AWS ONLINE TECH TALK

Protect Amazon RDS for Oracle with managed Oracle Data Guard switchover

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Agenda

- Benefits of Oracle Data Guard on RDS for Oracle
- How it works
- Demonstration using the Console to perform a switchover
- Additional ways to perform a switchover

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Benefits of Oracle Data Guard on RDS for Oracle

Proven Technology

- Industry standard Data Guard feature
- Uses `MAX_PERFORMANCE` protection mode
- Does not require a license for Active Data Guard

Flexibility

- Cross Region or different Availability Zones
- Allows for multiple replicas (or standby databases)

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Use Cases for Data Guard switchover

- Allows you to test your DR procedures
- Perform planned maintenance
- Follow-the-sun model to provide the best application experience for global applications
  - Move Write workload closer to the application users
  - Move Read Replicas closer to read only users

All of this done with zero data loss and just a few minutes of downtime

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Preparing for a Data Guard Switchover (pre-reqs)

- The original standby can be mounted or open for read-only
- Automatic backups must be enabled on the standby database
- Both primary and standby must be in an available state and do not have any pending maintenance actions
- The standby database must be in the “replicating” state
- Bystander replicas (the standby you are not switching over to can be in any state)

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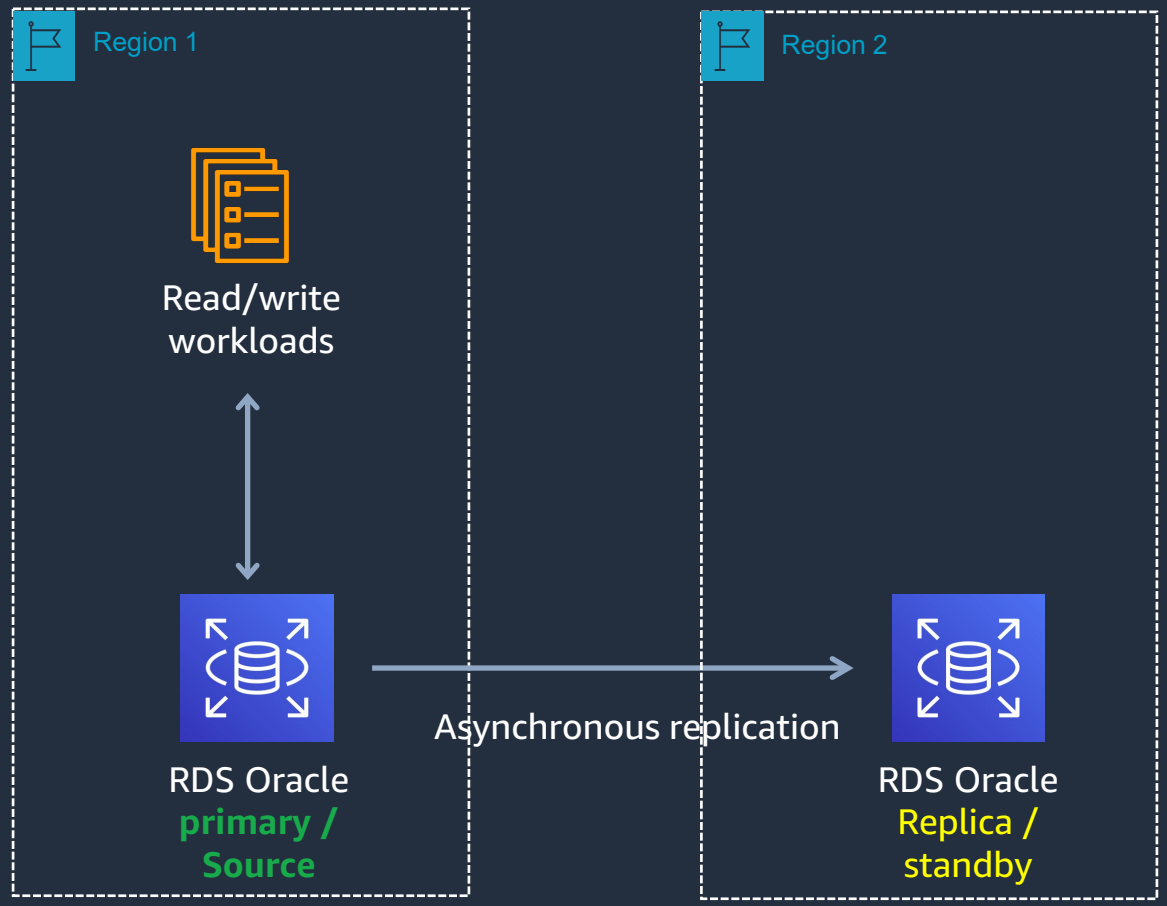
For planned database role transition

