



Introducing Nagesh Konduru

A Real Life Experience!

**Oracle 11g
Active Data Guard**

**High
Scalability**

**High
Availability**

**Real-Time
Data
Changes**

Reader Farm



Apple

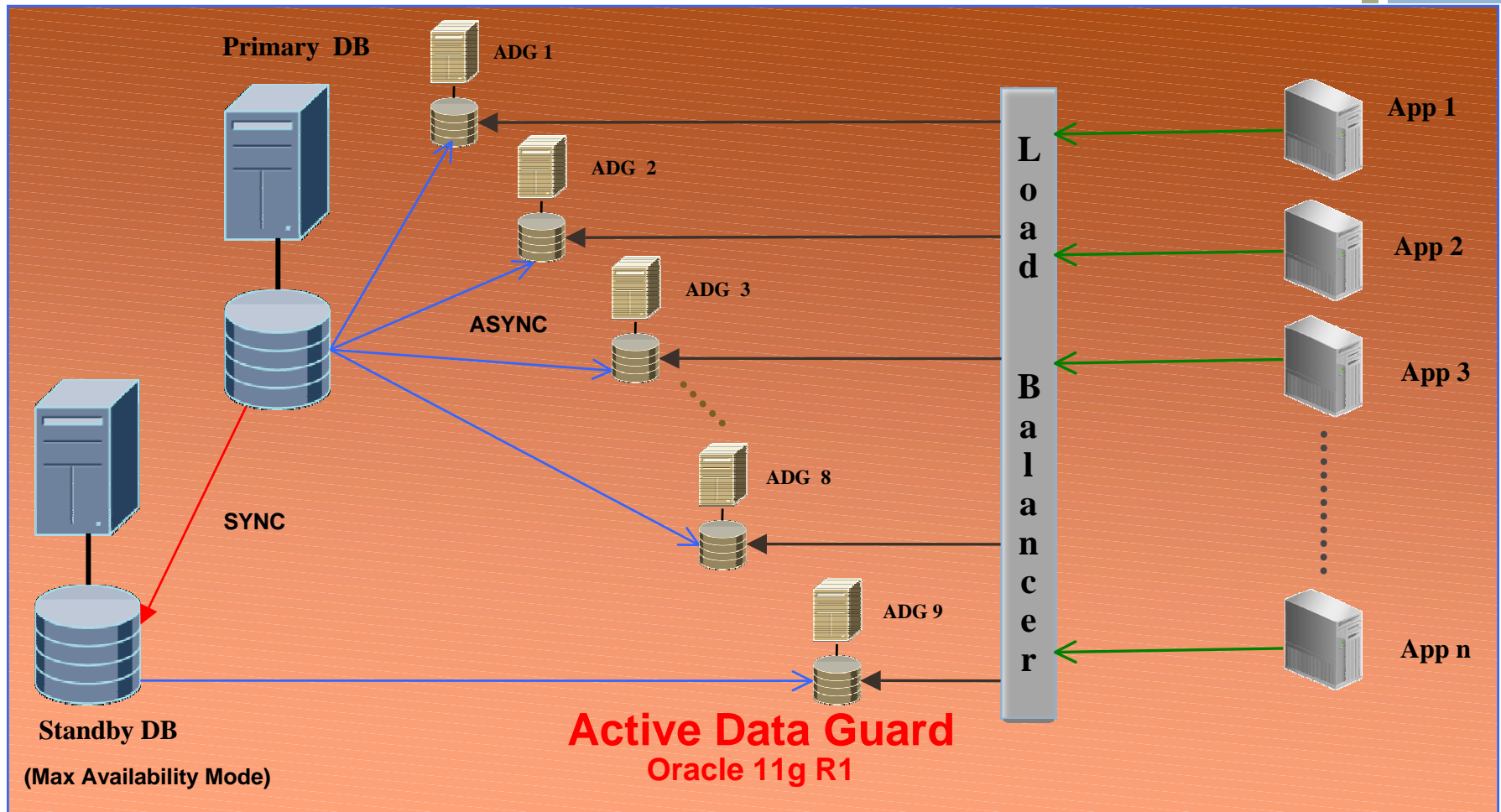
**Nagesh Konduru
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Our Requirements

- Migrate from Data Guard Logical Standby to Active Data Guard (ADG) Reader Farm
- Easily scale out Reader Farm to handle peak load
- High Availability (zero outage)
- Real-time data changes to Reader Farm
- Offload reporting from online database
- Support all index and data types
- Ease of maintenance



Reader Farm Architecture



Experience to share

- No impact on Read-only queries on ADGs with simultaneous redo apply, and vice versa
- Real-time Apply now keeps pace with our load
- Guarantee of data consistency between Primary and ADG Standbys
- Large dataset changes on Primary doesn't impact Real-time data changes to Reader farm
- No restrictions on the types of indexes we can use



Best Practices

- Use Load Balancer between App Layer and Reader Farm
 - Balance out App Connections across multiple ADG Standbys
 - Easy to add / remove Standbys from Load Balancer
- Rigorously test Query performance on ADG reader farm in parallel with massive data changes on Primary Database
- Consistent execution plan of SQLs on Standbys by generating object statistics on Primary Database
- Specify NET_TIMEOUT attribute in LGWR SYNC Redo Transport Mode



Key Learning

- Additional indexes can't be created on the ADG Standby exclusively for reader farm queries
 - Use Primary Database for all indexes
 - Ensure no negative impact of these indexes to SQLs running on Primary Database
- Apply data guard bundle patch (# 7676737) on 11g R1
- AWR tool is not supported on ADG Standbys
 - Refer to Note 454848.1 for installing and using standby statspack
 - Use statspack report (required patch #8801078)
- For greater than 9 Standby Databases (limit of 10 archive log destinations)
 - Cascading from other Standbys, OR
 - Go for Oracle 11g R2

