
Castleton Commodities International LLC

CCI's Experience on Exadata

September 25, 2013

About CCI:

“Castleton Commodities International LLC (CCI) is a leading merchant energy company, CCI is an active participant in the global markets for energy commodities, and operating midstream and upstream energy assets.” - www.cci.com



DBA Team at CCI

- **Robert Hesketh, Database Services Manager, Oracle Certified Professional**
- **Team of 5 DBAs**
- **Our focus is on more than the Database layer**
- **Manages over 25 databases ranging in size from 128 GB to over 13 TB**
- **Manages over 13 Application Systems (full stack), 3 Database Platforms, 5 Application Server Platforms and over 60 ETL processes**

Primary Data Center Setup - Production

Before Exadata

- Six Production 2-node clusters
- Standard Environment Setup:
 - 2 x HP Blade Servers
 - Red Hat 5
 - Oracle Clusterware\ASM 11gR2
 - Oracle Database 11gR2 & 10gR2
 - Flex Fabric CNA for LAN\SAN
 - InfiniBand Interconnect
 - Brocade Silksworm Switches
 - EMC VMAXe Storage System
 - Mix of Solid State, High Performance and High Capacity Disk using FAST

After Exadata

- Three Production 2-node clusters
- One Exadata X3-2 Quarter Rack
- Exadata Environment Setup:
 - Exadata X3-2 Quarter Rack
 - Oracle Enterprise Linux 5
 - Oracle Clusterware\ASM 11gR2
 - Oracle Database 11gR2
 - High Performance Disk



Note: Second Exadata X3-2 for QA / DR

Did Exadata Help?

Performance on HP\EMC RAC:

- CPU Bottlenecks
- End-of-day Processing at around 2 hours

Performance on Exadata:

- CPU Bottlenecks alleviated
- End-of-day Processing at around 1 hour
- Greater than 30% overall performance increase

Conclusion:

- Exadata's intelligent storage allowed us to offload some CPU processing from the compute nodes

Assessment

Benefits

- **Meet performance SLAs**
- **Out of the box performance allows CCI resources to focus on additional improvements**
- **Performance capacity of the Exadata allows for consolidation and future cost savings**
- **Standard Exadata Configuration allows for Database High Availability out of the box**

Challenges

- **Database compute node processing capacity and storage capacity are tied**
 - ✓ If Data Center space available, this issue addressed by Storage Expansion racks
- **Unable to mix disk types within the enclosure, HC or HP?**
 - ✓ Exadata Smart Flash Cache Write-Back reduces the need to mix disks
- **Cost**
 - ✓ Offset to some degree by gains in performance and consolidation