RDS Oracle - Managed Oracle Data Guard Switchover



Initial state

Primary and standby are in sync

Maintenance activities are closed

Users actively making changes to the primary in Region 1

Standby database is in region 2

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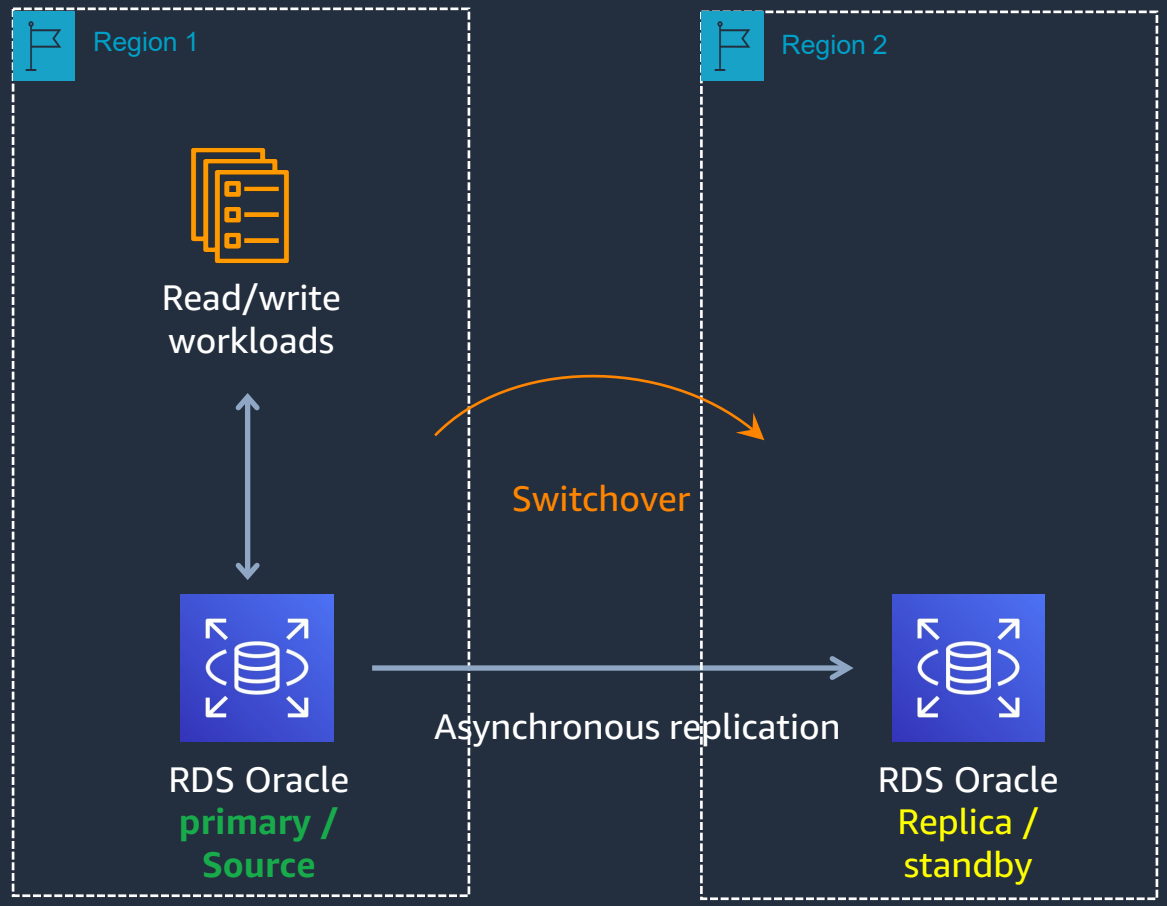

