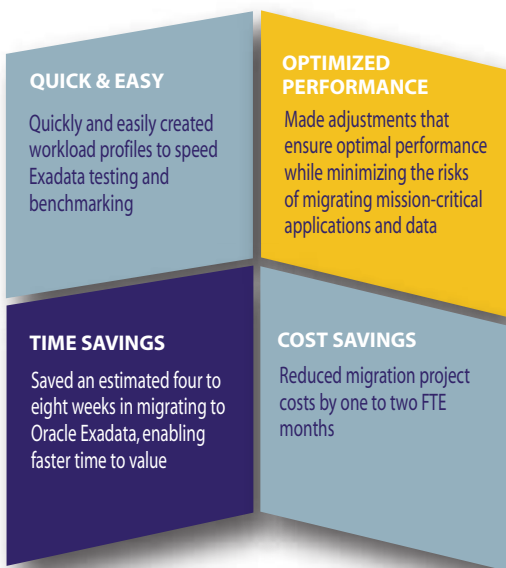


# Information Services Firm Chooses Teleran to Accelerate Oracle Exadata Database Machine Implementations

## the COMPANY

This organization is one of the world's leading information and news companies. Combining industry expertise and technology to deliver critical information to decision makers in the financial, legal, tax and accounting, healthcare, science and media markets.

## the TELERAN BENEFIT



The company's use of Teleran helped this organization to meet their migration objectives.

## the CHALLENGE

This company's IT organization selected Oracle Exadata as a foundation component of their ongoing information management strategy because of its fast performance and scalability. IT's objectives were to deliver the Oracle Exadata performance benefits to the business as soon as possible and to minimize project costs. As they planned the migration of both Oracle and DB2 databases, the company's IT management determined that additional capabilities were required to accelerate the migration process and reduce risks associated with moving business-critical systems to the new platform. Oracle suggested that the company consider Teleran's Application Usage Management software to assist them in achieving their migration objectives. It would also help them track and manage usage of their Oracle Exadata applications and data on an ongoing basis.



## the TELERAN SOLUTION

The company selected Teleran to help them speed their migration to Oracle Exadata based on meeting these criteria:

- Teleran's network-based architecture enabled them quickly to install the system with no adjustments to the database environment or the applications.
- It captured and analyzed 100% of transactions using the database listener architecture without imposing any database overhead or application latency.
- It provided usage metrics that enabled them to accurately capture and profile existing workloads and run effective benchmarking tests in the new environment.
- It provided database, application, and user level usage activity that allowed them to prioritize workload testing based on frequency of use and business context.
- It provided usage metrics and analysis that would enable optimal application performance and cost effective user management in the Oracle Exadata environment on an ongoing basis.



## usage MONITORING

Teleran's iSight™ Usage Monitoring software solution continuously profiles usage activity from the network. iSight provides a “top down” perspective of user behavior, application level activity, and query and database usage trends over time without putting any resource demand on the database. iSight's design enables information management and architecture staff to quickly assess and guide remediation of user and application issues that interfere with effective use of databases. It provides a comprehensive analytic reporting application, iSight Analytics, featuring executive-level dashboards and drill-down analyses that help organizations address issues that affect the health, efficiency and productivity of the entire application environment.

Because iSight brings in both the business user and application context, it highlights opportunities and problems in the overall environment not visible via database monitoring tools.

## profiling workloads for ORACLE EXADATA MIGRATION

To test and adjust to their new environment, the company needed to capture and profile the workload on their existing databases and then establish tests for the new environment. Using iSight, they captured and analyzed all queries run during a representative time period in their existing environments. They then ran iSight Analytics reports that identified the most frequently run queries, the most frequently accessed tables, and the most frequently used joins. The company then used this profiling information to develop test workloads for Oracle Exadata. They associated specific applications, users or user groups, and business units associated with these queries to ensure the test workload included business-critical processes required to meet specifically defined service levels in the new environment.

