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Exadata MAA Best Practices Series Session 2: Siebel on Exadata

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Oracle Applications, Exadata and MAA Best Practices

Exadata MAA Best Practices Series

1. E-Business Suite on Exadata
2. Siebel on Exadata
3. PeopleSoft on Exadata
4. Exadata and OLTP Applications
5. Using Resource Manager on Exadata
6. Migrating to Exadata
7. Using DBFS on Exadata
8. Exadata Monitoring
9. Exadata Backup & Recovery
10. Exadata MAA
11. Troubleshooting Exadata
12. Exadata Patching & Upgrades
13. Exadata Health Check





Assumptions and Terminology

- MAA – Oracle Maximum Availability Architecture
- HA – High Availability
- RAC – Oracle Real Application Clusters
- ASM – Oracle Automatic Storage Management
- Flashback – Oracle Flashback Database Technology
- RMAN – Oracle Recovery Manager
- MOS – My Oracle Support Note

Key Takeaways





Key Takeaways

Siebel on Exadata

1. Standard processes apply for getting to Exadata
2. Validated Maximum Availability Architecture (MAA) best practices
3. Siebel performs well and takes advantage of unique Exadata capabilities

Best Practices for Getting to Exadata





Getting to Exadata

Supported Siebel Releases

- Siebel 7.8.2.14
- Siebel 8.0.0.9
- Siebel 8.1



Getting to Exadata

Fresh Siebel Database Installation

- Create database following Exadata best practices
 - MOS 1187674.1
- Populate the new database using the standard Siebel database tools and procedures



Getting to Exadata Siebel Database Migration

- The available migration options depend on the source platform and version

Migration Method	Source Platform	Source DB Version
Data Guard Physical Standby	Oracle on Linux, Windows, or Solaris x86	11gR1, 11gR2
Transportable Tablespace	Any Oracle	10gR2 +
Data Pump	Any Oracle	10gR2 +
dataexp/dataimp	Any Database	
Oracle Goldengate	Any Database	

- See Exadata migration presentation:
 - <http://www.oracle.com/technetwork/database/features/availability/s316822-175935.pdf>



Getting to Exadata

Real Application Testing

- Oracle Real Application Testing may be used to test and tune a Siebel production workload to ensure a successful migration
 - All queries can be captured and tested, and
 - An entire production workload can be captured and replayed
- In our 30,000 concurrent user test:
 - 71 million database calls were captured over a one hour period and successfully replayed on Exadata



