



DATA WAREHOUSE/ANALYTICS VISIBILITY AND OPTIMIZATION FOR EXADATA

Optimizing Service and Value to the Business Users

VISIBILITY & OPTIMIZATION

KEY BENEFITS

- Ensures data warehouse service levels and efficiency
- Protects system from inappropriate queries/user-generated problems
- Minimizes staff costs with automated user controls
- Improves user self-service and productivity
- Reduces system resource costs

KEY FEATURES

- Identifies user, application and data warehouse usage issues that impact service and efficiency
- Identifies who is doing what, when and how
- Continuously captures activity across user, BI, query and data warehouse layers
- Query policies protect system from harmful user behaviors
- User messaging guides BI and analytical application users
- Requires no database agents that slow performance

Business Intelligence (BI), analytical applications and data warehouse environments are highly dynamic query environments. Unanticipated user demands, unpredictable ad hoc analyses, rapidly changing query patterns and the inevitable user generated query problems create dynamic and hard to manage systems. The net result: wasted resources, query errors, and frustrated business users. IT has few tools to understand and control how, and when, data warehouse and analytical application users launch their queries or how to ensure the users get the answers they need efficiently.

Real-Time Visibility and Management of Data Warehouse Environments

Teleran's Visibility and Optimization software solution empowers you to understand and manage all applications and their users in BI, analytical and Oracle Exadata data warehouse environments. Because data warehouse usage is constantly changing, Teleran captures a continuous view of activity at the user, application, query and data usage levels so you always have the entire picture of what's going on. This enables you to improve service, increase business productivity, reduce operating costs and ensure that data warehouse resources are appropriately aligned to business objectives. Teleran's 360 degree view ensures that all behaviors and processes are tracked and analyzed to identify the conditions and activity that need to be modified or prevented.

Teleran's solution also keeps inappropriate user queries from reaching the database and reducing service levels, wasting resources or generating errors. At the same time Teleran's solution guides users with messages to more effectively interact with the Exadata data warehouse, improving user self-service, cost efficiency and overall service and value to the business users.

Managing Data Warehouse Service and Value to the Business

Data warehouse performance and service begins with the users: understanding them, tracking and analyzing their interactions with the applications and data, as well as establishing automated policies to manage

FILLING A GAP IN THE ORACLE STACK

Teleran's solution offers critical capabilities uniquely designed for tracking, analyzing and controlling BI user, application and data warehouse activity.

With a focus on BI and analytical applications, it complements Oracle Enterprise Manager database administration and system performance management tools.

UNIQUE DATA WAREHOUSE & ANALYTICS FOCUS

Network-based architecture puts no overhead on the database

Continuously captures all activity across user, BI, query and data warehouse layers

Out-of-the-box analytics, dashboards and alerts deliver complete data warehouse visibility

User controls and messaging deliver real-time management

Targeted to IT executives, information management, data warehouse and BI support staff

their efficiency and effectiveness. And, alerting support staff to inappropriate or wasteful user behaviors. Teleran's Visibility and Optimization solution provides the analytical tools and alerting for fast problem resolution and real-time query/user controls to ensure that data warehouse resources are used efficiently and service meets business expectations.

Tracking and Analyzing Key Dimensions of Data Warehouse Environments

Teleran's usage tracking product is iSight™, designed for information managers, and application and data warehouse staff to gain visibility on how all users and applications are interacting with the database at the database object level. This information enables you to identify unused data, adjust the application data model based on actual usage patterns, identify inappropriate or wasteful user activity and processes and understand how the business actually uses the applications and data.

Because in data warehouse environments almost every transaction is different, iSight captures every transaction across key dimensions of the application environment. These dimensions include who the actual user is, his or her organizational context, the BI application, the specific BI semantic layer and report name, the SQL query launched by the application server, data objects accessed in the database and certain query performance levels and result set metrics. It also tracks data manipulation (DML) activity including inserts, updates, deletes, and database activities such as granting permissions, and adding and deleting tables.

This enables iSight to provide a comprehensive and detailed picture of overall usage that is required to understand and manage these dynamic environments. Because iSight resides on the network logically between SQL generating applications and backend databases, it is able to track data warehouse usage traffic continuously without adding overhead to the database.