In addition, baseline workloads needed to be analyzed to identify any concurrency issues associated with application contention. This would allow for the appropriate load balancing and application controls in the new environment. With these baseline workload tests in hand, The company used five key iSight analyses to help speed and improve the efficiency of the testing, analysis and migration to the Oracle Exadata environment and reduce overall staff time and effort in this process. These analyses included:

**Usage Analysis** to identify the critical workloads

**Index Analysis** to reduce indexes for optimal performance

**Application Activity Analysis** to confirm business priority and service levels

**Hot Spot Analysis** to confirm optimal data placement on the Oracle Exadata disks

**Concurrency Analysis** to ensure effective workload balancing



## usage ANALYSIS identifying the CRITICAL WORKLOADS

The company focused first on Usage Analysis to identify high frequency usage by a variety of dimensions including user/role, department, location, shift, application, query and data accessed. Usage Analysis enabled the company to segment usage by frequency, profiling those high volume activities and establishing baseline workload benchmarks. Because it provided detailed usage patterns at the user, application and database levels, it enabled the company to understand the business context of decisions regarding the priority of specific roles, applications, reports and business-critical processing time periods.

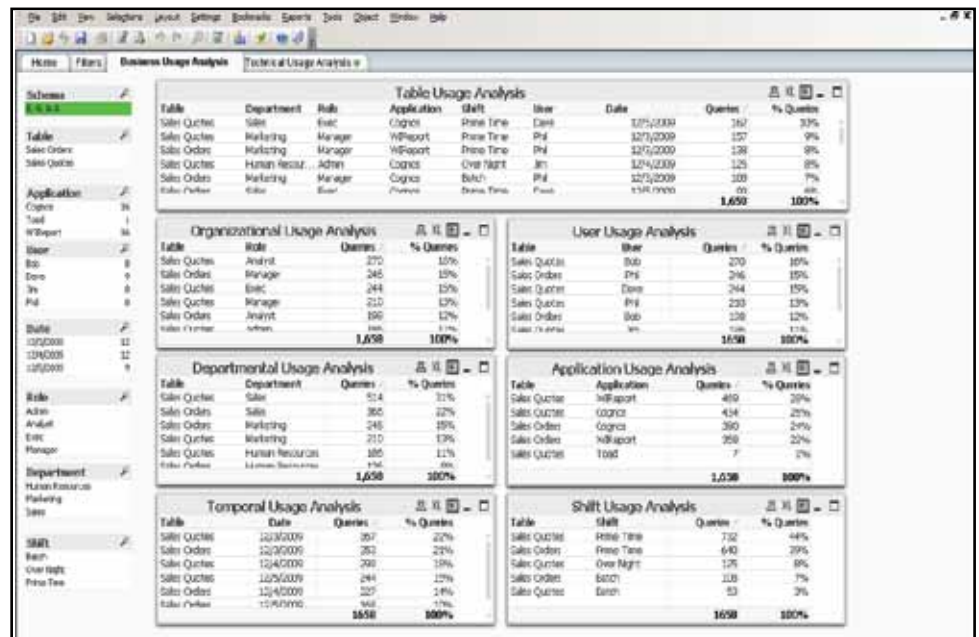


Figure 1. This Usage Analysis looks at query activity across several dimensions including database tables, departments, users, and applications over time.\*



