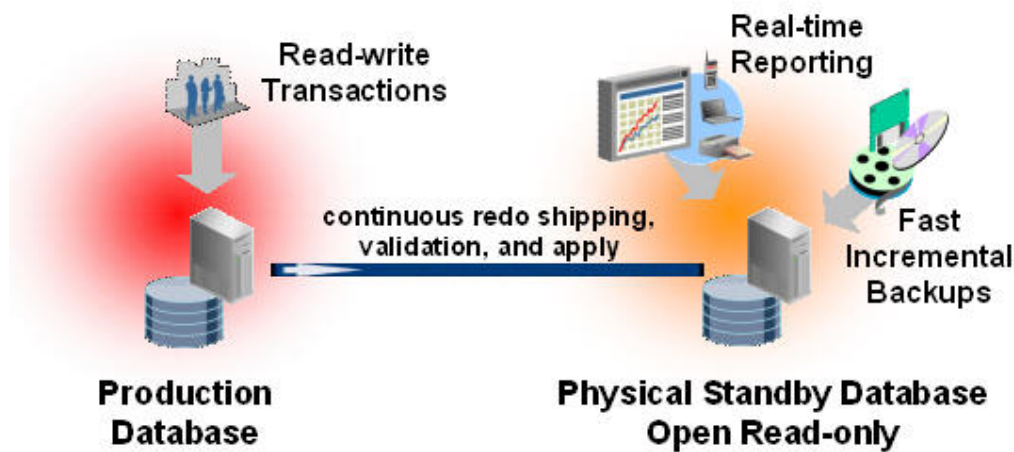


The simplest solution to increase performance by offloading read-only workloads to a synchronized replica of the production database.

Oracle Active Data Guard - an option for Oracle Database 11g Enterprise Edition - enhances Quality of Service by offloading resource intensive workloads from your production database to one or more synchronized standby databases. Active Data Guard accomplishes this by enabling read-only access to a physical standby database for queries, real-time reporting, web-based access, etc., **while continuously applying changes** received from the production database. Active Data Guard also eliminates the overhead of performing backups on production systems by enabling RMAN block-change tracking and fast incremental backups using a physical standby database.

Active Data Guard offers significant new functionality beyond the Data Guard capabilities already included with the Oracle Database Enterprise Edition. At the same time that Active Data Guard users can improve the performance of their production systems, they can benefit from Data Guard's industry leading high availability and disaster protection capabilities and from many other [new Data Guard 11g features](#).

The following diagram presents a high level overview of Oracle Active Data Guard.



Active Data Guard Benefits

1. **Increase performance of production database:** Offload unpredictable workloads to an up-to-date replica of the production database.
2. **Simplify operations:** Eliminate management complexity that accompanies traditional replication solutions.
3. **Eliminate compromise:** Reporting replica is up-to-date and online at all times - not possible with traditional storage mirroring technology.
4. **Reduce cost:** An Active Data Guard physical standby database also provides disaster protection and high availability and can serve as a QA system - no additional hardware

or software investment is required.

5. **Reduce backup time:** Complete incremental backups up to 20x faster by using RMAN Block Change Tracking on a physical standby database.

Active Data Guard Use Cases

Active Data Guard makes it possible to utilize physical standby databases for a wide variety of business purposes. Different industry examples include:

- Telecommunications: Field service technicians access to service schedules and customer inquiries to check status of service requests.
- Healthcare: Fast access to up-to-date medical records.
- Finance and Administration: Ad-hoc queries, reports, and executive dashboard.
- Transportation: Package tracking, queries, schedule information.
- Web-business: Catalog browsing, customer order inquiry, scale-out performance using reader farms.

Active Data Guard Reader Farms

In the example of a Web-business, there is frequently a need to scale out performance to handle catalog queries, order lookup, and other read-only activities that can vary widely depending upon the time of year or other special circumstances that lead to sudden peaks in volume. Active Data Guard is uniquely suited for these situations, because additional standby databases can easily be provisioned to handle peak periods. A single production database can support direct connections to up to nine standby databases, creating what is referred to as a Reader Farm. Additional cascaded standby databases can be used to scale performance to a virtually unlimited extent.

The figure below shows an example of a simple Reader Farm. In addition, because Active Data Guard is compatible with Data Guard functionality - the Reader Farm pictured below has data protection and high availability already built-in. If the production database fails, any of the standby databases in the configuration can quickly transition to the production role - automatically keeping the remaining standby databases synchronized with the latest transactions.

