

# ORACLE ACTIVE DATA GUARD

## KEY BENEFITS



### Oracle Active Data Guard Improves Quality of Service For Critical Business Transactions

#### Increase Performance

- Offload unpredictable workloads (ad-hoc queries, reporting, backups) to an up-to-date replica of the production database
- Avoid the performance penalty of traditional replication solutions

#### Simplify Operations

- Eliminate management complexity that accompanies traditional replication solutions
- Support all data types

#### Eliminate Compromise

- Reporting replica is up-to-date and online at all times – not possible with traditional storage mirroring technology

#### Reduce Cost

- Can also serve as disaster recovery replica and/or test database – no additional storage or servers required

*Every I.T. organization is faced with the challenge of improving Quality of Service while at the same time reducing cost and complexity. One method to achieve consistent high performance for critical business transactions is to offload ancillary work to a replica of the production database. Active Data Guard is a simple, high performance solution that maintains an up-to-date replica used to offload resource-intensive queries, reporting and backup operations from the production database*

### Improving Quality of Service

IT organizations have long searched for a simple solution to improve the performance of mission critical applications by offloading reporting and backups to a replica of the production database. The unpredictable nature of these long-running operations and the system resources they consume make it difficult to guarantee consistent high levels of service for users executing business transactions.

Traditional methods used to accomplish this objective involve point solutions that logically replicate data for reporting, and tertiary storage systems used for backups. These approaches incur performance overhead, are often unable to support all data types and applications, and significantly increase management complexity and cost.

### Traditional Data Guard

The most popular use of Oracle Data Guard is to synchronize a physical standby database with its production counterpart for data protection and high availability. Prior to Oracle Database 11g, physical standby databases typically operate in continuous Redo Apply mode (i.e. continuously applying changes from the production database) to ensure that a database failover can be accomplished within seconds of an outage at the production site. Redo Apply must be stopped to enable read access to a Data Guard 10g standby database, eventually resulting in a replica that has stale data and extending the time required to complete a failover operation.

### Oracle Active Data Guard

Oracle Active Data Guard enables a physical standby database to be open for read-only access – for reporting, simple or complex queries, sorting, web-based access, etc. while changes from the production database are being applied to it. All queries reading from the physical replica execute in real-time, and return current results. This means any operation that requires up-to-date read-only access can be offloaded to the replica, enhancing and protecting the performance of the production database.

This capability makes it possible for Active Data Guard to be deployed for a wide variety of business applications. Examples include:

- Telecommunications: Technician access to service schedules, customer inquiries to check status of service requests.
- Healthcare: Fast access to up-to-date medical records.

**Oracle Active Data Guard**

- Is a separately licensed Database Option for Oracle Database Enterprise Edition
- It includes Real-time Query
- It also includes support for RMAN block-change tracking on a physical standby database

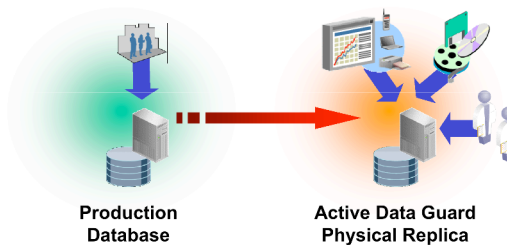
**Oracle Data Guard 11g**

- Is included with Oracle Database Enterprise Edition - it does not require a separate license
- It Includes all Data Guard capabilities from previous releases and many other new features that enhance data protection, high availability, disaster recovery, and utilization of standby databases and systems

- Finance and Administration: Ad-hoc queries and reports
- Transportation: Package tracking queries, schedule status
- Web-business: Catalog browsing, order status, scale-out using reader farms

Active Data Guard also provides support for RMAN block-change tracking, enabling very fast incremental backups to be offloaded from the production database to the standby database. Fast incremental backups can be orders of magnitude faster than backups taken on physical standby databases in earlier releases.

## Oracle Active Data Guard An Investment in Quality of Service



Offload Primary Database of Queries, Reports, & Backups

### Unique Advantages of Oracle Active Data Guard

Active Data Guard is an evolution of Data Guard technology, providing unique performance advantages while leveraging all other enhancements included in Oracle Data Guard 11g. For example, any Data Guard 11g physical standby database can be easily converted to a *Snapshot Standby*. A Snapshot Standby is open read-write and is ideally suited as a test system, able to process transactions independent of the primary database. A Snapshot Standby maintains protection by continuing to receive data from the production database, archiving it for later use. When tests are complete, a single command discards changes made while open read-write and quickly resynchronizes the standby database with the primary.

It is easy to see how all of these capabilities build upon each other – and because they all use the same common infrastructure, they generate significant dividends for Oracle customers. The same replica maintained by Oracle Active Data Guard to improve the quality of service and performance of the primary database, can be used during non-peak hours as a test database using Snapshot Standby, and at all times can also serve as a disaster recovery solution. So rather than maintain multiple replicas on costly redundant storage using different technologies to address different requirements – Oracle Active Data Guard provides a common infrastructure and single replica with one management interface to achieve the same objectives.

Easier, less expensive, more functional – Oracle Active Data Guard is hard to beat.

### For More Information:

- Data Guard Home Page on OTN  
<http://www.oracle.com/technology/deploy/availability/htdocs/DataGuardOverview.html>

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