**Gold Partner** ORACLE EXADATA  
MIGRATION STUDY



teleran

**hot spot ANALYSIS**  
**identifying OPTIMAL DATA DISK PLACEMENT**

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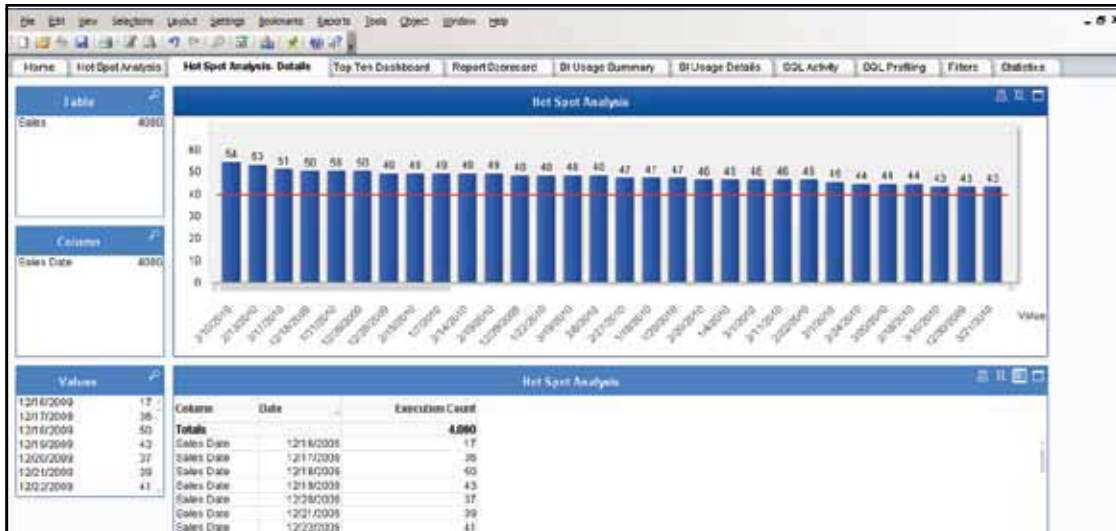


Figure 2. This Hot Spot report shows frequency of use of specific date bind variables in queries.

**index ANALYSES**  
**reducing indexes for OPTIMAL PERFORMANCE**

Oracle Exadata’s highly optimized architecture uses an “index light” (as few indexes as possible) model. The migration team made effective decisions on appropriate Oracle Exadata indexing strategies based on having detailed insight into how indexes are used, how often, and by what application. Both Bind Variable Analysis and Join / Index Analysis assist in this process.

**Bind Variable Analysis** enabled the company to analyze query performance across all of the actual individual literal values that replaced the bind variables during query execution. This provided a comprehensive workload profile and accurate query performance benchmarking. The workload profile identified the indexes in the new Oracle Exadata environment that could ensure fast performance and those that could be eliminated. Keeping unneeded indexes on the Oracle Exadata platform can impede optimal performance. Capturing all the literal values associated with bind variables enabled the company to conduct realistic benchmarking of query performance for the new environment.

**Join / Index Analysis** also provided insight as to which indexes should be retained, added or dropped to ensure optimal Oracle Exadata Performance. The Join / Index Analysis revealed how tables were joined together across all queries and what the most frequently used join patterns were. This analysis revealed the cases not easily detected that could have material affect on index placement and performance. The particular queries captured associated with these frequent join patterns were run to understand their resource use and performance. Those indexes associated with joins of the most resource intensive or longest running queries were candidates for retaining in the Oracle Exadata environment. All others were candidates for deleting.



