Teradata Performance Tuning

ORGANIZATION

XTIVIA's client is a discount retail chain established in 1959, headquartered in North Carolina, and operating over 8,000 small-format stores across the US as of August 2020. The client offers various merchandise for the whole family at the lowest possible price. With an average store size of 7,000 square feet, the client can open stores in small towns and rural areas.

CHALLENGE

Our client was in the process of migrating their data warehouse from Oracle to Teradata. However, their IT staff lacked sufficient knowledge of Teradata's performance features, particularly for optimizing large tables and handling SQLs with complex predicates and join conditions. Data validation between the source and target was performed manually, making the process highly time-consuming. Additionally, the client lacked expertise in automating the data validation and reconciliation processes, leading to project timeline delays.

TECHNICAL SOLUTION

XTIVIA assisted the client in leveraging Teradata's performance features and automating the data validation process to expedite the migration. The support included:

- Developing automated scripts for data validation between Oracle and Teradata.
- Assisting with data validation activities.
- Converting complex stored procedures from Oracle to Teradata.
- Performing data analysis and utilizing join indexes for building large summary tables.
- Utilized Aggregate Join Indexes for complex queries.
- Analyzed business-critical SQL queries to ensure optimal performance in Teradata.
- Created automated scripts for statistics collection.
- Conducted table analysis to identify frequently occurring values within attributes.
- Implemented Teradata Multi-Value Compression for efficient space management.
- Performed query analysis and identified candidates for Partition Primary Index (PPI).
- Implemented Partition Primary Index to improve query performance.
- Conducted skew analysis on tables and ensured proper distribution based on access needs.

BUSINESS RESULT

- The data warehouse migration project progressed on track.
- The client gained a better understanding of Teradata and its nuances.
- Achieved an optimally performing Teradata-based enterprise data warehouse.

KEYWORDS

Enterprise Data Warehouse, Data Warehouse Performance Tuning, Teradata Performance Tuning, Data Warehouse Migration, Oracle to Teradata Migration

SOFTWARE

Teradata, Oracle, Informatica, SUSE Linux

ABOUT XTIVIA

At XTIVIA, we've been providing IT solutions and consulting services for over 30 years with a wide range of services, including technology assessments, IT service and asset management, software development, data analytics, cloud migration, DevSecOps, ERP, and enterprise content management. Dedicated to each discipline, ensuring that our clients receive the best possible service. Through strategic acquisitions, we've acquired talented people who are experts in their industries, passionate about what they do, and committed to providing exceptional service to our clients. Whether you need to improve your IT infrastructure or implement new software solutions, XTIVIA is here to help you achieve your business goals. XTIVIA has offices in Colorado, New York, New Jersey, Texas, Virginia, and India. www.xtivia.com