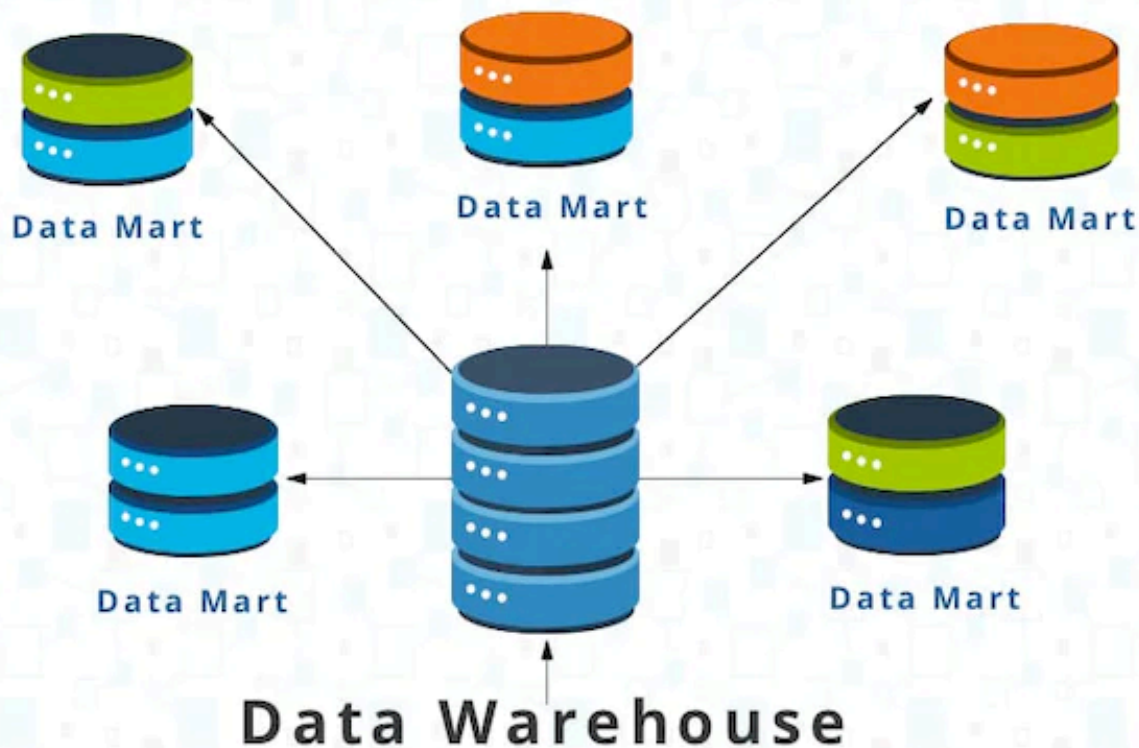# DATA MART

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I. Introduction to Data Marts

1. What Is A Data Mart ?

A data mart is a small portion of the data warehouse that is mainly related to a particular business domain.

The data stored in the DW system is huge hence data marts are designed with a subset of data that belongs to individual departments. Thus a specific group of users can easily utilize this data for their analysis.

Unlike a data warehouse that has many combinations of users, each data mart will have a particular set of end-users. The lesser number of end-users results in better response time.

2. When Do We Need Data Mart ?

Consider the below reasons to build a data mart :

- If you want to partition the data with a set of user access control strategy.

- If a particular department wants to see the query results much faster instead of scanning huge DW data.

- If a department wants data to be built on other hardware (or) software platforms.

- If a department wants data to be designed in a manner that is suitable for its tools .

