A leading IT Services company transforms its Data Warehouse Environment into a highly-available, scalable and robust solution

Achieves up to 50% improvement in Business Intelligence and ETL processes

About the Client

The client is a leading information technology company offering sales and service-oriented software solutions encompassing big data and predictive analytics, virtual agents, and real-time decision making. It provides integration services for different channels of communication including web chat, mobile devices, and interactive voice responses.

Goals

REDESIGNING THE DATA WAREHOUSE ARCHITECTURE TO IMPART SCALABILITY, EFFICIENCY AND ADDRESS GROWING BUSINESS NEEDS

There were several design issues and performance challenges with the client's existing environment. The existing data warehouse environment was unable to scale according to growing business needs and performance levels were degrading over time.

The client wanted an experienced infrastructure partner who could help in revalidating the architecture of the data warehouse environment and redesign it into a scalable, highly available and robust setup which could handle the growing business needs of the organization.

Transformation

THE JOURNEY TOWARDS AN AGILE AND SCALABLE DATA WAREHOUSE

Microland followed a standard four step in-house methodology in addressing the client's requirement:

The first two stages involved extensive study of the business requirements and client environment as below:

- **AS IS study**
  - Understanding of the infrastructure
  - Understanding the business expectations / plans
  - Simulation of the problem
  - Performance benchmarks creation
- **Analysis**
  - Data analysis
  - Gaps and bottlenecks analysis

Technical highlights of the project

- SQL server 2014 AlwaysOn
- Microsoft Infrastructure Performance toolkits comprising
  - SQL server profiler
  - Windows performance monitor

The outcome at the conclusion of first two stages of the project was identification of several design problems and bottlenecks as described below:

- The environment only had disaster recovery features. The lack of load balancing features would result in resource bottlenecks, with an adverse impact in computing power causing delays in the overall process
- Critical data warehousing tasks would have to depend on the same set of resources such as database and servers in the absence of redundant and available resources, thus creating inefficiencies in the system.

Microland proceeded with the execution of the next two stages of the project to address the issues mentioned above with these measures:

- **Solution design**
  - Evaluate pros and cons of alternative solutions
  - Fine-tune and validate the optimal solution
- **Implementation**
  - Implement the solution
  - Measure performance improvements as per client's acceptance criteria
- **Analyzed and removed compute load bottlenecks with optimal resource distribution for different data warehousing activities**

The ultimate outcome of the engagement was a design overhaul and removal of bottlenecks which involved designing and configuring a highly-available data warehouse environment using SQL Server 2014 AlwaysOn functionality to enable efficient load balancing.

MICROLAND®

A HIGHLY-AVAILABLE, SCALABLE AND ROBUST DATA WAREHOUSE ENVIRONMENT

Microland ensured that the client's data warehouse infrastructure adhered to industry best practices. The client was ultimately able to realize the following benefits:

- By segregating ETL, BI and backup processes, client was able to notice a considerable performance improvement of up to 50% for their BI and ETL processes

- By implementing the AlwaysOn feature, the client business needs of a highly-available solution was addressed

About Microland

Microland is a leading Hybrid IT Infrastructure Service Provider and a trusted partner to enterprises in their IT-as-a-Service journey. Incorporated in 1989 and headquartered in Bangalore, India, Microland has more than 3,200 professionals across its offices in Europe, Middle East, North America and India. Microland enables global enterprises to become more agile and innovative through a comprehensive portfolio of services that addresses hybrid IT transformation, workspace transformation, service transformation and end-to-end IT infrastructure management.

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