# AZURE DATA WAREHOUSE VISIBILITY AND OPTIMIZATION

Microsoft Azure Certified

*Optimizing Service and Value to the Business*

## KEY BENEFITS

Ensures cloud data warehouse service

Minimizes Azure resource consumption costs

Improves user self-service and productivity

Ensures data warehouse value to the business

## KEY FEATURES

Identifies user and application issues that impact service and efficiency

Protects system from inappropriate queries and user-generated problems

Continuously captures activity across user, application and data layers

Real-time query policies protect system from harmful user behaviors

User messaging guides application users in real-time

Requires no database agents that slow performance

*Data Warehouse and analytical application usage in the cloud is highly dynamic. Unanticipated user demands, unpredictable ad hoc analyses, rapidly changing query patterns, and the inevitable user generated query problems create highly dynamic and hard to manage environment – especially in the cloud. The net result: wasted cloud resources, higher cloud costs, query errors, and frustrated business users. IT has few tools designed specifically for managing dynamic and unpredictable data warehouse and analytic environments in the cloud to ensure that users get the answers they need quickly and cost efficiently.*

### Real-Time Data Warehouse Visibility and Management in Azure

Teleran's Visibility and Optimization software solution empowers you to understand and manage all applications and their users in on-premise and SQL Server and in Azure. Teleran's solution supports IaaS, PaaS and SQL Data Warehouse implementations. 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. It does this without putting any overhead or latency on the database. This enables you to improve service, increase business productivity, reduce operating costs and ensure that 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, wasteful user queries from reaching the database and reducing service levels, driving up cloud costs, and frustrating users. At the same time Teleran's solution guides users with messages to more effectively interact with the database, improving user self-service, cost efficiency and overall service and value to the business users.

## Managing Service and Value to the Business

Ensuring cloud data warehouse service and business value begins with the users: understanding them, tracking and analyzing their interactions with the applications and data, as well as establishing automated policies to manage their efficiency and effectiveness. And, alerting support staff to inappropriate or wasteful user behaviors. Teleran's Visibility and Optimization solution provides the automated analysis and alerting for fast problem resolution and real-time query/user controls to ensure that cloud resources are used efficiently, and service meets business expectations.

## Tracking and Analyzing Key Dimensions of Database Environments

Teleran's usage tracking product is iSight™, designed for information managers, and application and IT support 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.

In data warehouse and analytical application environments, almost every transaction is different, iSight captures each and 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 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 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

### FILLING A GAP

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

With a focus on unpredictable, dynamic usage, it complements Azure database administration and system management tools.

### UNIQUE USAGE FOCUS

Network-based architecture puts no overhead on the database

Continuously captures all activity across user, app and database layers

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

User controls and messaging deliver real-time management

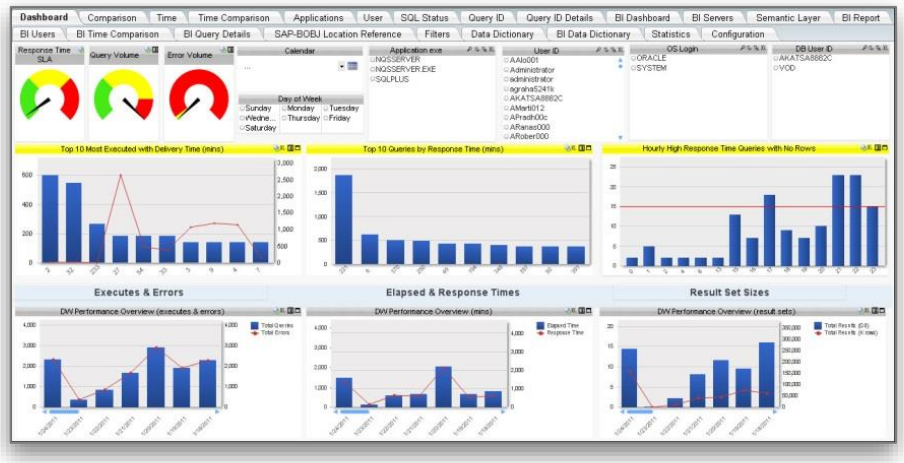
Targeted to data warehouse, analytics, and information management executives and staff

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
- Data Usage and Dormancy
- Governance and Compliance

