**Personal Assignment 2**

**Tinjau Pertanyaan**

1. **Jelaskan integrasi data**

**Answer:**

Data Integration System involves integrating data from several disparate sources, which are stored using various technologies and provide a unified view of the data Since data integration of two companies or consolidation of data from two companies into one company provide a unified view of the company's data assets , it can be also called as enterprise warehouse (EDW).

**REFERENCES :**

Kimball, R (2008). The data warehouse lifecycle toolkit. : John Wiley & Sons.

1. **Jelaskan tiga steps dari proses ETL**

**Answer:**

* 1. **Extract**

By using SQL server Integration services (SSIS) tool the data is extracted from different Online Transactional processing (OLTP) databases which stores day to day business transaction operational data in different formats.

* 1. **Transform**

SQL server Integration services transform the extracted data from various sources whose data may be in different formats into a uniform format which suitable for decision making.

* 1. **Loading**

The data is loading into data warehouse by creating various packages by applying different transformations and finally loading unified format data into data warehouse by using SQL server Integration services (SSIS) ETL tool.

**REFERENCES :**

Kimball, R (2008). The data warehouse lifecycle toolkit. : John Wiley & Sons.

Vaisman, A., & Zimányi, E. (2014). Data Warehouse Systems: Design and Implementation. : Springer.

1. **Mengapa proses ETL sangat penting bagi upaya data warehouse?**

**Answer:**

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The OLTP Databases may contain data which is not properly formatted (or ) skewed data .So an ETL tool plays a vital role in standardizing data into a proper formatted data on top of integrating data from different sources as one place which is ultimately used for decision making purpose.

**REFERENCES :**

Kimball, R (2008). The data warehouse lifecycle toolkit. : John Wiley & Sons.

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1. **Apa yang dimaksud dengan data warehouse real-time?**

**Answer:**

The term “real-time data warehouse” refers to a system that represents the warehouse’s current status in real-time. If one performs a query on the real-time data warehouse to learn more about a specific aspect of the company or entity defined by the warehouse, the result represents the status of that entity at the moment they ran the query. Most data warehouses include data that is highly latent that is, data that reflects the company at a certain point in time. A real-time data warehouse offers current (or real-time) data with low latency.

**REFERENCES :**

Bouaziz, Senda & Nabli, Ahlem & Gargouri, Faiez. (2017). From Traditional Data Warehouse To Real Time Data Warehouse. 467-477. 10.1007/978-3-319-53480-0\_46.

1. **Sebutkan berbagai keuntungan dari data warehouse real-time**

**Answer:**

A Data Warehouse (DW) is an integrated and historized collection of data generally used to make strategic decisions by means of Online Analytical Processing (OLAP) techniques. It integrates data that come from independent heterogeneous operational data-sources and create a single view about the organization. Because of the new business requirements for ever up-to-second updated information and since timely data ensure better-informed decisions, real-time data warehousing is one of the savior trends that provide an access to accurate, integrated, consolidated view of the organizations information in real-time, however, in the old data base system where the data content was not updated, there was a need to migrate to a real time database system in order to make accurate decisions.

Traditionally the company had separate database for marketing and operations departments. Contrary to this, at present they have implemented an integrated real-time data warehouse.

Real-time data warehouse of the company has enormous capacity to store and disseminate various data as per the company’s requirement. This facility was not present in the traditional data warehouse of the company.

Initially the company had different database servers or different clients that resulted in poor coordination. However, at present, they maintain a single database server for multiple clients that ensures good coordination among different teams. It helps to reduce the confusions or duplication of data or processes.

Real time data warehouse of the company provides easy end user access as compared to the traditional warehouse. Thus, it helps to save the time and energy of the users to get up-to-dated and valid data. Thus, it enables them to take effective decisions.

**REFERENCES :**

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Vaisman, A., & Zimányi, E. (2014). Data Warehouse Systems: Design and Implementation. : Springer

1. **Sebutkan berbagai perbedaan antara data warehouse tradisional dengan data warehouse real-time**

**Answer:**

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**REFERENCES :**

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1. **Jelaskan berbagai motivasi yang mendorong dikembangkannya data warehouse real-time**

**Answer:**

Firstly, there was a need to make both tactical and strategic decisions, in the old data base system only strategic decisions could be made. In the old database system data available was constant and sometimes there could be overload in the system. With an increasing numbers of business being opened, there was a need to reduce the latency between business sources to operational sources and their appearance in data warehouse so as to facilitate analysis of recent data in order to make tactical and strategic decisions.

Also, the was a need to provide exact answer of what the users were searching for, unlike the traditional database systems, realtor time database warehouse enables the data to be stored at the time they are produced and immediately captured with this ability, it hence enables users to rapidly access information.

Lastly, with rapid developments in the financial sector, there was a large number not data being entered into financial systems, with the old data systems, there would be an overload of information resulting to system failure. There had to be a system that suggests information rather fast and can handle multiple transactions in a day hence the development of real-time data warehouses.

**REFERENCES :**

Brobst, S., Levy, E., & Muzilla, C. (2005, Spring). Enterprise application integration and enterprise information integration. Business Intelligence Journal, 10(2), 27–33.)