Getting to Exadata

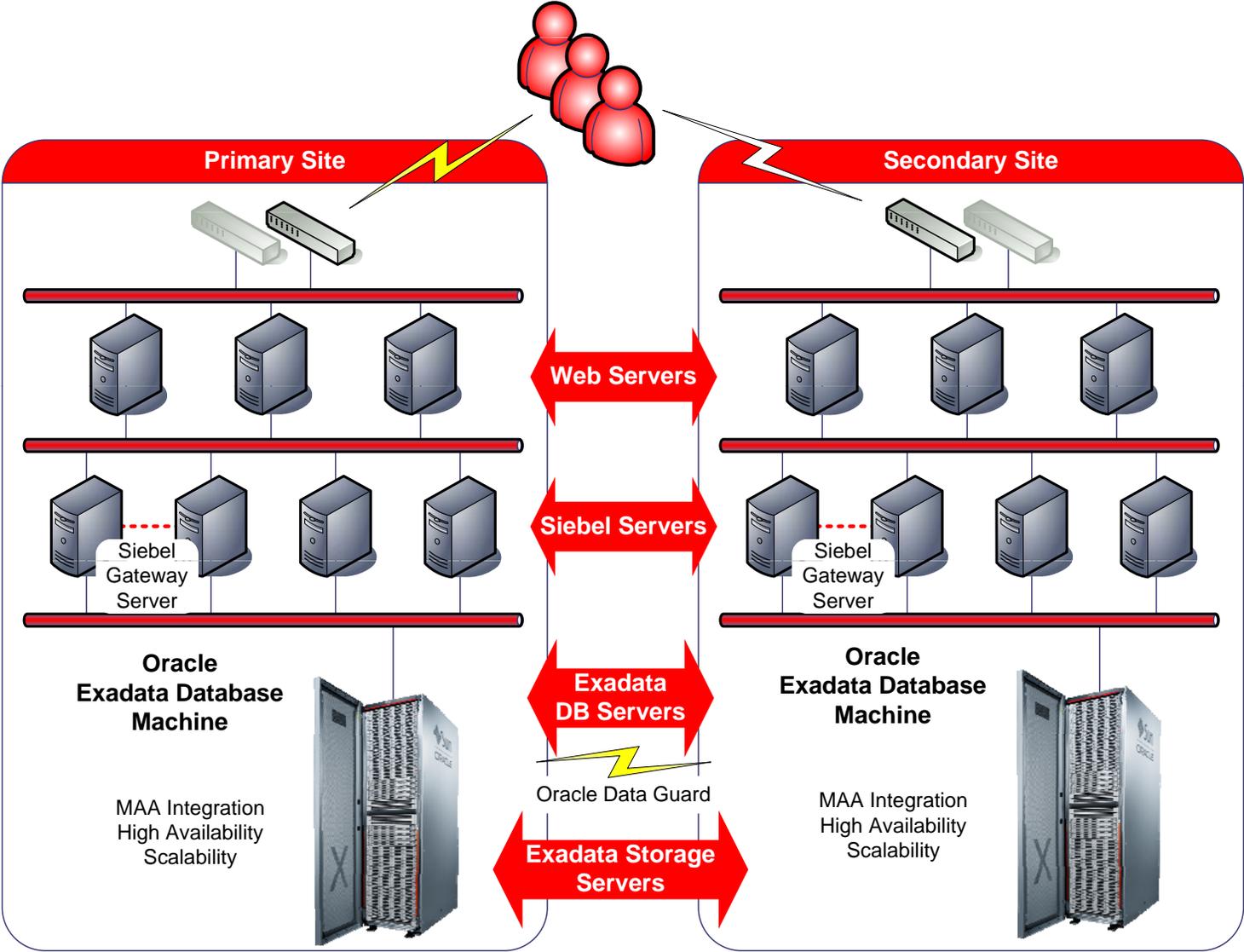
Best Practice Takeaways

- Use standard Siebel installation and migration
- Integrate Exadata best practices
- Use Real Application Testing
- See “Siebel on Exadata” white paper for full details:
 - <http://www.oracle.com/technetwork/database/features/availability/maa-wp-siebel-exadata-177506.pdf>

