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# Oracle - GoldenGate Statement of Direction

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## Purpose

This document provides an overview of the strategic product plans for GoldenGate products and related high availability and data integration products from Oracle. It is intended solely to help you assess the business benefits of investing in Oracle's high availability and data integration solutions and the added benefit brought by Oracle's acquisition of GoldenGate Software.

## Introduction

In September 2009, Oracle completed the acquisition of GoldenGate Software, the leader in providing heterogeneous real time data across the enterprise for purposes of real time data integration, data replication, data streaming, high availability, and data center cost reduction. GoldenGate extends the Oracle Fusion Middleware product family, providing critical real time data needs for heterogeneous databases working with heterogeneous applications.

The GoldenGate technology relates to existing Oracle products and features, including:

- Oracle Active Data Guard
- Oracle Streams
- Oracle Data Integrator Enterprise Edition

GoldenGate Software's product offerings will continue as a strategic part of Oracle Fusion Middleware under the name Oracle GoldenGate.

This document clarifies Oracle's strategic intent regarding GoldenGate and related Oracle products.

## High Availability

Oracle provides a comprehensive continuous availability solution-set for protecting against all types of planned and unplanned downtime. The following products are key components of Oracle's high availability solutions.

### Oracle Active Data Guard

Oracle Data Guard provides disaster recovery (DR) and data availability for the Oracle Database, enabling very fast failover to a physical standby database in the event of a failure. Oracle Active Data Guard enables the physical standby database to be open for read-only traffic, and also used for fast incremental backups. This allows customers to better leverage their existing DR investment and increase the performance of the production database by offloading query and backup processing to the physical standby database. Oracle Active Data Guard also provides transparent data protection by automatically repairing corrupted data blocks on the primary database using the valid data blocks from the physical standby database, and vice versa.

Oracle Active Data Guard continues to be the strategic disaster recovery and data protection solution for Oracle databases, ensuring the physical standby database remains synchronized with the primary database through synchronous or asynchronous transmission of redo blocks at very low latencies to ensure continuous availability.

## Oracle Logical Standby Database

Oracle Data Guard has another mode of operation, called SQL Apply. This method can be used in conjunction with a physical standby database to minimize planned downtime when upgrading to new Oracle Database releases or patch-sets (transient logical database rolling upgrade process). In this mode, the target database is open and available for read only operations.

## Oracle GoldenGate

Oracle GoldenGate delivers an enterprise-wide solution for all heterogeneous real time data access, streaming and delivery needs. By reading database logs, Oracle GoldenGate avoids any impact to the source database and ensures reliable, transactionally consistent delivery of database transactions across wide area or local networks. Optimized for performance and reliability, Oracle GoldenGate achieves very low latencies with extreme data volumes and has proven reliability under all kinds of failure conditions. With its flexible, modular architecture, Oracle GoldenGate solves a wide range of high availability challenges, including active-active deployments, data distribution for infrastructure cost reduction and high availability, and zero downtime migrations and upgrades.

Oracle GoldenGate is the strategic replication solution for Oracle Databases and for heterogeneous databases, with proven success in a wide range of demanding industries and mission critical use cases.

## Oracle Streams

Oracle Streams was deprecated in Oracle Database 12c (12.1) and Oracle GoldenGate is the strategic direction for all replication needs. Oracle Database 18c is the terminal release for support of the Oracle Streams. Oracle Streams will be de-supported from Oracle Database 19 onwards.

For further information, please read the following [content](#).

## Product Integration Plans

Oracle Active Data Guard and Oracle GoldenGate will continue as separate products that offer additional advantages when used together. For example, a centralized global manufacturing database may be protected using an Active Data Guard physical standby, set up with Data Guard Fast-Start Failover with synchronous redo transport, ensuring zero data loss and integrated failover of applications in the event of an outage at the primary data center. At the same time, using Oracle GoldenGate, it is possible to set up bi-directional replication configurations from this central database to smaller regional databases supporting local manufacturing operations. These may be non-Oracle databases, and they could also be configured in a hardware and OS platform that is different from that of the central database. Enabling such a fully active, globally distributed and highly available configuration is one of the unique value propositions of implementing Oracle GoldenGate together with Oracle Active Data Guard.

There is no other solution available in the market that offers such flexibility and functionality.

## Data Integration

Leading companies have recognized the importance of taking a strategic approach to data integration to reduce costs, enable business intelligence, and unlock operational efficiencies. Oracle offers a complete set of data integration solutions, including the following products.

### Oracle Data Integrator Enterprise Edition

Oracle Data Integrator Enterprise Edition delivers high-performance movement and transformation of heterogeneous data in batches and mini-batches. For use in data warehousing, business intelligence, application integration, and service oriented architecture use cases, Oracle Data Integrator Enterprise Edition uses heterogeneous databases to perform high speed complex data transformations and leverage existing resources. With its flexible, modular architecture and declarative design methodology, Oracle Data Integrator Enterprise Edition helps companies reduce the total cost of ownership for data integration. In addition, Oracle Data Integrator Enterprise Edition integrates with Oracle's and third party data quality products.

