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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, 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 Data Guard and 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 Oracle GoldenGate and related Oracle products.

High Availability & Disaster Recovery

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 Data Guard and Oracle Active Data Guard

Oracle Data Guard provides disaster recovery (DR) and data availability for the Oracle Database, enabling very fast failover to a standby database in the event of a failure in the primary database. Oracle Active Data Guard extends the physical standby database to be open for read-only traffic, and also 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 (up to 30)

physical standby databases. 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 Data Guard and Oracle Active Data Guard are exclusively for Oracle to Oracle replication, where the database schemas are identical and the computing platforms have the similar architecture. Because replication is at the physical block level, and no data or schema transformations take place, this is the fastest replication possible.

Oracle Data Guard with the Oracle Active Data Guard option continues to be the strategic disaster recovery and data availability solution for Oracle databases.

Oracle GoldenGate

Oracle GoldenGate delivers an enterprise-wide solution for heterogeneous real time data access and delivery needs. Oracle GoldenGate works across different databases, platforms and schemas, and supports active-active configurations. 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. With its flexible, modular architecture, Oracle GoldenGate solves a wide range of high availability challenges, including active-active deployments, multi-master 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 Database and for heterogeneous databases, with proven success in a wide range of demanding industries and mission critical use cases.

Oracle Streams

Oracle Streams is a built-in feature of the Oracle Database that allows information sharing among multiple Oracle databases. With Oracle Streams, transactional changes and events are captured, propagated and applied within an Oracle database or between Oracle databases, creating a flexible replication solution for a homogeneous all-Oracle environment.

Given the strategic nature of Oracle GoldenGate, Oracle Streams will continue to be supported, but will not be actively enhanced. Rather, the best elements of Oracle Streams will be evaluated for inclusion with Oracle GoldenGate.

Current customers depending on Oracle Streams will continue to be fully supported, and Oracle Streams customers should continue using the feature wherever it is deployed today.

Recommended High Availability and Disaster Recovery Use Cases

1. Simple, Full Oracle Database Protection: Oracle Active Data Guard

For complete Oracle to Oracle database replication that is easy to implement and does not require schema or data subsets, target side write capability, or heterogeneous combinations, Oracle Active Data Guard is the recommended solution. Oracle Data Guard works with any application, custom or packaged, using any data types, as long as the databases are all Oracle, the platforms share a similar architecture, and the entire database is replicated.

2. Flexible, Heterogeneous Database Protection: Oracle GoldenGate

Oracle GoldenGate is recommended for all scenarios not covered by Oracle Data Guard. This includes any heterogeneous database or platform combination, any schema subsets and active-active configurations. Note that active-active configurations usually require data conflicts to be managed by the application, so such architecture is more suitable for custom applications.

3. Combining Oracle Active Data Guard and Oracle GoldenGate

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 utilizes 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 to provide the real time data integration required for real time business intelligence. 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 lower cost 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.

Recommended Data Integration Use Cases

1. Typical Data Warehouse Loading & SOA Use Cases: Oracle Data Integrator Enterprise Edition

For typical batch-oriented data warehousing, Oracle Data Integrator Enterprise Edition (ODI-EE) is the recommended solution. ODI-EE extracts, loads, and transforms data for initial loads and incremental batch updates with set-based execution of complex transformations. It can also work with comprehensive data quality products such as Oracle Data Quality. ODI-EE is also the solution for bulk transformations in a SOA.

2. Data Synchronization, Query Offloading: Oracle GoldenGate

Oracle GoldenGate is recommended for data synchronization use cases in which two systems are kept in sync bi-directionally and for use cases of moving database transactions from more expensive systems to less expensive, then running BI tools and

other queries against the lower cost replica to reduce the load and cost on mission critical transactional systems.

3. Combining Oracle GoldenGate and Oracle Data Integrator Enterprise Edition

It is a powerful combination to use Oracle GoldenGate and Oracle Data Integrator together for real time business intelligence. Oracle GoldenGate captures database transactions from OLTP sources and propagates them in real time to a permanent staging area in an enterprise data warehouse, Then, ODI picks up the changes from the permanent staging area and performs transformation within the database to load into the optimized data warehouse schema. By combining information about the current business state with historical analysis and context, companies can drive informed business decisions throughout the day.

There is no other solution available in the market that offers real time data integration and transformation within heterogeneous databases to enable real time business intelligence without additional server investment.

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 further reduce 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. 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 will ensure that 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 Oracle Fusion Middleware, Oracle GoldenGate will continue to support and optimize for Microsoft SQL Server. Some of the largest SQL Server customers in the world run GoldenGate software for disaster recovery, mission critical operations and real time business intelligence, and Oracle is committed to ensure success of those existing customers and all others using Microsoft SQL Server.

HP NonStop 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 customers. Oracle will also continue to innovate and enhance the GoldenGate technology to attract more customers and expand to broader use cases with existing HP Nonstop customers.

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

Oracle supports and optimizes for the Teradata database platform with existing products in the Oracle Fusion Middleware family, including Oracle Hyperion, Oracle Business Intelligence, and Oracle Data Integrator. GoldenGate enhances Oracle's data integration product line, and Oracle plans to continue to support and optimize for Teradata within the GoldenGate technology. Oracle seeks to continue and extend the partnership between Oracle Fusion Middleware and Teradata. Oracle is already experienced in supporting

other Oracle products in a Teradata environment, and the Oracle Customer Support organization will extend its world class support to the Oracle GoldenGate product working with Teradata.

Other Heterogeneous Databases

Oracle GoldenGate supports many other heterogeneous databases, including Sybase, MySQL, Netezza and Greenplum. 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.

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.

Ongoing Platform Openness

Two of the fundamental design principles of Oracle Fusion Middleware are, one, to provide suites of products that are well integrated, reducing ownership costs for customers, and two, to build products that are open and heterogeneous from the core. These principles will continue to apply to Oracle GoldenGate.

Illustrating this principle, Oracle GoldenGate will integrate with Oracle Data Integrator Enterprise Edition to deliver added value for comprehensive data integration. At the same time, Oracle GoldenGate will continue to interoperate with third party ETL products. The same applies for third party messaging infrastructures and application servers – Oracle will strive to provide additional value through integrated middleware suites while remaining open to maximize customer choice.

Conclusion

As the leader in supplying heterogeneous real time data solutions, 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"> Enterprise-wide data distribution and data replication Zero downtime upgrades and migrations Real time non-invasive data integration
Oracle Active Data Guard	Strategic	<ul style="list-style-type: none"> Disaster recovery and data protection for Oracle Database Leverage existing physical standby database for queries and backups
Oracle Data Integrator Enterprise Edition	Strategic	<ul style="list-style-type: none"> High performance bulk data movement and transformation Data lineage, data integrity, data integration workflow and scheduling Load data warehouses, integrate heterogeneous data
Oracle Streams	Continue & Converge	<ul style="list-style-type: none"> Existing customers are fully supported Over time, the best of Streams and GoldenGate will be merged to create Oracle's next-generation replication product.

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 IBM DB2, Microsoft SQL Server, Teradata, Netezza, Enscribe, HP NonStop SQL, and others.

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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Author: Oracle

Oracle Corporation
World Headquarters
500 Oracle Parkway
Redwood Shores, CA 94065
U.S.A.

Worldwide Inquiries:
Phone: +1.650.506.7000
Fax: +1.650.506.7200
oracle.com



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