

Oracle Cloud Infrastructure GoldenGate

Simple. Intuitive. Managed. A real-time fabric platform
with Oracle Cloud Infrastructure GoldenGate

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Introduction

Leading business practices thrive on instant information. Essential to innovation and competitiveness is trust in your increasingly diverse and global transaction and knowledge fabric. Real-time use cases have proliferated and now include analyzing data-in-motion and enabling real-time GenAI large language models.

GoldenGate has been the foundation for real-time information sharing for the world's largest organizations for the past 20 years. It has consistently been recognized as the leader for high availability and real-time heterogeneous data replication and integration, streaming analytics, as well as online database migrations.

Oracle Cloud Infrastructure (OCI) GoldenGate extends these capabilities into a fully managed cloud service. OCI GoldenGate connects event-driven, hybrid and multicloud data fabrics from conventional operational and analytical use cases to next generation real-time GenAI knowledge experiences.

Foundation for a Real-Time Data Fabric

With minimal impact on source systems, OCI GoldenGate supports a real-time heterogeneous data fabric that connects and unifies five styles of data integration processing:

- Real-time changed data (CDC) with transactional integrity
- Real-time connectors to big data targets
- Real-time continuous integration (CTL)
- Bulk ETL/ELT with Data Transforms
- Real-time streaming analytics for data-in-motion

In addition, OCI GoldenGate supports the most popular SaaS applications allowing real-time or batch SaaS data integration with downstream systems.

Extensive Enterprise Connectivity

OCI GoldenGate connects to 100s of databases, data stores, messaging services, applications, internet business services, and more. See the [GoldenGate and Data Transforms](#) documentation for the latest connectors.



Figure 1: OCI GoldenGate supports 100s of connectors across clouds, databases, technologies, and application services.

Key Capabilities

- Change data capture database replication
- Optimized for Oracle Autonomous Databases
- Data propagation to non-Oracle and big data technologies
- Capture real-time streaming events and process pipelines
- Streaming visualizations and geolocation analytics
- Enables real-time data products
- Enables real-time enterprise data fabric
- Continuous stream processing and transformation
- Transform and shape data at scale

Key Use Cases

- Transaction replication
- Data warehouse and data lakehouse ingest
- Database high availability
- Real-time data transformation
- Batch data transformation
- Oracle and non-Oracle SaaS integration
- Database migrations
- Big Data sources and targets

Broad Topology Support

- On-prem to Oracle Cloud
- Oracle SaaS to Oracle Cloud
- Oracle Cloud Cross Region
- On-prem to Autonomous Database
- Autonomous Database to Autonomous Database
- Non-Oracle Cloud to Oracle Cloud
- Cloud Cloud to non-Oracle Cloud



OCI GoldenGate Enterprise Use Cases

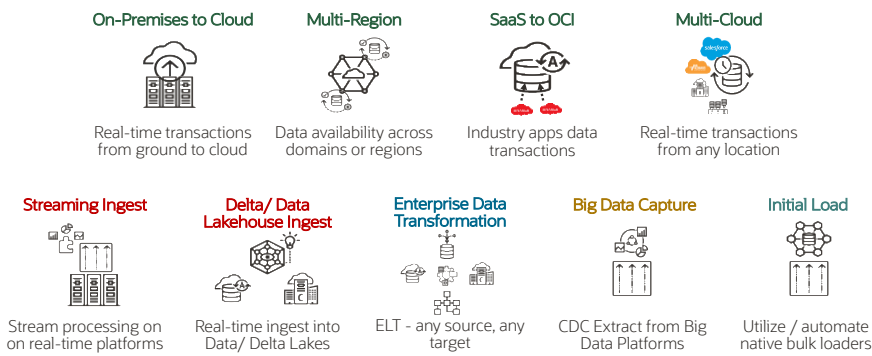


Figure 2: Comprehensive support for enterprise use cases

- Real-Time Data Warehouse.** Provide continuous, real-time capture and delivery of changed data between OLTP and data warehouse systems. It is uniquely optimized to capture from and deliver to Oracle Exadata, Autonomous Data Warehouse, and Autonomous Transaction Processing platforms to enable real-time data warehousing or data consolidation solutions.
- Data Lakehouse ingest.** Provide continuous, real-time capture and delivery of changed data between OLTP and object storage, data lake, or data lakehouse targets. OCI GoldenGate delivers data to Oracle or non-Oracle platforms like Snowflake, Azure Data Lake, Google BigQuery, and other cloud object stores for this purpose.
- Oracle and non-Oracle data replication.** OCI GoldenGate connects to many non-Oracle and open-source databases across on-premises and cloud platforms. OCI GoldenGate also connects across multicloud sources and targets such as Kafka, NoSQL databases, object storage, Hadoop, and more.
- Transform and shape data at scale.** OCI GoldenGate utilizes Data Transforms to build data pipelines for your analytics, data science, and data lakehouse projects. The optimized and native batch data loading capabilities are tuned for moving high volumes into Oracle and non-Oracle targets such as Exadata Cloud Service, Autonomous Database, and Snowflake.
- Stream processing and analytics.** OCI GoldenGate enables users to model, process, analyze, and act on real-time streaming information using sophisticated correlation patterns, time-series analytics, geospatial analysis, and machine learning.
- SaaS applications.** Direct integration with Oracle and non-Oracle SaaS to deliver real-time change data capture* and batch data movement to downstream systems providing deeper analysis and business insight. **Controlled availability for Fusion Applications. (HCM not supported)*
- Operational reporting.** Offload data from production databases to lower cost storage and platforms for real-time reporting.

Key Benefits

- Single data integration platform for changed data replication, big data propagation, and stream analytics
- Extensive connectivity across 100s of Oracle and non-Oracle technologies and services across on premises and all clouds
- Enable high-performance data replication with minimal impact to production systems
- Critical foundation for a real-time, heterogeneous, and distributed enterprise data fabric
- Enhance decision-making with trusted, real-time data
- Fully Oracle managed data fabric service
- Auto-scaling compute resources
- Automated lifecycle management
- Disaster recovery, backup and restore
- Access and integrate mission-critical applications without disruption



- **Operational data integration.** Integrate operational data between OLTP systems in real-time. Enable developers using service-oriented architectures to access real-time changed data and schemas.

Maintain Continuous Availability of Critical Systems

Oracle Cloud Infrastructure GoldenGate helps organizations eliminate the downtime caused by both unplanned and planned outages while improving system performance and scalability. OCI GoldenGate can be configured to support the following scenarios:

- **Zero-downtime operations.** Enable uninterrupted business operations during system upgrade, migration, and maintenance activities.
- **Scalable Active-Active architecture.** Synchronize changes made across two or more databases to scale out workloads, provide increased resilience and near instantaneous failover across multiple geographic regions. Supports bidirectional replication with automated collision detection and resolution.
- **Data distribution.** Replicate data for distributed applications in real time across geographies for reliable access to timely data.
- **Query offloading.** Ensure high performance for production systems while supporting read- only activities by replicating data between heterogeneous sources and targets.

Conclusion

OCI GoldenGate provides a fully managed real-time data fabric platform that helps organizations harness the value of their IT investments and improve business operations by providing continuous access to mission-critical information in real time. OCI GoldenGate addresses a wide array of continuous availability, disaster tolerance, data integration and streaming requirements. The fully managed service provides a modular foundation that easily scales to address the high-volume, low-impact data integration, streaming and replication challenges faced by enterprises today.

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