Switchover initiated

Block new transactions on the primary

Ensure all transactions (logs) are moved to the standby

Shutdown source database and wait for MRP to complete

Perform role transition on standby to become open for read/write

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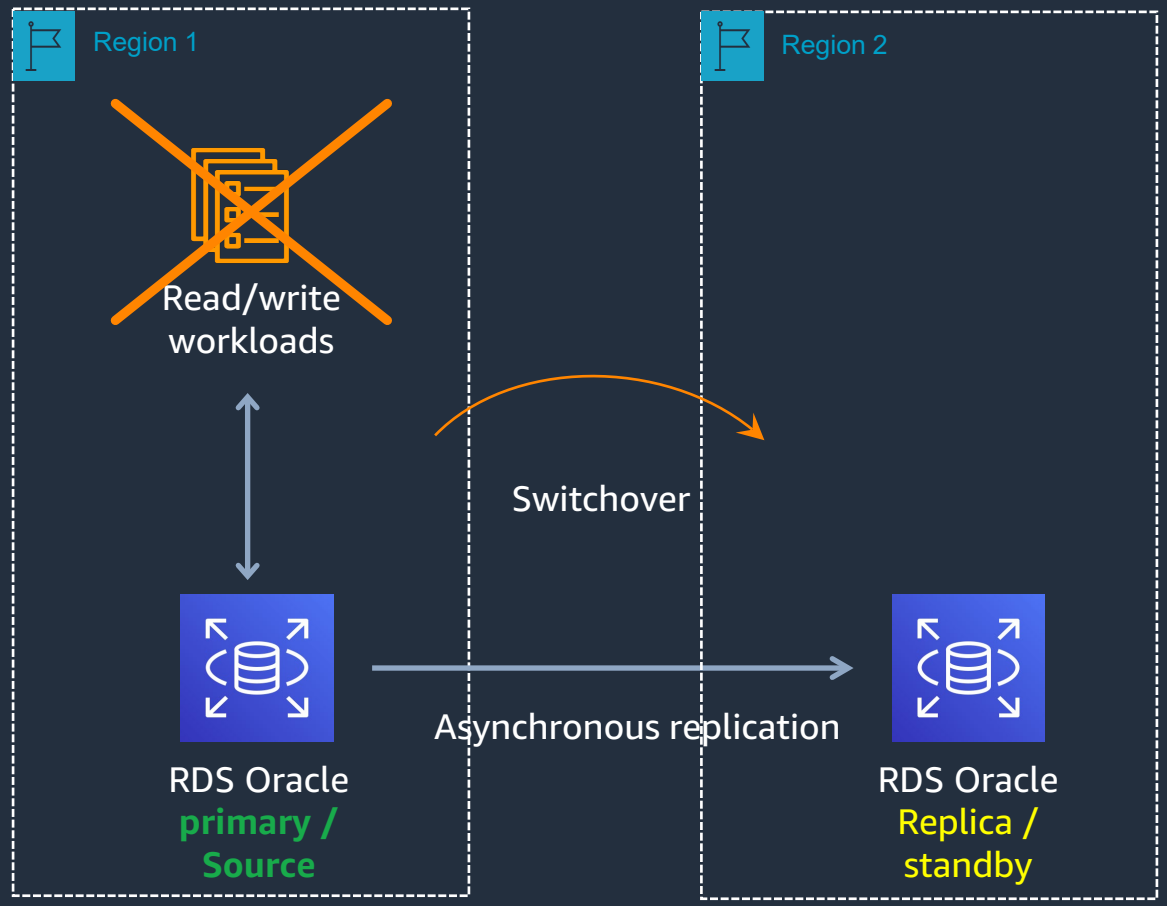