Siebel MAA on Exadata

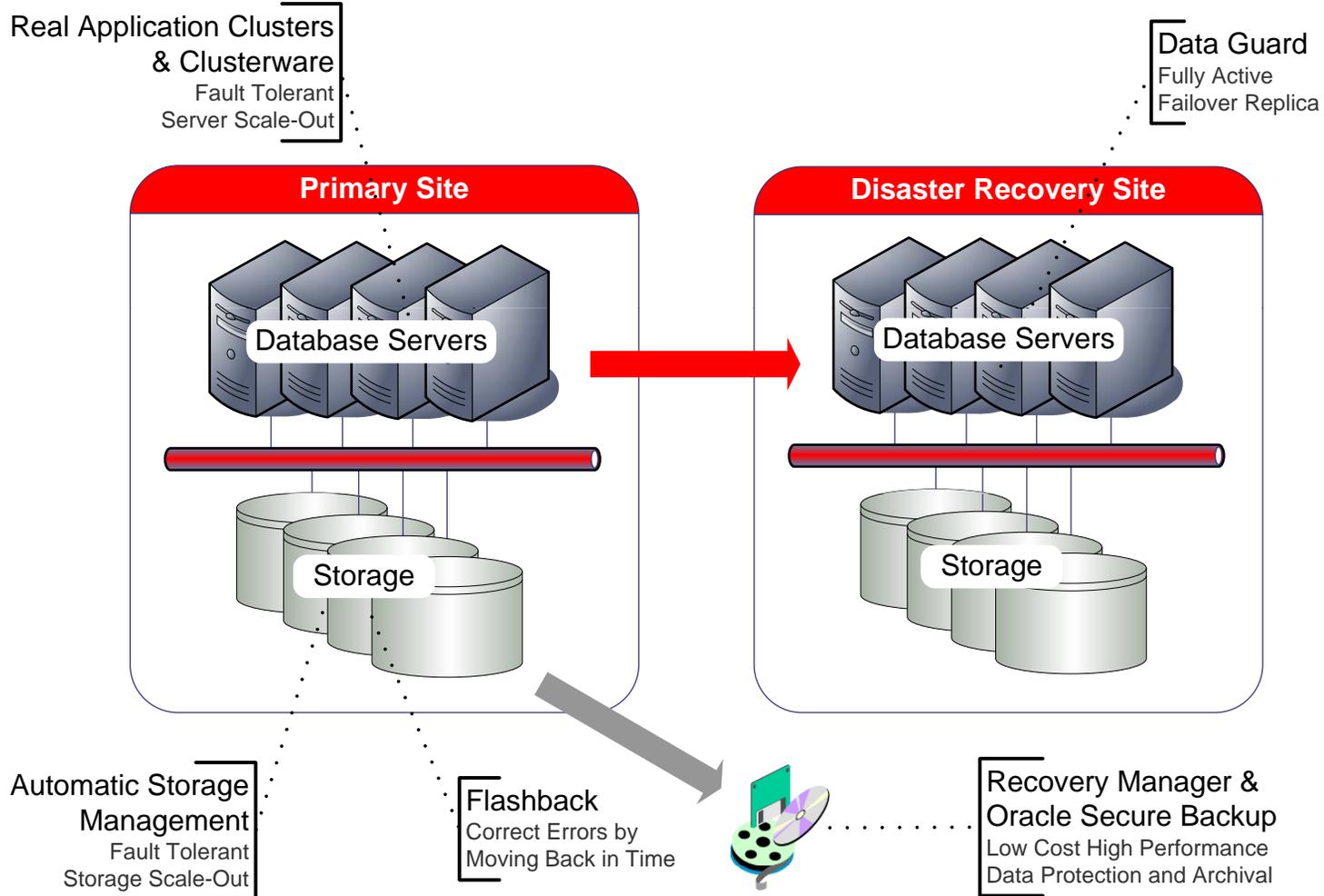


Siebel MAA on Exadata



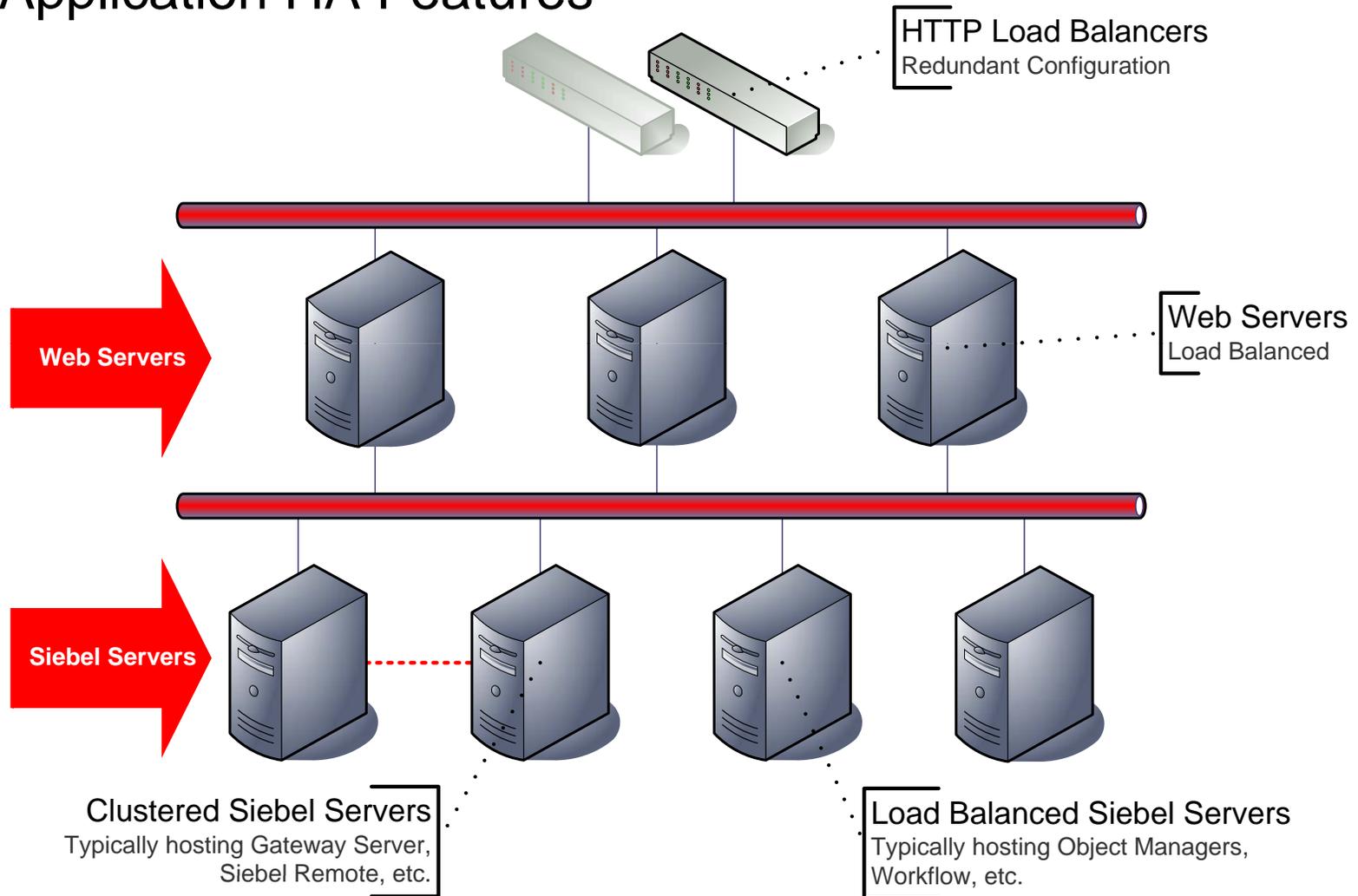
Siebel MAA on Exadata

Database MAA Features



Siebel MAA on Exadata

Application HA Features





Siebel MAA on Exadata

Best Practice Takeaways

- Configure Siebel using our MAA best practices
 - Load balanced web and Siebel servers
 - Clustered Gateway Server
 - Oracle RAC and Oracle Data Guard
- See “Siebel MAA” white paper for full details:
 - <http://www.oracle.com/technetwork/database/features/availability/siebelmaa-131211.pdf>

Siebel Performance on Exadata





Siebel Performance on Exadata

Load Testing

- We tested a 30,000 concurrent user workload on Exadata to develop our deployment best practices:
 - 9,000 users - Financial Service Call Center
 - 3,000 users - Partner Relationship Management
 - 18,000 users - EAI – Web Service



Siebel Performance on Exadata

Testing on Quarter Rack Database Machine

- 10 x 8 Core Siebel Servers
 - Siebel 8.0
 - Oracle Enterprise Linux on Oracle VM
- Quarter Rack Database Machine
 - 2 x 8 Core DB Servers - Oracle RAC
 - Oracle 11gR2
 - Oracle Enterprise Linux
 - MAA best practices applied

Siebel Performance on Exadata

Business Transactions

- Call Center
 - Create Contact
 - Create Opportunity
 - Add Products to Opty
 - Click "AutoQuote"
 - Add Name and Price List
 - Specify discount
 - Click "Reprice All"
 - Update the Opportunity
 - Click "AutoOrder"
- Partner Rel. Mgmt
 - Create SR
 - Create Opty
- EAI - Web Service
 - Query SR
 - Insert SR
 - Update SR



Siebel Performance on Exadata

Load Testing Results

- End User Statistics:
 - 440,000 business transactions per hour
 - 0.12 seconds average end user response time per operation
- Database Machine Statistics:
 - 14,990 DB calls per second with average 0.87 ms latency
 - 9,571 IOPs with average 1.23 ms latency
 - 49% Exadata Smart Flash Cache hits
 - 23% Database Server CPU utilization



Siebel Performance on Exadata

Load Testing Conclusions

- The Exadata Smart Flash Cache hit rate was high and improved the responsiveness of the application
- Spare capacity was available for growth and consolidation
- High application performance and high availability can be achieved with our MAA best practices



