

Opening up open source adoption



Xoriant provides a wireless gateway product company with low cost and performance intensive solutions by porting their Oracle database to MySQL thereby lowering TCO

Author: Xoriant Corporation
Contact: info@xoriant.com

Client Overview

Our client is a high growth telecommunications software vendor with worldwide operations in the high flux telecom market. Our client's products allow mobile network operators to rapidly deploy a flexible, open, next-generation wireless network to offer their customers rich voice, data and multi-media services. Additionally, the company provides a series of actionable alerting solutions to financial institutions to assist them in increasing revenue, lowering operating costs and improving customer satisfaction and retention.

Business situation

Corporate databases in recent years have mushroomed both in size and in costs to maintain. As companies continually become more sensitized to the cost of their existing technology infrastructure, databases are increasingly seen as strong potential targets for financial savings due to significant growth in licensing and yearly maintenance expenses as CPU power and/or user strength increases.

Our client's major portion of IT budget was being consumed by their existing infrastructure and too little was available for new IT initiatives. Our client wanted to opt for databases as an ideal starting point to exercise this new IT infrastructure philosophy by certifying their leading business products on open source database technology (Oracle Database 9.2.0.x to MySQL 5.0.x)

Challenges

Moving a huge database of the size of approximately 210 GB while simultaneously optimizing the performance of the migrated database involved number of challenges, some of which were:

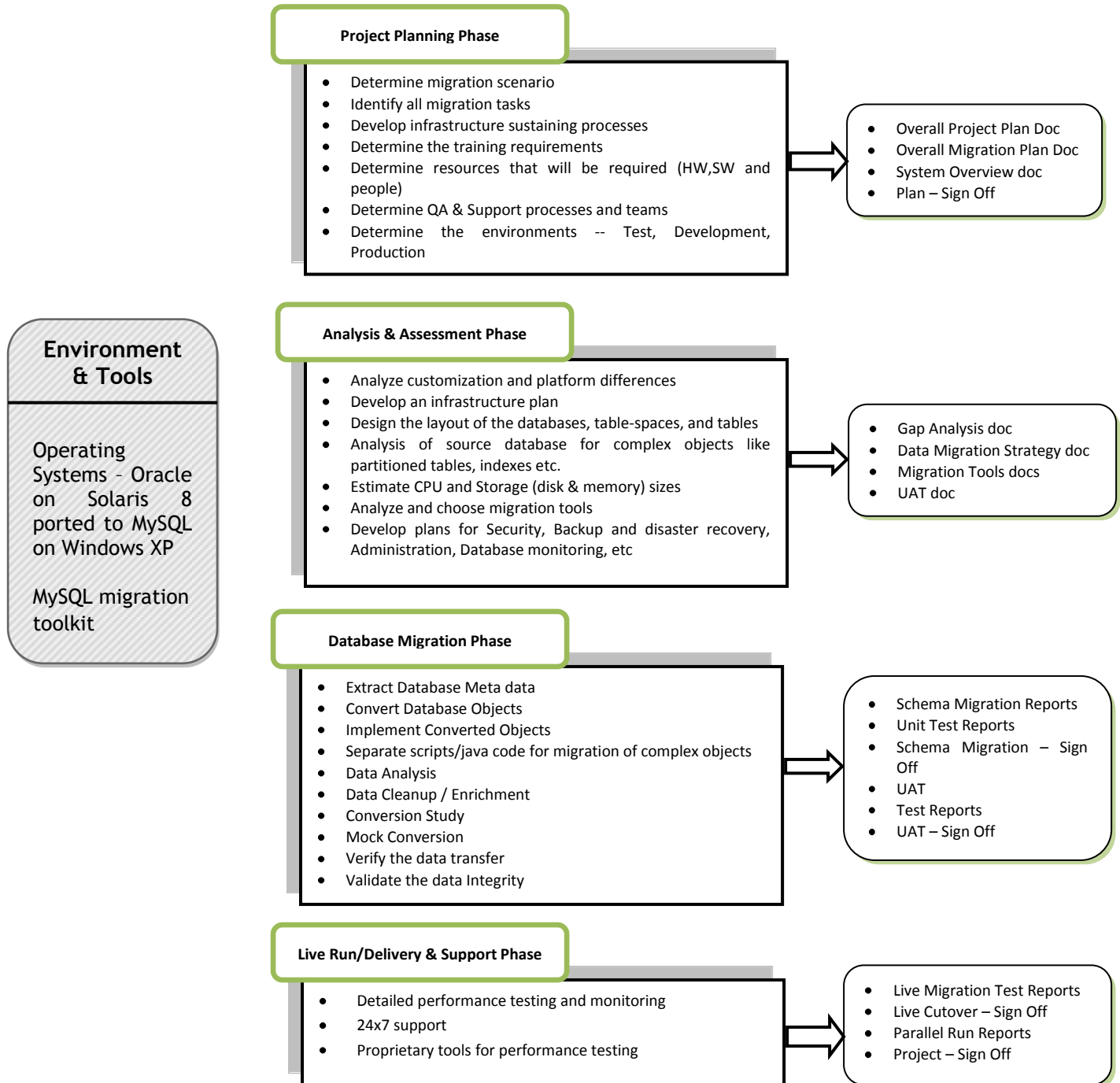
- Determining the optimal infrastructure configuration to enable smooth migration was one of the bigger challenges
- Ensuring minimal downtime during the migration since the database to be migrated was OLTP with high throughput, many users, and constant load of DML operations and queries
- Ensuring high usability and manageability offered by the Oracle database
- MySQL does not support numerous features like scheduled jobs, several Oracle data types, sequences and schemas like XMLDB

Our Solution - Methodology & General Milestones and Deliverables

- We conducted an in-depth infrastructure analysis of number of database users, type of database workload, etc to determine number and type of servers and CPUs needed and utilization rate of each server
- We used InnoDB storage engine of MySQL that is a transaction-safe, ACID (atomicity, consistency, isolation, durability) compliant and best suited for OLTP
- MySQL Migration toolkit was used for migrating simple tables and views and the data
- Open source tool SqlYog was employed that provides rich and efficient usability experience
- We created a set of stored procedures, shell scripts and Cronjobs to replace the Oracle jobs
- A proprietary tool was developed to simulate heavy traffic condition for performance testing

- Shell scripts were written to load the data in bulk (approx 3.5 million rows) and benchmarking was done with the original database to determine the performance in terms of time taken for transaction processing
- Generated application reports for data verification

To ensure smooth and error free migration, we followed required steps from a detailed methodology for the migration framework defined by Xoriant Open Source COE as illustrated:



Business Benefits

- The TCO savings of the client was about 97% of the original cost
- Migrating to Open source improved product performance to 27 TPS from 7 TPS
- Enabled client to meet its aggressive product release dates
- Improved brand image in market
- This migration improved reliability and stability
- Provided unlimited tuning and improvement capabilities for newer versions of the product
- Enabled client to increase its customer base and drive revenues in the high flux domain due to the reduced product cost

Testimonial

“Xoriant has been associated with us for the last 3 years in design, development and implementation of the product. My experience is that they have a team that is technically very competent and also professional in its development approach. Xoriant management has been quite responsive. They have been a very good offshore software development partner in our journey to success.”

.....Technical Director