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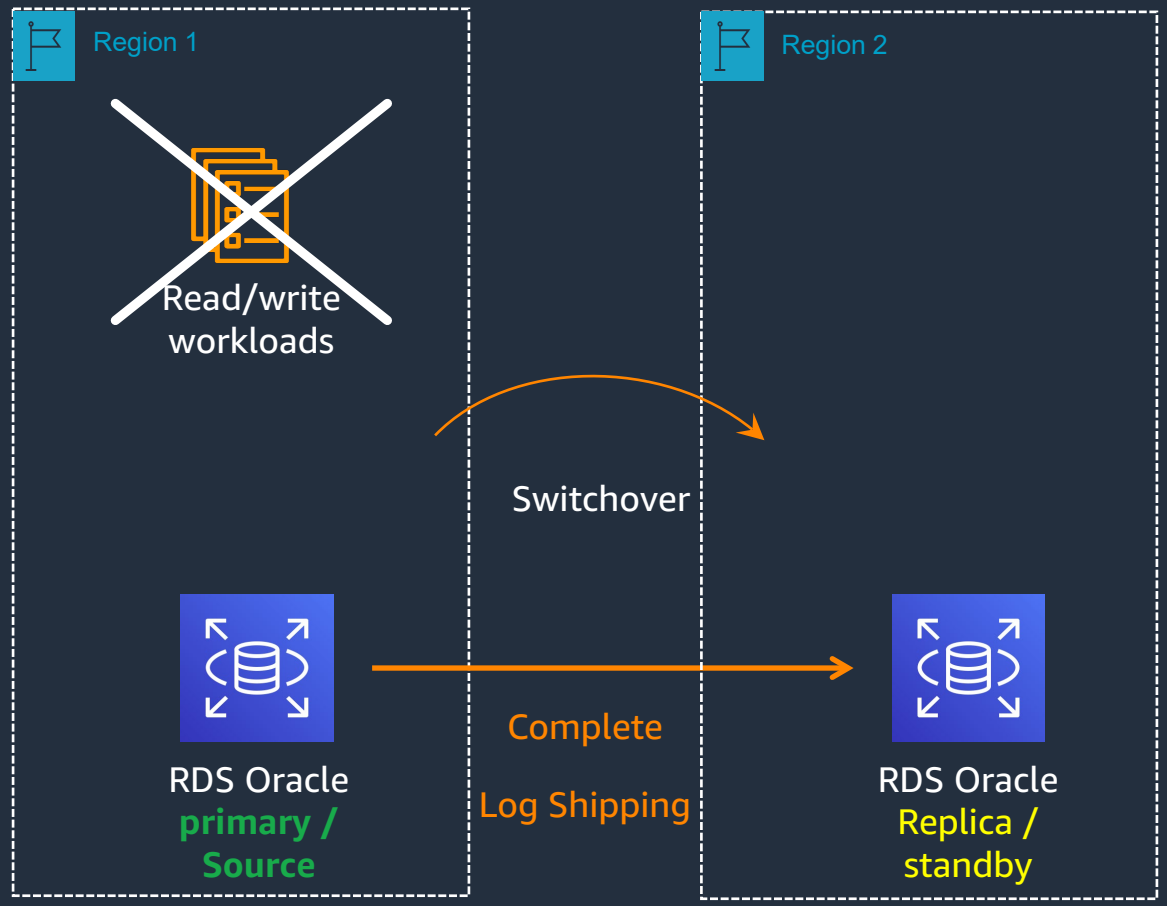