Siebel Performance on Exadata

Compression

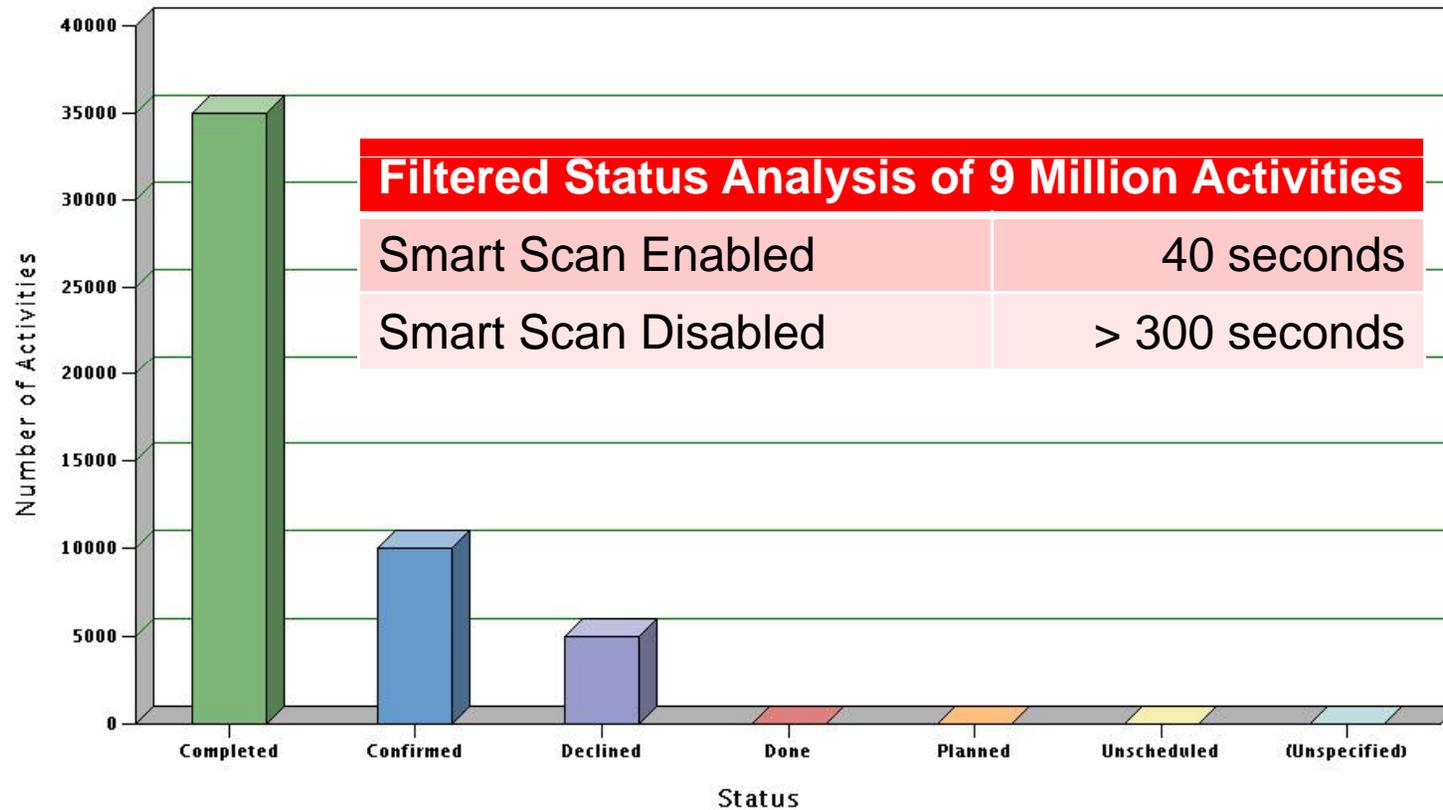
- Exadata Hybrid Columnar Compression can be used to save space in large Siebel read only tables or table partitions
- As an example, one of our financial services customers was able to achieve 10:1 compression for the Siebel activities table (S_EVT_ACT)

Siebel Performance on Exadata

Exadata Smart Scan

Status Analysis 3dBar Go

Activity Status Analysis





Siebel Performance on Exadata

Configure Hugepages

- Configure hugepages for the Siebel Database System Global Area (SGA)
 - See [MOS 744769.1 - How to Configure HugePages for Oracle Database on 64-bit Linux Platforms](#)
- Note, there is no need to allow for large Linux file system cache on Exadata allowing more memory for the SGA



Siebel Performance on Exadata

Best Practice Takeaways

- Fast on Exadata with little tuning
- Siebel response time improves with Exadata Smart Flash Cache
- Validated Siebel Exadata MAA best practices
- Compression can benefit Siebel
- Configure HugePages for efficient memory usage
- See the “Siebel on Exadata” white paper for full details:
 - <http://www.oracle.com/technetwork/database/features/availability/maa-wp-siebel-exadata-177506.pdf>



Australian Finance Group (AFG)

- First customer to go live with Siebel on Exadata
 - 2 months from delivery to go live
- Used Oracle Real Application Testing to test and tune their workload
- Overall 4x improvement in Siebel application performance for their brokers
 - Some processes are 30x faster
- Now consolidating additional workloads on their Quarter Rack Database Machine

Business Takeaways





Key Takeaways

Siebel on Exadata

1. Standard processes apply for getting to Exadata
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E-Business Suite on Exadata

Resources and References

- MAA OTN Site - <http://www.oracle.com/goto/maa>
- Master Note for Oracle Database Machine and Exadata Storage Server - [MOS 1187674.1](http://www.oracle.com/technetwork/database/features/availability/s316822-175935.pdf)
- MAA Best Practices for Migrating to Exadata Database Machine - <http://www.oracle.com/technetwork/database/features/availability/s316822-175935.pdf>
- Siebel MAA - <http://www.oracle.com/technetwork/database/features/availability/siebelmaa-131211.pdf>
- Siebel on Exadata - <http://www.oracle.com/technetwork/database/features/availability/maa-wp-siebel-exadata-177506.pdf>
- How to Configure HugePages for Oracle Database on 64-bit Linux Platforms - [MOS 744769.1](http://www.oracle.com/technetwork/database/features/availability/maa-wp-siebel-exadata-177506.pdf)