



# 24x7 Oracle DatabaseAdmin Support, RAC & ASM projects

## Highlights

- Configured HA and DR for Optimum data protection and ensuring much lower RTOs and RPOs. Higher uptimes to the tune of 99.99% and complete compliance with SLAs, hence ensuring continuous availability of databases and exceeding customer's expectation.
- All servers have access to all databases (Read and Update). Any application, anywhere
- Configured One Click automation plans for best database & server management
- Configured Oracle Recovery Manager so as to use Flash Recovery area
- Configured Oracle OEM for monitoring of databases hence ensuring preemptive and proactive identification and resolution of issues, thus drawing high cost benefits.

## The Client:

World's Largest Two-wheeler Manufacturer.

The client maintains their data in Oracle database. The nature of business is such that weekdays are their busiest time of the week and the volume of transactions hitting the database is very high during the week days. The client had a very cost sensitive approach to their production implementation initially and wanted to observe the business growth before going for a larger implementation. The business grew more quickly than anticipated. The number of users grew and the database grew in size as well.

## Challenges:

Create a more stable and scalable infrastructure for delivery of IT applications and database systems. The organization experienced sustained, strong data growth over a five year period, with business volumes further increased through acquisition. Our mandate was to ensure following :

- Performance Tuning
- Backup of the database, Restore & Recovery
- Oracle Dataguard Maintenance
- Oracle RAC maintenance and troubleshooting
- Oracle Glodengate Implementation and maintenance
- Oracle Timesten Implementation and maintenance
- Oracle ASM Implementation and maintenance
- Tablespace management
- Database migration and refresh
- Database security

## Suggested Solution:

DCM's solution entailed Oracle 11gr2, ASM and RAC so as to provide a virtualization platform that increases scalability, availability, and manageability of IT infrastructure. Through detailed discussion with the client's business managers and technical staff, we determined that system performance and price were key factors in designing a new solution.

The customer finally chose to upgrade all the production database servers to Oracle's highly reliable product 11gr2 with Oracle Dataguard Technology. This decision was based on cost benefit analysis performed jointly by DCM and the client

### Deployment environment

- IBM AIX servers, IBM blade servers

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**Version - 2015/C07/1.0**

- Operating systems: AIX 6.1, Windows 2003/2008, Linux
- Production Applications: Domain Controllers, Mailing server, Backup servers, ERP, SAP & other Tier-1 applications

### Backup strategy

- RMAN online daily backup
- Filesystem level monthly offline backup
- Logical backup (Object level)

### Implementing the Solution

Our client purchased an AIX based 64-bit server running AIX 6.1. DCM recommended both vendor and hardware specification, as a comparable purchase had earlier yielded exceptional results for another client with a similar application profile.

Oracle 11g Release 2 Enterprise Edition One software was installed and patched on the client's new hardware several weeks prior to the scheduled migration date. Rigorous testing then took place using a migrated copy of the production database.

Diligent planning by DCM, the client and the application vendor paid off on go-live day, with the all production database migration completing without a hitch in less than one week.

### Migrating to RAC

The Implementation process was as follows :

Step 1: There was existing single node Oracle database running and Oracle data was residing on file-system. As Oracle was upgraded to Real Application Cluster (RAC) using Automatic Storage Management (ASM) storage option, the project initially involved migrating the data file from file-system to ASM.

Step 2: Thereafter we rebuilt Oracle from single-node to two-node-cluster RAC.

Step 3: In parallel the DR site was created. Replicated the Storage to secondary remote data center by IBM DS88K continuous access on 30MBPS dedicated line.

### Switch to ASM

The switch to Automatic Storage Management (ASM) was implemented to simplify administration process, allowing the administrator to reference disk groups rather than individual disks and files, which are managed by ASM. It enables a DBA to manage a pool of storage and lets the Oracle kernel manage the database files and placement of those files automatically.

ASM helped in :

- Removing Complexity: Automatic Storage Management eliminates the complexity associated with managing data and disks.
- Managing disk redundancy within a disk group: ASM is about managing database storage in the best way possible for the database.
- Distribution of I/O to Optimize Performance:
- Spreading database files across all available storage to optimize performance and resource utilization
- Better storage management.

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## The Benefits:

The move to a 64-bit architecture allowed Oracle to address a much larger data cache, vastly reducing physical disk access and thus improving database performance massively. We also provided Industry Best backup Solutions.

Migrating to Oracle 11g brought additional benefits. Oracle optimizer enhancements and improved PL/SQL efficiency make Oracle 11g significantly faster than Oracle 9i, 10g and far faster than Oracle 8i. The version migration has also delivered improved supportability and a richer feature set.

The results of the project exceeded our client's expectations, with key application processes running many times faster directly after the migration and RAC implementation with ASM. Subsequent tweaks and fine-tuning yielded more gains, backed by Oracle 11g Release 2's unfaltering reliability and excellent performance and the client's application enjoyed faster-than-ever response times.