Zero-downtime migration

MIGRATE VERY LARGE DATA FROM ORACLE DATABASE 9I RAC(SOLARIS) TO ORACLE 12C RAC (AIX)

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INTRODUCTION

Firms in the banking and financial sector who need to modernize or expand their IT infrastructure, can count on us to migrate to Oracle with zero downtime migration. Migrating large amounts of data from your existing database to a new platform without any downtime is quite involved and requires lot of experience. Princeton IT professionals are here to make the migration a hassle-free process. We strive to minimize the time lag during the migration process and provide a zero-downtime solution. With our migration services, clients can achieve real-time benefits like lower cost, streamlined performance, simplified operations and innovative agility.

Zero Downtime Migration - Migrate data from Oracle 9i RAC running on Solaris OS to Oracle 12C RAC running on AIX OS.

To give you an idea of how database migration takes place, here is one actual case wherein the client wanted to migrate data from Oracle 9i RAC running on Solaris OS to Oracle 12C RAC running on AIX OS.

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BUSINESS CHALLENGES

Business challenges encountered by the client

Our client, the topmost financial service provider and worlds retail bank, wanted to migrate one of their 30 TB Oracle Database from Oracle 9i RAC running on Solaris OS to Oracle 12C RAC running on AIX OS.

- The main challenge faced by the client was that he wanted to minimize the time lag as the project was already delayed by 18 months and top consulting companies failed to provide a zero downtime reliable solution.

- The client wanted to migrate high volumes of data with zero downtime and without any loss of data.

- Since the client's database catered to internal, external, and critical decision support systems, the possibility of any downtime beyond the Service Level Agreements was ruled out.

- Another challenge was that client websites encountered high traffic.

- Data came from various systems.

- It was difficult to test every use case as there was no similar environment supporting massive workload, complex client applications. We needed to provide the client with a fall back up plan.

MIGRATION SOLUTION

Our reliable zero downtime migration solution

We studied all the challenges in detail regarding the zero-downtime and time lag for data migration. After evaluating the challenges, Our IT professionals worked diligently to come up with a zero-downtime reliable solution. Based on our study, we came up with a reliable three-step migration approach.

Initial assessment

- Princeton IT Engineers teamed up with client's critical stakeholders to understand essential requirements along with third-party integrations.

- We studied the nature of the existing transactions.

- After the initial study, we provided the assessment report to the client.

Design and planning

- Our IT professionals developed a proper test case to cover the entire test coverage.

- We explained to the client our forward approach and provided an excellent execution plan.

- We performed the replication using Oracle Goldengate.

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- We created a high volume of data and transactions that was a replica of production transactions.

- Custom verification and validation procedures were developed with no loss of data.

- Our IT professionals have a fall back plan in place to switch back to Oracle 9I database in case Oracle 12C is not accessible with no loss of data.

Migration objective

- Dry run to ensure there is no loss of data.

- Migrate new websites with zero-downtime ensuring there is no loss of data and with a minimum timelag.

BENEFITS TO CLIENT

Benefits to client

- The client enjoyed successful migration with zero-downtime.

- Minimized the lag at minimalistic level.

- With our custom verification and validation procedure, we made sure the client doesn't suffer from any loss of data.

- Provided greater accuracy in data migration

  Princeton IT database engineers have migrated more than 600 + database by using a zero-downtime approach and have excellent expertise in handling migrations of large database systems.

GLOSSARY

- **Data migration:** A process of selecting, preparing, extracting and transforming data permanently from one location to another, one application or format to another.

- **Data migration with zero downtime:** Migrating data while minimizing the time a system fails to provide or perform its primary function.

- **Oracle RAC:** Referred to as Real Application Cluster, it is a component of the Oracle 9i database that helps in installing a database across multiple servers.

- **Solaris OS:** One of the best enterprise operating system for Oracle database and Java applications.

- **AIX OS:** Advanced Interactive Executive operating system refers to the series of proprietary Unix system sold by IBM. It is commonly used for enterprise servers.

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