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



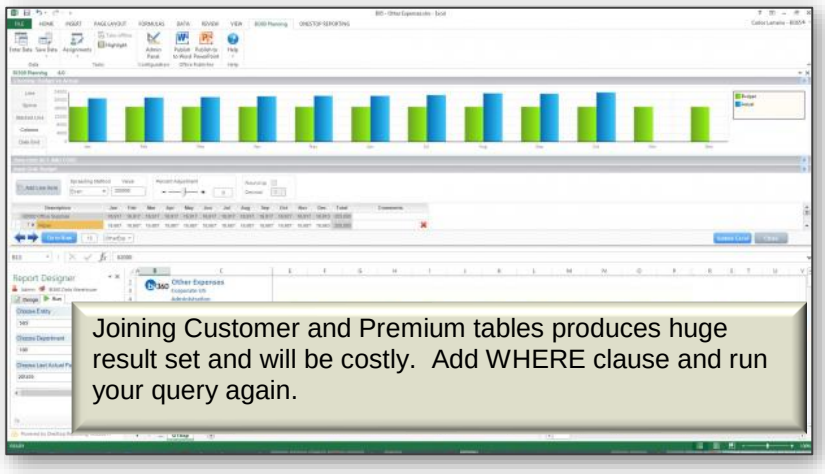

## Automatically Managing Users and Queries in Real-Time

### Automatically Controlling Cloud Costs

No matter how much planning and support goes into 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 Azure 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 minimizing Azure consumption costs.

Figure 2. Intelligent messages instantaneously guide and inform Azure Analytics users to interact with the database more efficiently and effectively.

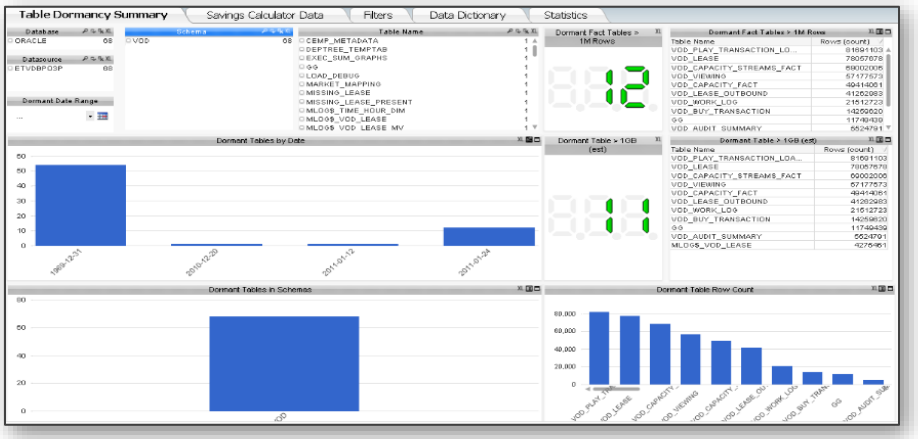



iGuard operates in conjunction with iSight on the network. It automatically applies selected query control and user management policies via its patented high speed policy action engine. This highly efficient, small memory foot-print process is designed to evaluate queries in milliseconds, introducing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

## Reducing 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 Resource Use to Business Objectives

Teleran's Business Alignment analyses puts 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 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 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.

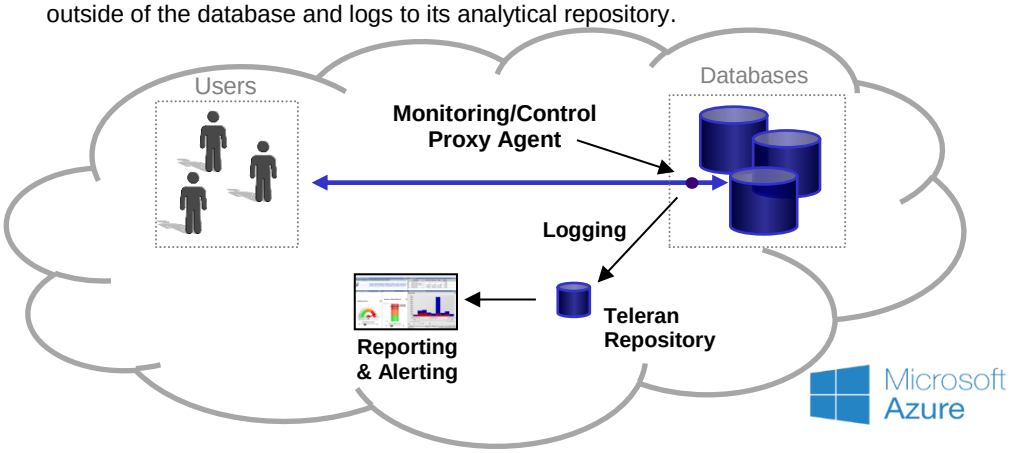
Figure 4. Business Alignment Report associates organizational context with usage, performance, and effectiveness.

| 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 Flynax | 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, Azure-Ready

Teleran's product architecture is network-based, requiring no database agents or traces that degrade database performance and resource efficiency. Teleran's software agent resides on the network between applications and the database.

Figure 5. Teleran Proxy Agent monitors and controls usage traffic on the network outside of the database and logs to its analytical repository.



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## Key Benefits

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

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

## Conclusion

Many cloud-based applications today 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 cloud 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 management disciplines.

Teleran's software products provide comprehensive visibility and management of user behavior, application activity, and data usage on premise and in the cloud. 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 Azure data warehouse and analytical applications to get the greatest value from your investments in people, analytics, information, and infrastructure.

## Contact Us

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