

Comparative Datawarehouse vs Datalake

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Resumen

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Abstract

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I. INTRODUCTION

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II. STATE OF ART

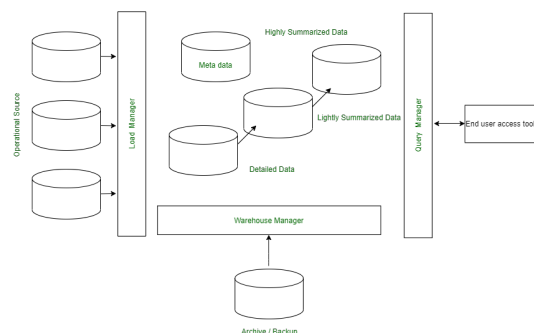
i. Data Warehouse

Data Warehouse is a set of data produced for decision making, where current and historical data of potential usefulness for decision making by managers throughout the organization is stored. The data is structured and available in a form that allows analytical processing activities: OLAP, data mining, querying, reporting and other DSS applications. In exact terms Data Warehouse is defined as a collection of data, subject-oriented, integrated, time-specific and non-volatile information, to enable the decision making process by management[1].

The Data Warehouse is more than the consolidation of all the company's operational

databases, as it takes into account business intelligence, external data and data associated with specific dates, making it a unique type of database. An important aspect of the Data Warehouse is that it is more of an architecture than a technology, and although there is a relationship between Data Warehousing and database technology, they are not the same, and Data Warehousing requires the support of several different types of technology[1].

ii. Data Warehouse Components



Data Warehouse Architecture[2].

ii.1 Operational Source

- An operational Source is a data source consists of Operational Data and External Data.
- Data can come from Relational DBMS like Informix, Oracle[2].

ii.2 Load Manager

- The Load Manager performs all operations associated with the extraction of loading data in the data warehouse.
- These tasks include the simple transformation of data to prepare data for entry into the warehouse[2].

ii.3 Warehouse Manage

- The warehouse manager is responsible for the warehouse management process.
- The operations performed by the warehouse manager are the analysis, aggregation, backup and collection of data, denormalization of the data[2].

ii.4 Query Manager

- Query Manager performs all the tasks associated with the management of user queries.
- The complexity of the query manager is determined by the end-user access operations tool and the features provided by the database[2].

ii.5 Detailed Data

- It is used to store all the detailed data in the database schema.
- Detailed data is loaded into the data warehouse to complement the data collected[2].

ii.6 Summarized Data

- Summarized Data is a part of the data warehouse that stores predefined aggregations.
- These aggregations are generated by the warehouse manager[2].

ii.7 Archive and Backup Data

- The Detailed and Summarized Data are stored for the purpose of archiving and backup.
- The data is relocated to storage archives such as magnetic tapes or optical disks[2].

ii.8 Metadata

- Metadata is basically data stored above data.
- It is used for extraction and loading process, warehouse, management process, and query management process[2].

ii.9 End User Access Tools

- End-User Access Tools consist of Analysis, Reporting, and mining.
- By using end-user access tools users can link with the warehouse[2].

III. CONCLUSIONS

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REFERENCES

- [1] Rolando Alberto Gonzales López et al. *Impacto de la Data Warehouse e inteligencia de negocios en el desempeño de las empresas: investigación empírica en Perú, como país en vías de desarrollo*. PhD thesis, Universitat Ramon Llull, 2012.
- [2] Tanushree Sharma. *Implementation and components in data warehouse*. 2021.