Delivering Management Insight with Dashboards, Analytics & Alerts

iSight Analytics™ is Teleran's reporting and analysis application. It transforms the usage data captured by iSight into actionable data warehouse management information. iSight Analytics delivers management-level dashboards that highlight overall risks, exceptions, service and performance indicators compared to baselines and SLAs. Using an intuitive in-memory business intelligence engine, it identifies user issues, user problems and immediately pinpoints poorly issues and anomalies, whether they are caused

by applications, users, database errors, queries, ETL or other maintenance processes.

iSight Analytics delivers out-of-the-box analytical solutions including:

- Visibility and Optimization
- Data Usage and Dormancy
- Governance and Compliance

Figure 1. Visibility and Optimization Dashboard highlights KPI's, trends and issues associated with data warehouse users, queries, and applications.

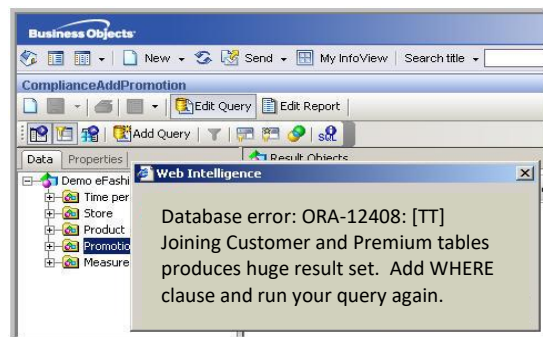


Managing Data Warehouse Users and Queries in Real-Time

No matter how much planning and support goes into data warehouse and other dynamic application environments, end-users unknowingly and inevitably issue inappropriate or "runaway" queries that degrade service, frustrate users, deliver inaccurate results, or breach governance policies.

Teleran's iGuard™, a query and user policy management system, prevents users from launching these resource wasting or inappropriate queries. If a user's query is blocked a customizable message is instantaneously sent by iGuard to the user that guides him or her on ways to improve the efficiency and effectiveness of their query. iGuard policies in conjunction with user messages dynamically "tune" and manage users, improving their productivity while minimizing help desk calls and IT support costs.

Figure 2. Intelligent messages instantaneously guide and inform BI users to interact with the data warehouse more efficiently and effectively.

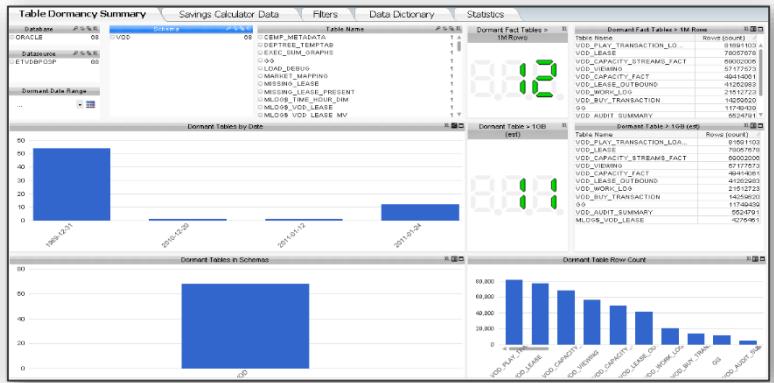


iGuard operates in conjunction with iSight on the network. It automatically applies selected query control and user management policies via its patented high speed policy action engine. This highly efficient, small memory footprint process is designed to evaluate queries in milliseconds, introducing no material latency, while protecting the system from performance degrading, inappropriate queries.

Reducing Data Warehouse Operating Costs

Teleran’s Usage analyses identify who is using what data and how frequently. It calculates the savings achieved by off-loading little or never used data to lower cost storage such as Hadoop or archiving systems. It also identifies data model optimizations based on analysis of usage patterns, ensuring efficiency and service as queries and data change over time.

Figure 3. Dormant data usage calculator identifies unused data by schema, table, and column by users and applications.



Aligning Data Warehouse Resource Use to Business Objectives

Teleran’s Business Alignment analyses puts data warehouse usage in a “business context”, correlating system use to specific users, departments, business units, geographies and functions. This enables both you and business management to understand and manage data warehouse and analytical application resources and budgets to specific organizational objectives, allocating the right resources to the most critical business activities and processes.

Business Alignment metrics such as Business Performance Index and Business Process Risk measures alert management to possible risks to business functions and decisions that rely on the data warehouse for critical analysis. IT organizations also leverage Teleran Business Alignment to



associate technology investments to business priorities, and to allocate IT budgets to business units based on actual resource usage.

