

CME Group Overview

CME Group is the world's leading and most diverse derivatives marketplace bringing together those who need to manage risk or those that want to profit by accepting it.



- Operating Multiple Exchanges – CME, CBOT, Nymex and COMEX
- Trade hundreds of products across the globe on a single platform
- Average daily volume of 15.6 million contracts
- CME Clearing – matches and settles all trades and guarantees the creditworthiness of every transaction
- Cleared more than 4.9 billion contracts with a value exceeding \$1 quadrillion
- Highest Volume Day – 51.9 million contracts

Who am I

- Christopher Guillaume, Senior Oracle DBA @ CME Group
- Oracle DBA since over 20 years
- Former Certified Oracle Instructor
- Working in Financial Industry since 2004, at CME Group since 2012
- Lead Exadata Response Team

Exadata

What we currently have:

- Originally started on X2
- Currently on X6 and an X7
- Datawarehouse utilizes a 1 ½ rack
- OLTP utilizes 3 separate ½ racks
- DR Matches Prod (minus Local Standby)

CME HA/DR Requirements :

- An Exadata Failure Cannot Cause a DR Event
- Allow Mid-Week End-to-End testing in DR
- Provide safe means to test applications in Production (Saturday Test)
- Continuous DB availability through planned maintenance for critical applications
- Allow for customers to retrieve critical data while Recovery is happening.

Disaster Recovery:

- **Critical DB's – 10 second outage**
- Recovery Point Objective (RPO) – 30 seconds
- Recovery Time Objective (RTO) – 2 hours for system
- RTO – 5 minutes for Databases



CME HA Architecture

- Multiple Databases running on
 - Single Servers
 - RAC
 - Exadata (Shown)
- Each Prod Database is replicated locally and remotely
 - BLUE Local (Fast Sync)
 - Gray – Async
- Dedicated Local DG Recipient
- Active DG in DR
- Multiple Complete Exadata Failures need to occur in order for DR event to happen
- Running over 100 apps and more than 200 services

