	200	2014-07-03:02:03:23	Elin Helleon	Marzen	P1
<input checked="" type="checkbox"/>	🟡	Insert	99	2012-01-28:00:00:00	tsbcOkvTrkHegku	MILB8Q	GP

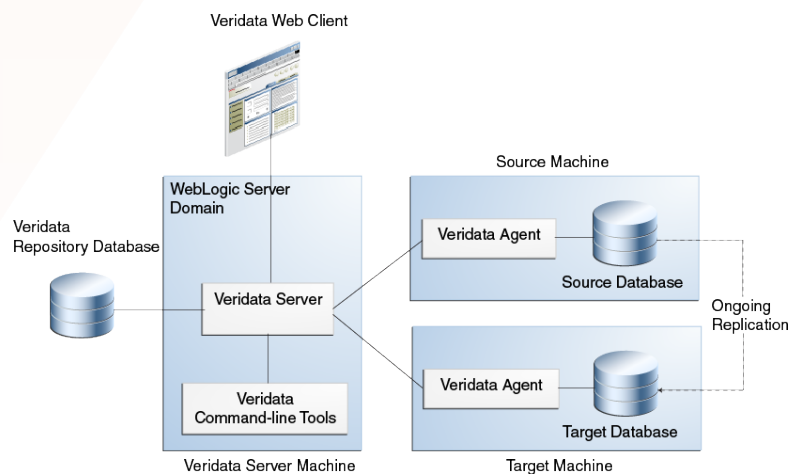
Detailed reports and repair feature allow fast identification and resolution of out-of-sync data

## User-Friendly Architecture for Rapid Data Discrepancy Detection

Oracle GoldenGate Veridata introduces a patent-pending technology that operates against live databases to selectively compare datasets at very high speeds with very little impact on the infrastructure and then fix any out-of-sync data.

The application provides details on tables, rows, and columns that are persistently out of synch, allows users to quickly fix any discrepancies, and enables users to spend their time more productively on researching root causes and determining how to avoid future risk.

Through a graphical user interface, a user can quickly select pertinent tables or data fields on the source and target databases to begin the comparison process. As the data on the source and target continue to change due to ongoing data replication, Oracle GoldenGate Veridata identifies in-flight records to accurately report persistent discrepancies. Users have the flexibility to determine how to handle in-flight data based on their own business requirements.



Oracle GoldenGate Veridata enables the rapid detection of inconsistent data across applications. It is a standalone product that runs independently of Oracle GoldenGate.

## Key Features and Benefits

Oracle GoldenGate Veridata provides the following features and benefits to help organizations maintain data consistency across the enterprise.

### Heterogeneous Compare and Repair

Identify and fix out-of-sync data between heterogeneous database environments including Oracle, Oracle Autonomous Databases (ADW, ATP, DBCS), SQL Server, MySQL, DB2 LUW, DB2 for i, DB2 zOS, Informix, Sybase ASE and Teradata. For HP's Enscribe, SQL/MP systems and Big Data Hive Oracle GoldenGate Veridata offers heterogeneous data comparison without the repair feature. Generate Repair SQL helps review the repair changes prior to be committed in the database, and is currently supported for Oracle database only.

### **High Performance with Low Impact**

On very dynamic or large systems, data can change faster than it can be compared. Oracle GoldenGate Veridata is capable of handling high data volumes without impacting the system and network infrastructure by quickly hashing, ordering, and comparing the data outside of the database system.

### **Selective, Parallel Comparison**

Business applications use a variety of structures to store data in databases. To compare data across a variety of implementations, Oracle GoldenGate Veridata offers selective comparison capabilities and the ability to run multiple comparison tasks concurrently. Unlike an all-or-nothing approach, Oracle GoldenGate Veridata allows users to pick and choose which rows and columns to compare, so only pertinent data is processed and relevant differences are highlighted.

### **Intuitive, Easy-to-use Interface**

Oracle GoldenGate Veridata uses an intuitive Web interface to support common navigation and workflow activities to configure, operate, and monitor the solution. It allows user-based personalization and enables both technical and business users to quickly become productive. Data comparisons can also be created and ran from the command line using the Scripting and Vericom utilities, respectively. The auto-key column mapping helps automatically select the key columns for tables which doesn't have primary or unique keys defined in it.

### **Role-Based Security**

Oracle GoldenGate Veridata offers selective access based on user roles, which increases security and minimizes errors.

### **Reduced Risk Exposure**

Knowing about data inconsistencies can help address issues before they impact business operations. Oracle GoldenGate Veridata identifies data discrepancies so that corrective measures can be quickly taken.

### **Nonintrusive Operation**

With its ability to compare in-flight transactions, Oracle GoldenGate Veridata supports databases that are in use without interrupting business operations. Combining a light footprint and groundbreaking technology, the application imposes minimal impact on technology infrastructure.

### **Real-time Results**

With Oracle GoldenGate Veridata, comparison status and statistics are available via real-time updates. Graphical illustrations and detailed reports clearly convey the key results and specific data disparities so that IT can take immediate corrective action. If there are no inconsistencies, users can document the accuracy of their data for regulatory compliance reporting needs.



For more information and a short demonstration of the product please review Oracle GoldenGate Learning Stream video: <https://www.youtube.com/channel/UCQZN-1TrusmKNLgJbq5SxNQ>

## Summary

Data discrepancy can cause inaccurate decision-making; failed service-level agreements among many other undesired outcomes. Hence, it carries major operational, financial, and legal risks to businesses. Oracle GoldenGate Veridata 12c provides high-performance, low-impact, and heterogeneous data comparison and repair capabilities across live databases. The product makes identifying and fixing out-of-sync data easier and faster, and enables data integration, migration, and high availability solutions with validated data consistency.

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