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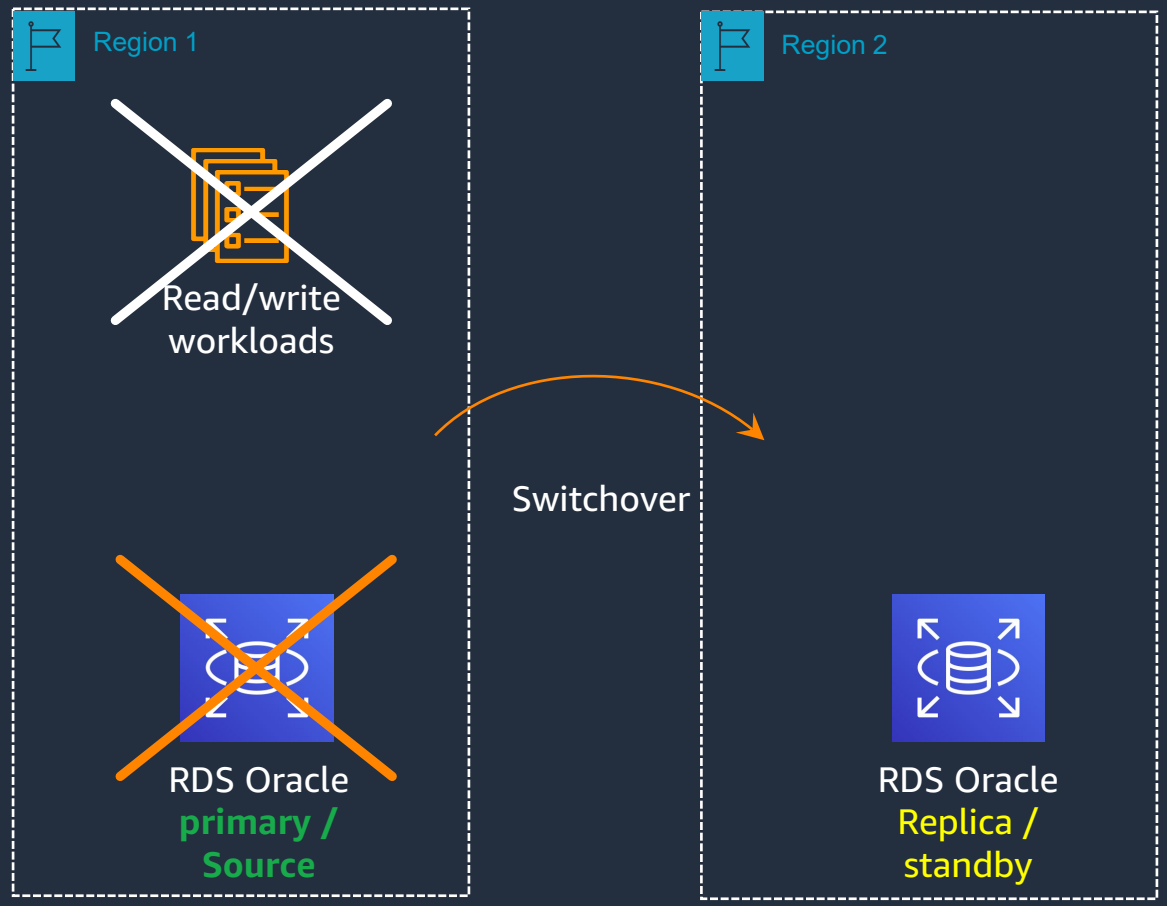

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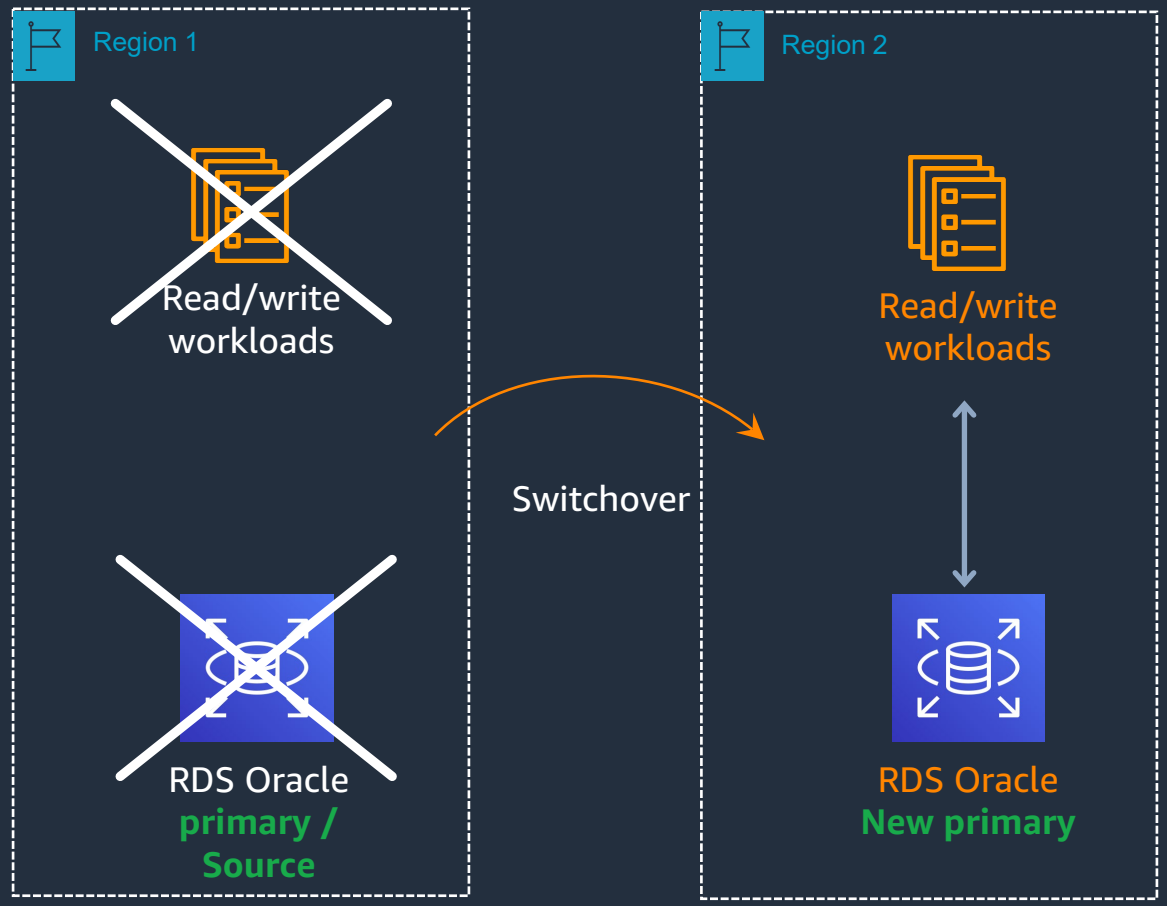