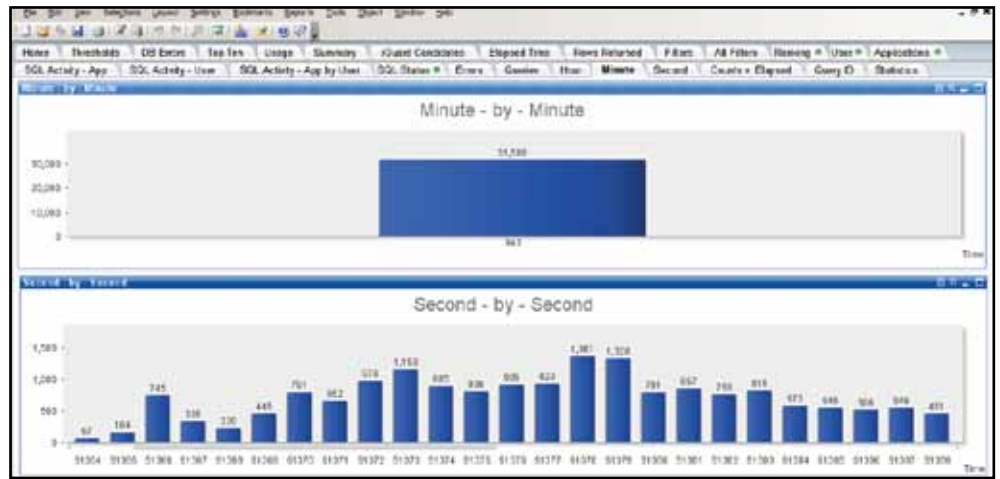


Figure 3. This Concurrency report shows detailed workloads by minutes and by seconds.

## concurrency ANALYSIS ensuring effective WORKLOAD BALANCING

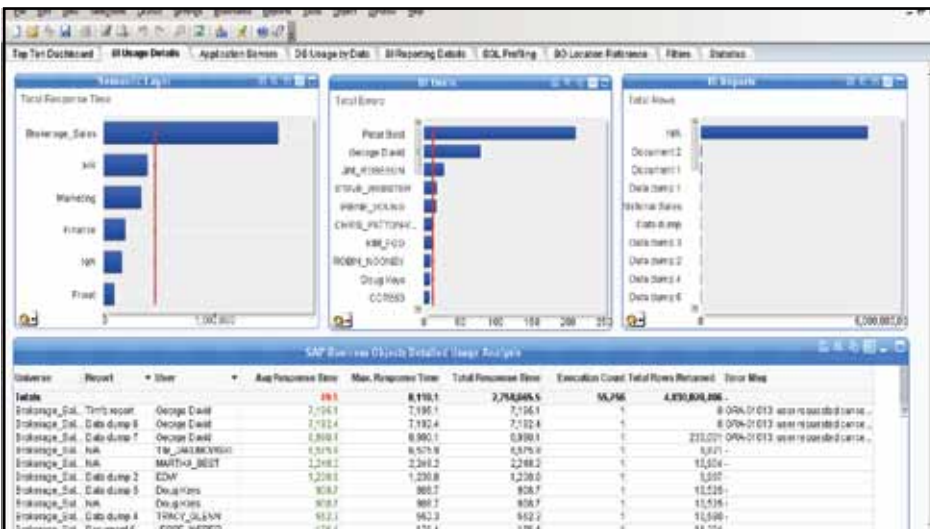
Concurrency Analysis allowed the company to analyze the behavior of queries from applications as they interacted and competed for resources over periods ranging from minutes to milliseconds. Analyzing all SQL events at the millisecond level is especially valuable in high volume OLTP applications where there are often many short-lived events. Concurrency analysis provided the company migration team insight into how a broad range of applications interacted with each other and how they affected overall performance.



## application usage ANALYSIS confirming business priority and SERVICE LEVELS

Application Usage Analysis enabled the company to review and analyze data usage across specific business intelligence (BI) application dimensions including user, semantic layer, Report name, SQL generated, and general performance metrics. Understanding how BI applications were interoperating with the database was critical to understanding and tuning BI performance and determining how BI applications were affecting the database. Specifically, this analysis enabled the company to track and analyze user and user group activity, identifying opportunities for additional user training and management as well as optimization of specific reports and semantic layers.

Figure 4. This Application Usage report identifies workloads across BI servers, BI semantic layers, and BI Reports and query impact on the database.



**Note:** Data displayed in reports in this document are not based on actual company data. The reports display sample data only.

## SUMMARY

Teleran's Application Usage Management solution enabled the company migration team to plan and execute a low risk migration project, allowing them to quickly move legacy applications to Oracle Exadata. This significantly reduced the Oracle Exadata project time to value and saved significant IT resources and expense. In addition, their use of the Teleran solution ensured that the company team met business expectations, and moving forward, will enable them to adjust quickly as business needs and usage patterns change over time.

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