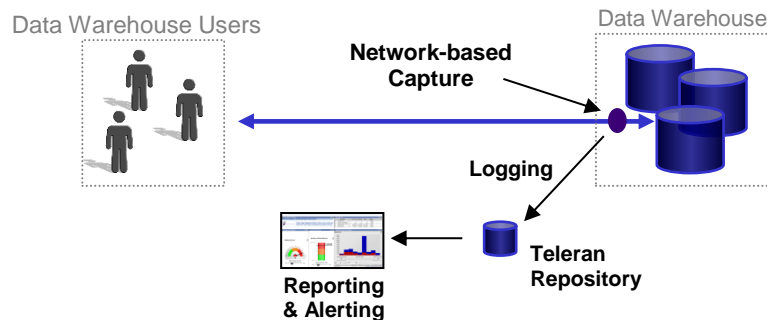
Figure 4. Business Alignment Report associates organizational context with data warehouse use, performance and effectiveness for the business.

Elapsed Time / User	Department	Role	Geography	IP Address	Application	Date	Shift	Run Time
9,850 Amanda Royce	Marketing	Manager	West	100.0.1.79	Bus Objects	12/3/2009	Prime Time	Long
4,910 Chris Flynn	Marketing	Manager	Europe	104.21.1.176	OBIEE	12/3/2009	Batch	Long
4,893 Alok Jain	Human Reso...	Admin	South	104.21.1.98	Cognos	12/4/2009	Prime Time	Long

Unobtrusive Architecture, Easy-to-Install Software, Exadata-Ready

Teleran's product architecture is network-based, requiring no database agents or traces that degrade database performance and resource efficiency. Teleran's software resides on the network between applications or middleware and Oracle Database and other database platforms. Teleran's products are designed for fast and easy installation typically requiring one to two hours. Developed in Java, the Teleran solution supports all major operating systems and server platforms and supports single and multi-node environments including Exadata. Teleran's solutions are certified Exadata-Ready by Oracle and are integrated with Oracle CRS in RAC environments.

Figure 5. Teleran captures usage traffic on the network outside of the database and logs to its analytical repository.



Case Study – Improving Customer Service, Reducing Costs

The commercial finance division of a diversified Fortune 10 company operates a credit card data warehouse on Oracle Exadata. The data warehouse supports mission-critical applications used by both internal groups and external customers. Over 600 analysts run large and complex queries against the data warehouse. A number of these queries were generating errors, frustrating users, and jeopardizing customer contracts and sales revenue. Although IT was using a database system monitor, they had no way of comprehensively analyzing actual user and application query

behavior. In addition, the company was unable to prevent inefficient or inappropriate queries from impacting service levels.

Teleran's Visibility and Optimization Solution was installed, significantly improving customer service and productivity while reducing support costs. In addition system and support costs were cut, saving over \$750,000 in the first two years.

Teleran's solution delivered these key capabilities to the company:

- Continuously tracked user, application and database activity to identify usage patterns that generated errors or degraded performance and application quality
- Pinpointed inappropriate user behavior that reduced efficiency and productivity
- Analyzed data usage to highlight database model improvements that increased query performance and application quality
- Identified dormant or unused data to move to lower cost storage, reaping material storage hardware and data handling cost savings
- Improved availability by stopping user queries that slowed ETL process
- Guided users with real-time automated messages to be more efficient using the shared resource

Key Benefits

Teleran solution provides the following benefits that enable you to deliver high levels of service and value to the business while controlling operating costs.

- Provides visibility on how the business is using BI applications and data
- Improves service and efficiency by preventing inefficient user behavior
- Reduces operating risks by identifying and preventing inappropriate use
- Minimizes support effort and cost by automating user/query control
- Helps target and justify IT investments by tracking business use of applications and infrastructure
- Delivers immediate value with quick installation and minimal administration

Conclusion

BI, analytical and data warehouse applications are subject to unpredictable query patterns, changing user demands, and the inevitable user-created query problems that degrade service and diminish productivity. It is challenging to continuously manage the service, user satisfaction, and business value of these dynamic environments while minimizing support

staff and system operating costs. Teleran's objective is to help you meet these challenges with software products that deliver essential BI and data warehouse management disciplines.

Teleran's software products provide comprehensive visibility and management of user behavior, application activity, and data warehouse usage. They uniquely complement system level monitors and database utilities, bridging the gap between understanding and managing users and applications and managing underlying database and system resources. With Teleran, you can now cost-effectively manage Oracle Exadata data warehouse environments to get the greatest value from your investments in people, information, and infrastructure.

Contact Us

For more information on Teleran's Visibility and Optimization Solutions for Exadata visit www.teleran.com or call us at +1.973.439.1820.