

ORACLE ACTIVE DATA GUARD

REAL TIME DATA PROTECTION AND AVAILABILITY FOR ORACLE DATABASE

KEY FEATURES

- Complete Oracle-aware database protection
- Unique corruption detection and automatic repair
- Rapid failover to synchronized replica of production – manual or automatic
- Offload production workload to a synchronized standby open read-only
- Database rolling upgrades and standby-first patching using physical standby
- Zero data loss DR protection across any distance without impacting performance
- Active Data Guard is a superset of basic Data Guard capabilities included with Oracle Database Enterprise Edition

KEY BENEFITS

- The best protection for Oracle Database
- Highest performance DR protection - all workloads, no restrictions, simple to manage
- Least risk – continuous Oracle and user validation of standby database
- Highest availability – fast failover eliminates single points of failure
- Comprehensive – address both planned maintenance and unplanned outages
- High return on investment for least effort using simple physical replication

Oracle Active Data Guard delivers real-time data protection and availability while eliminating compromise inherent to other solutions for the Oracle Database. It enables zero data loss disaster recovery (DR) across any distance without impacting database performance. It repairs physical corruption without impacting availability and saves network bandwidth without special-purpose network devices. It reduces downtime for Oracle Database upgrades without error-prone manual procedures. It increases return on investment in DR systems using the simplicity of physical replication.

Real-Time Data Protection and High Availability

Active Data Guard is a comprehensive solution to eliminate single points of failure for mission critical Oracle Databases. It prevents data loss and downtime simply and economically by maintaining a synchronized physical replica (standby) of a production database (primary). If there is an outage, client connections quickly failover to the standby and resume service. Active Data Guard achieves the highest level of data protection through deep integration with Oracle Database, strong fault isolation, and unique Oracle-aware data validation. System and software defects, data corruption, and administrator error that affect a primary are not mirrored to the standby. Idle redundancy is eliminated by directing read-only workloads and backups to active standby databases for high return on investment.

Ending Compromise

Oracle Active Data Guard capabilities in Oracle Database 12c put an end to the compromise between data protection, cost, and complexity by using highly functional and active disaster recovery systems that are simple to deploy and manage. Active Data Guard enables:

- Low cost methods of implementing zero-data-loss DR protection across any distance
- High ROI by increasing the number of reporting applications offloaded to an active standby
- Increased availability and reduced risk using new automation for database rolling upgrades

Active Data Guard Far Sync – Zero Data Loss at any Distance

Far Sync provides zero data loss protection for a production database by maintaining a synchronized standby database located at any distance from the primary location, and can do so without performance impact and with minimal cost or complexity. A new type of Data Guard destination called a far sync instance receives changes synchronously from a primary database and forwards them asynchronously to a remote standby. Production can be quickly failed over, manually or automatically, to the remote standby database with zero data loss.

A far sync instance is a light-weight entity that manages only a control file and log files. It requires a fraction of the CPU, memory, and I/O of a standby database. It does not have user data files, nor does it run recovery. Its only purpose is to transparently offload a primary

database of serving remote destinations. A far sync instance can save network bandwidth by performing transport compression using Oracle Advanced Compression.

Take for example an existing asynchronous Data Guard configuration with a primary in New York and a standby in London. Upgrade to zero data loss simply by using Active Data Guard to deploy a far sync instance within synchronous replication distance of New York (less than 150 miles). There is no disruption to the existing environment nor is there any requirement for proprietary storage, specialized networking, more database licenses, or complex management.

Expanded Reporting Offload to an Active Data Guard Standby – Increase ROI

Active Data Guard is unique in using a highly parallelized process to apply changes to a standby database for best performance while enforcing the same read consistency model as the primary database. This makes it attractive to offload read-only workloads to an active standby.

There are also many reporting applications that would be eligible to use a read-only database except for the requirement that they write to global temporary tables and/or access unique sequences. Active Data Guard includes new capabilities with Oracle Database 12c to allow writes to global temp tables and access to unique sequences at an active standby. This further expands the number of reporting applications that can be offloaded from a primary database. No other physical or logical replication solution can provide all of these capabilities; each alternative solution is deficient in one or more areas compared to Active Data Guard.

Database Rolling Upgrade with Active Data Guard – Reduce Planned Downtime

Database rolling upgrades prior to Oracle Database 12c required complex manual procedures. Because complexity always increases risk, many users have understandably favored the relative simplicity of traditional upgrade methods. These methods, however, result in longer downtime and they still possess an element of risk because the upgrade is performed on the production copy of the database BEFORE you can be certain of its outcome.

Database Rolling Upgrades using Active Data Guard, a new capability for Oracle Database 12c, solves this problem by replacing forty-plus manual steps required to perform a rolling database upgrade with three PL/SQL packages that automate much of the process. The new automation makes it easier to minimize planned downtime and reduce risk by implementing and thoroughly validating all changes on a complete replica of production before moving users to the new version.

Contact Us

For more information about Active Data Guard, visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.



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