Data Mart

Data mart is a subset of a data warehouse that supports the requirements of a particular department or business function.

Reasons for creating a data mart

- Easy access to frequently needed data
- Creates collective view by a group of users
- Improves end-user response time
- Ease of creation
- Lower cost than implementing a full Data warehouse
- Potential users are more clearly defined than in a full Data warehouse

Dependent data mart

According to the Inman school of data warehousing, a **dependent data mart** is a logical subset (view) or a physical subset (extract) of a larger data warehouse, isolated for one of the following reasons:

- **A need for a special data model or schema**: e.g., to restructure for OLAP
- **Performance**: to offload the data mart to a separate computer for greater efficiency or to obviate the need to manage that workload on the centralized data warehouse.
- **Security**: to separate an authorized data subset selectively
- **Expediency**: to bypass the data governance and authorizations required to incorporate a new application on the Enterprise Data Warehouse
- **Proving Ground**: to demonstrate the viability and ROI (return on investment) potential of an application prior to migrating it to the Enterprise Data Warehouse
- **Politics**: a coping strategy for consumers of data in situations where a data warehouse team is unable to create a usable data warehouse.

Difference between data mart and data warehouse

- Data Warehouse focuses on enterprise wide data across many or all subject areas
- Data mart is restricted to a single business process or single business group
- Union of data marts equal data warehouse

Data mart represents the programs, data, software and hardware of a specific department. For example, there is separate data mart for finance, production, marketing and sales department.

None of the data mart resembles with any other data mart. However, it is possible to coordinate the data of various departments. Data mart of a specific department is completely focused on individual needs, requirements and desires. Data in data mart is highly indexed but is not suitable to support huge data as it is designed for a particular department.

Whenever the data mart database is to be designed, the requirements of all users in the department are gathered. In most of the cases, we use star-join structure database in data mart.

Data marts are basically of two types, **independent data mart** and **dependent data mart**. Data warehouse is used as a source by a dependent data mart. Dependent data mart is structurally and architecturally strong. Independent data mart on the other hand is not structurally and architecturally strong. Moreover, they are not useful for organization until you create multiple independent data marts.

Data warehousing is not limited to a department of office. It represents the database of a complete corporate organization. Subject areas of data warehousing includes all corporate subject areas of corporate data model. Data warehousing is neither bounded to have relations between subject areas of departments nor with subject areas of corporation. Detailed data is stored in the database of data warehousing unlike data mart which stores only aggregated or summarized data. Data in the data warehouse is indexed lightly as it has to manage large volume of data. It would be wise to say that there is very little difference in data structure and content of data mart and data warehouse.

Data warehouse is built iteratively as it is not possible to create the complete data warehouse and then implement it. Data warehouse is a vast concept that covers various aspects of a corporate world. In contrast, data mart can be easily and quickly designed and implemented for end users use.