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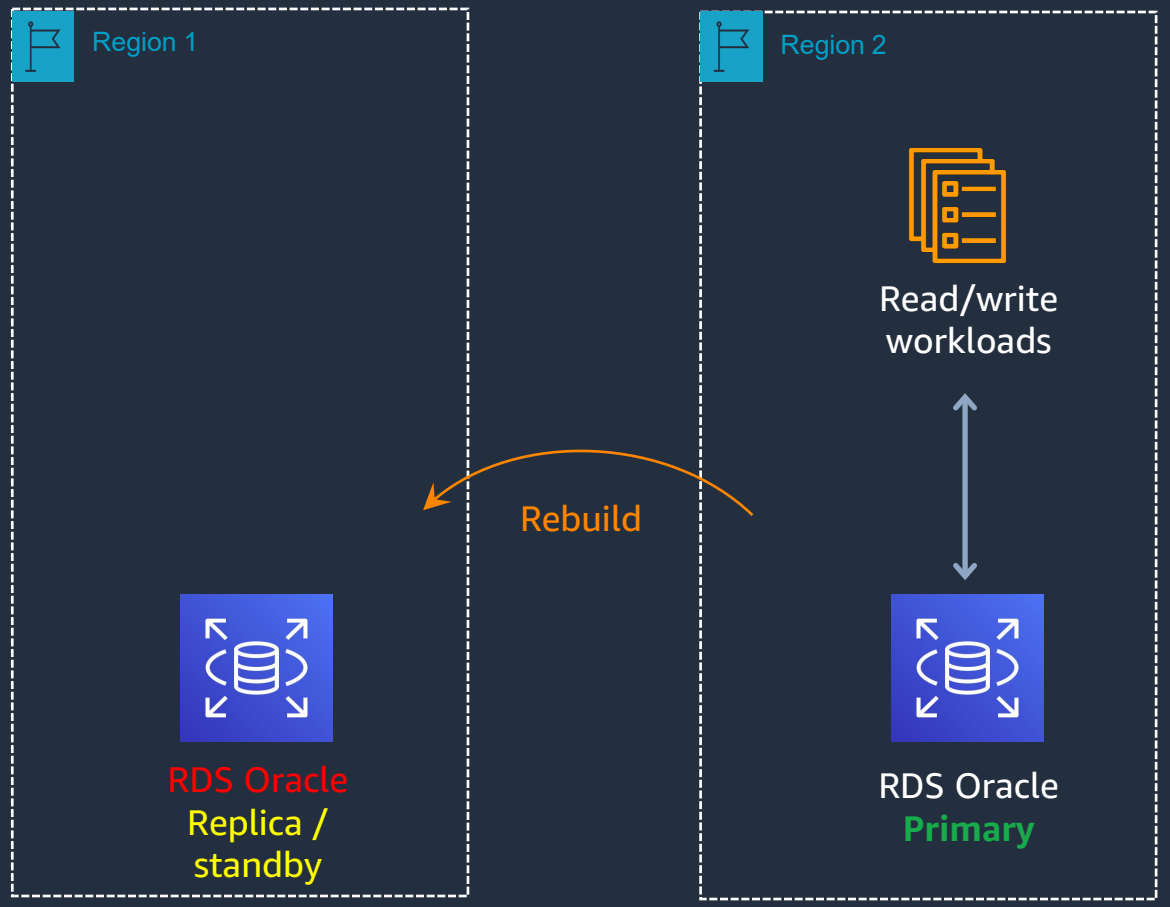