Oracle Data Integrator Enterprise Edition remains the strategic data integration product from Oracle for ETL, ELT, batch integration, mini-batch integration, and bulk transformation. The changed data capture functionality included with Oracle Data Integrator Enterprise Edition is suitable for periodic, ongoing loads for a data warehouse.

### Oracle GoldenGate

As Oracle's solution for enterprise-wide heterogeneous real time data access and delivery needs, Oracle GoldenGate complements Oracle Data Integrator Enterprise Edition for data integration. By reading transaction logs, Oracle GoldenGate imposes minimal impact on transactional systems and maintains transactional integrity across databases. Oracle GoldenGate moves data with very low latencies in the most demanding operational and business intelligence environments.

Oracle GoldenGate is Oracle's strategic solution for real time data integration. It enables non-invasive operational reporting and other types of query offloading by maintaining a real-time replica that can be on a different database platform and less expensive hardware. In combination with Oracle Data Integrator Enterprise Edition for transformation, Oracle GoldenGate makes real time business intelligence possible, allowing companies to combine insight about the current state with historical context.

### Product Integration Plans

Oracle Data Integrator Enterprise Edition and Oracle GoldenGate will continue as separate products that offer additional advantages when used together. Product integration plans include, for example, allowing Oracle GoldenGate to move data from source to target in real time and directly populate the change data capture tables of Oracle Data Integrator so it can perform streamlined complex transformations into the warehouse schema. This will reduce even further the end-to-end latency for real time data warehousing.

With its next generation data integration platform, Oracle envisions even greater synergies between bulk data movement and transformation and real time data movement. Early designs include leveraging a shared metadata

environment and shared design platform. Existing customers will be carried forward to the next generation data integration platform from any of Oracle's existing data integration products, including Oracle GoldenGate.

## Ongoing Heterogeneous Database Support

Oracle GoldenGate is optimized for a wide range of databases to provide the best performance for capturing and delivering data in heterogeneous environments. At its core, GoldenGate has been designed to abstract the differences between databases, whether open systems, relational, legacy, or open source. Database-specific optimizations are also a fundamental part of the GoldenGate modular product architecture.

Database-specific optimization and heterogeneity will remain critical product goals under Oracle's direction.

### Oracle Database

By improving the integration with the Oracle database, Oracle GoldenGate continues to excel in terms of performance and functionality as the best data replication solution for the Oracle Database. Customers of Oracle GoldenGate will also get an added benefit on the Oracle Database platform because Oracle Active Data Guard will be included for disaster recovery and data protection as part of the same software license for Oracle GoldenGate.

### Microsoft SQL Server

As part of its commitment to heterogeneity, Oracle Data Integration, particularly Oracle GoldenGate and Oracle Data Integrator, are designed to provide optimized support for SQL Server databases. In addition to delivering into SQL Server, Oracle GoldenGate has supported Capture from SQL Server (2008, 2008R2, 2012, and 2014) via direct access to its transaction log. Unfortunately, Microsoft decided to end the program under which Oracle can read the SQL Server transaction log using private APIs. As a result, Oracle may no longer license GoldenGate for SQL Server "Classic Capture" to new customers who had not purchased an Oracle GoldenGate for Non-Oracle license prior to June 1, 2016.

For all new customers since June 1, 2016, a new GoldenGate for SQL Server "CDC Capture" is available. This newer CDC Capture method utilizes Microsoft's Change Data Capture features to stage DML operations, and therefore the runtime characteristics of GoldenGate for SQL Server (e.g. object and data type support, process overhead, and performance) are now more dependent and integrated with the SQL Server engine itself. Going forward, this will be the preferred component for additional new functionality for GoldenGate with Microsoft SQL Server. The Oracle commitment to heterogeneity in database platform support is unchanged and the Oracle GoldenGate team will continue to invest accordingly in our support for SQL Server.

### Hewlett Packard Platforms

GoldenGate Software had its origins on the HP NonStop platform, and many customers running HP NonStop systems have standardized on GoldenGate for high availability. It is strategically important to Oracle to continue delivering the industry's best support for HP NonStop systems. With Oracle's world class Customer Support organization, Oracle will support the mission critical operations of existing GoldenGate and any new Oracle GoldenGate customers. Oracle will also continue to innovate and enhance the GoldenGate technology to attract more customers and expand to broader use cases with HP Nonstop platforms.

Oracle has also stated its HP Itanium plans [here](#) and Oracle GoldenGate will adhere to those standards and requirements as set forth by the court's rulings. Oracle GoldenGate is planning to support newer HP Nonstop systems based on x86-architecture.

## IBM Database Platforms

For over 30 years, Oracle and IBM have had a robust relationship around technology innovation. IBM has a team of engineers onsite at Oracle and moves hundreds of IBM servers into Oracle labs for development and support. Oracle GoldenGate supports IBM databases on both the IBM mainframe platform and open systems platforms. Oracle is prepared and committed to support these customers and to continue to invest in the GoldenGate technology on IBM mainframe and open systems platforms.