3. Comparison Of Data Warehouse Vs Data Mart :

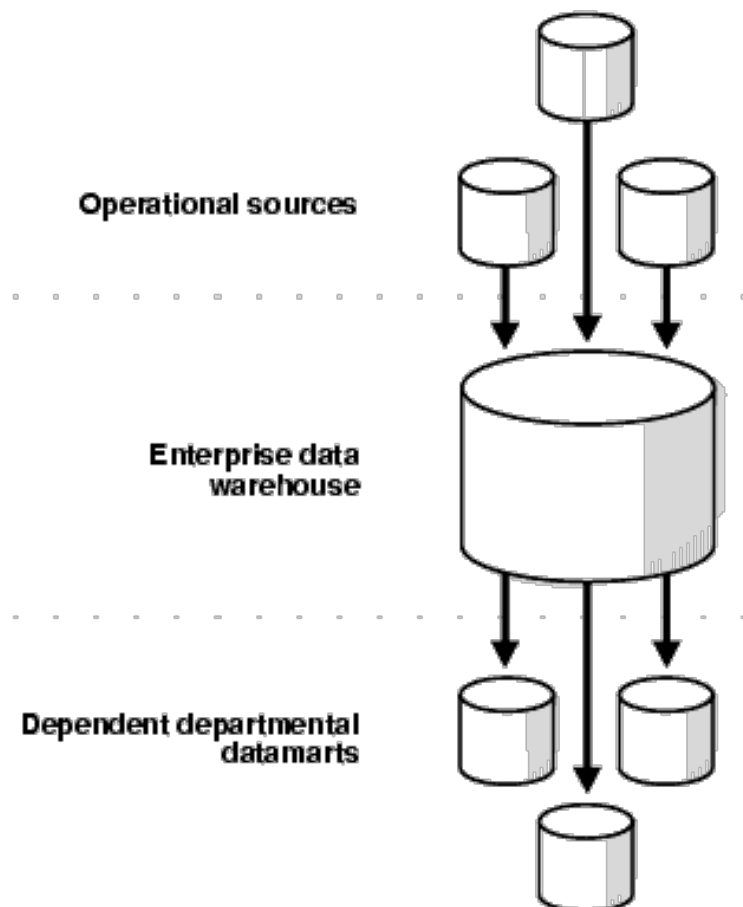| S.No	Data Warehouse	Data Mart
1	Complex and costs more to implement.	Simple and cheaper to implement.
2	Works at the organization level for the entire business.	The scope is limited to a particular department.
3	Querying the DW is difficult for business users because of huge data dependencies.	Querying the data mart is easy for business users because of limited data.
4	Implementation time is more may be in months or years.	Implementation time is less may be in days, weeks or months.
5	Gathers data from various external source systems.	Gathers data from a few centralized DW (or) internal (or) external source systems.
6	Strategic decisions can be made.	Business decisions can be made.

4. Types Of Data Marts :

Data marts are classified into three types Dependent, Independent and Hybrid. This classification is based on how they have been populated .

- Dependent Data Marts :

  In a dependent data mart, data is sourced from the existing data warehouse itself. This is a top-down approach because the portion of restructured data into the data mart is extracted from the centralized data warehouse.
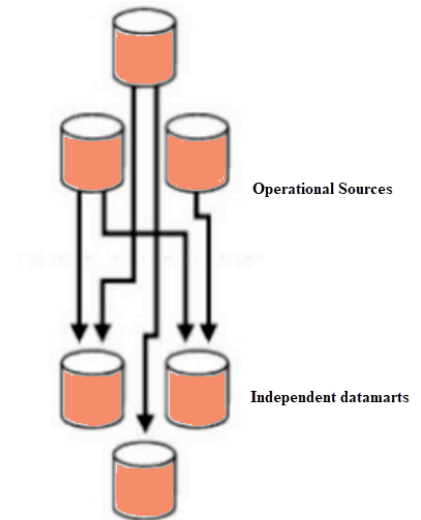
  A data mart can use DW data either logically or physically as shown below:

  - Logical View .

  - Physical subset .

Operational sources

Enterprise data warehouse

Dependent departmental datamarts

- Independent Data Mart :

  Independent data marts are stand-alone systems where data is extracted, transformed and loaded from external (or) internal data sources. These are easy to design and maintain until it is supporting simple department wise business needs.

- Hybrid Data Mart :