Post-Role Transition on Standby

Convert the original primary to a standby

Begin log shipping (MAX_PERFORMANCE) back to the original primary

(Optional) Open standby for read only activity

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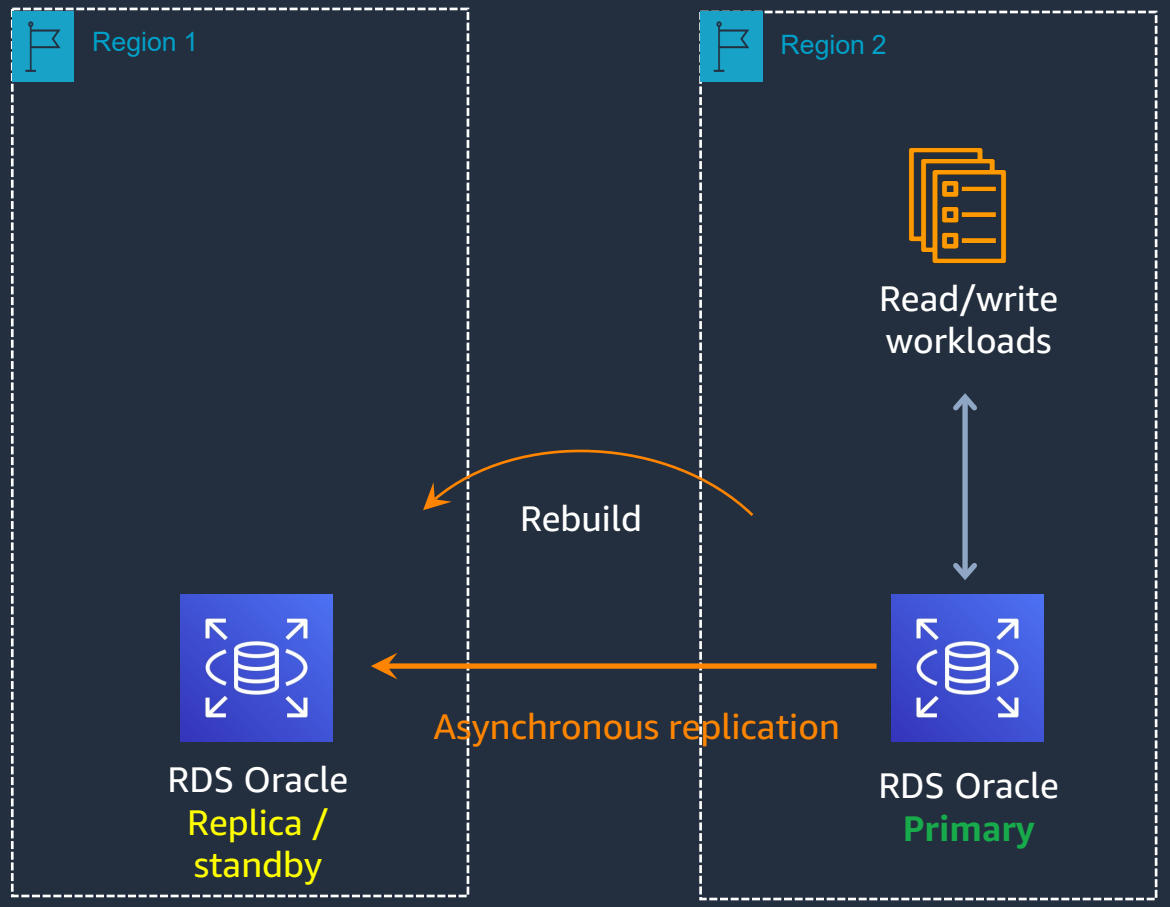

