Data Warehouse Migration Document

The purpose of a data warehouse migration document is to provide a comprehensive plan for migrating a data warehouse from one environment to another. The document outlines the steps, resources, and timelines required to ensure a successful migration. The document includes information about the migration approach and data mapping. The goal of the document is to ensure that the migration is completed on time and with minimal disruption to the business. It provides a detailed roadmap for the migration process, allowing stakeholders to quickly understand the key aspects of the migration plan while still providing enough detail to ensure a successful migration.

The current data warehouse for Dark Springs Bottled Water consists of 17 tables, 2 sequences, 2 views, 2 procedures, 1 function, 1 package, 2 database triggers, 1 scheduled job, 2 roles, and 2 alternate indexes. The detail of the table schema and description please refer to the “Entity Description Document”. For the detail of objects please refer to the “Object Description Document”. The database version is Oracle Database 19c Enterprise Edition Release 19.0.0.0.0 – Production.

The purpose of the data warehouse is to support the business usage of Dark Springs Bottled Water by providing a centralized and organized repository for the company's data. The data warehouse allows the company to efficiently manage its data, perform data analysis, and generate reports for various business purposes, such as sales analysis, and financial reporting.

In order to ensure the company's continuity, the essential data that must be migrated are:

* FACT table:

Contract

Contractdetail

Delivery

DeliveryDetail

Leads

* Dimensions table:

Employee

Customer

Product

Migrating data from the original database to another database involves several steps and considerations to ensure a successful migration:

* Data Mapping: The process of data mapping entails recognizing discrepancies between two database systems, which could include dissimilarities in data types and syntax. When migrating data from different databases, the initial step is to verify whether the data types used in the original database are compatible with the target database. If not, a new schema must be devised for the table to ensure the accuracy of data import. Secondly, if the insert or create queries utilize different functions in the original and target databases, the queries must be reconfigured to guarantee the precision of data migration.
* Data Extraction: In order to export data from an Oracle database into another database, it is necessary to extract the data in a compatible format. This can be achieved through multiple approaches, including using ETL (Extract, Transform, Load) tools or custom scripts. If the data size is small, a CSV file can be exported using Oracle SQL Developer. Alternatively, SQL queries can be written to select pertinent data objects and ensure that the data is extracted in a suitable format for the target database. The data can then be saved in a format that is compatible with the target database, such as CSV or SQL files, allowing for smooth data export.
* Data Transformation: To ensure compatibility with the target database, the extracted data may require transformation. This can involve converting data types and modifying data structures as necessary. Data Mapping helps to determine whether and how much transformation is required. If the target database is also an Oracle database, then the transformation step may not be necessary. However, if the target database is MySQL, SQL Server, or NoSQL, the data may need to be restructured during this step to fit the new database's format.
* Data Loading: After the data has been extracted and transformed, it is necessary to load it into the target database. This can be accomplished by utilizing the data import tools provided by the target database, using ETL software, or custom scripts. When using custom scripts, it is important to check that any syntax discrepancies.
* Data Validation: After loading the data, it is important to validate the data to ensure its accuracy and consistency. This involves running tests to ensure that the data has been migrated correctly and matches the original data in the Oracle database.
* Data Synchronization: Finally, the new database needs to be synchronized with the Oracle database to ensure that any changes made in the Oracle database after the migration are reflected in the target database.