## Teradata

Known for its flexibility and heterogeneity, Oracle Fusion Middleware products, particularly Oracle Hyperion, Oracle Business Intelligence, Oracle GoldenGate, and Oracle Data Integrator, are designed to provide optimized support for Teradata Database. In addition to delivering into Teradata, Oracle GoldenGate has supported capture from Teradata via the jointly-developed Teradata Access Module (TAM), which is a key requirement for Oracle GoldenGate's ability to capture from Teradata. Oracle GoldenGate currently supports real-time change data capture for Teradata 14.0, 14.10 and 15.10 using TAM 13.10. Unfortunately, Teradata has decided to stop the support for Teradata Access Module beyond version 13.10. As a result, Oracle GoldenGate 12.1.2 will be the terminal release for capturing changed data from Teradata. Oracle will continue to work closely with Teradata to optimize Oracle GoldenGate to deliver to Teradata as a replication target.

## Other Heterogeneous Databases

Oracle GoldenGate supports many other heterogeneous databases, including Informix, Sybase, and MySQL. As part of the Oracle Fusion Middleware strategy, Oracle will continue to invest in this kind of broad heterogeneous database support to ensure Oracle GoldenGate can be the single enterprise-wide infrastructure for all real time data distribution needs.

## Big Data Support

Oracle GoldenGate supports several Big Data targets such as HDFS, Hive, HBase, Kafka, Flume and other NoSQL databases. Big Data is a strategic area for Oracle and we will continue to invest into a broad range of Big Data technologies for helping enterprises lower their total cost of ownership and improve productivity.

## Ongoing Heterogeneous Application Support

GoldenGate Software has fostered strong and long-standing partnerships with some key application vendors. As part of the Oracle Fusion Middleware product family, Oracle GoldenGate will continue to support existing application partnerships and will seek to expand into new Oracle and third party applications.

## Oracle Applications

Oracle recognizes the value of the GoldenGate technology for helping applications customers avoid downtime and for sharing the critical data assets of those applications for real time business intelligence. GoldenGate Software initiated development to support the Siebel applications, and Oracle intends to extend support into additional application areas.

## ACI Worldwide

ACI Worldwide and GoldenGate Software have partnered for many years to enable continuous availability and real-time data integration solutions for ACI customers. Oracle's product strategy is to continue to support and optimize for ACI's BASE24™ applications with Oracle GoldenGate. Oracle's Customer Support organization will also deliver world class support for these mission critical implementations.

## Amdocs

GoldenGate Software and Amdocs have partnered to improve the performance and availability of Amdocs' CRM, billing and e-commerce applications and to provide end users with the critical, real-time information they need to make better business decisions. With the Oracle Fusion Middleware product family, Oracle intends to continue this partnership and will continue to support all existing customers.

## Cerner

Cerner and GoldenGate Software partnered to deliver continuous operations and real-time data integration for customers running Cerner Millennium® applications. Oracle places strategic importance on the healthcare market and intends to continue this partnership and will continue to support all existing customers.

## Conclusion

As the leader in supplying heterogeneous real time data needs, GoldenGate Software is a very strategic acquisition for Oracle. Under the new product name Oracle GoldenGate, Oracle will continue to invest in the GoldenGate technology and pursue integrations with existing Oracle products.

The table below summarizes the product plans for Oracle's data movement technologies.

SUMMARY OF ORACLE'S DATA MOVEMENT TECHNOLOGIES		
PRODUCT	PRODUCT PLAN	DESCRIPTION
Oracle GoldenGate	Strategic	<ul style="list-style-type: none"><li>• Enterprise-wide data distribution and data replication</li><li>• Zero downtime upgrades and migrations</li><li>• Active – Active replication and high availability</li><li>• Real time non-invasive data integration and replication</li></ul>
Oracle Active Data Guard	Strategic	<ul style="list-style-type: none"><li>• Disaster recovery and data protection for Oracle Database</li><li>• Leverage existing physical standby database for queries and backups</li></ul>

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Oracle Data Integrator  
Enterprise Edition

Strategic

- High performance bulk data movement and transformation
  - Data lineage, data integrity, data integration workflow and scheduling
  - Load data warehouses, integrate heterogeneous data
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Support and optimization for heterogeneous databases remains a critical part of Oracle's strategy with the Oracle GoldenGate product. Heterogeneous database support for Oracle GoldenGate includes Enscribe, HP NonStop SQL, IBM DB2, Informix, Microsoft SQL Server, MySQL, Sybase, Teradata and several Big Data technologies.

Oracle GoldenGate will also continue to support third party applications and will become even more valuable to partner applications as the need for zero downtime upgrades increases.

Oracle is committed to the existing customers of GoldenGate as well as customers of Oracle's existing data integration and high availability products, and will continue to pursue our collective success.



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