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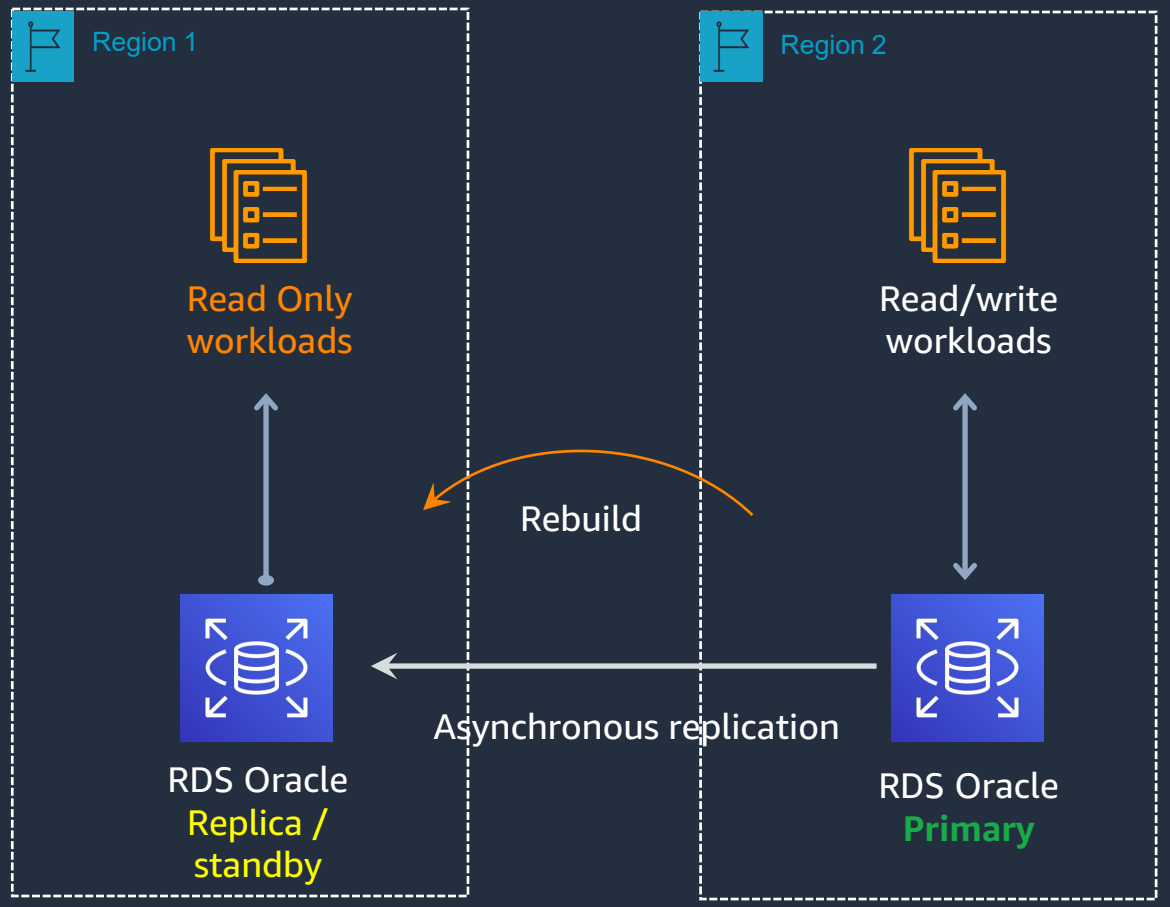

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Monitoring the switchover progress

- From the CLI

```
aws rds describe-db-instances \
    --db-instance-identifier orcl2
```

- From SQL*Plus

```
SELECT OPEN_MODE FROM V$DATABASE;
```

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Thank you!

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