Data Warehouse vs Data Mart: Know the Difference

What is Data Warehouse?

A Data Warehouse collects and manages data from varied sources to provide meaningful business insights.

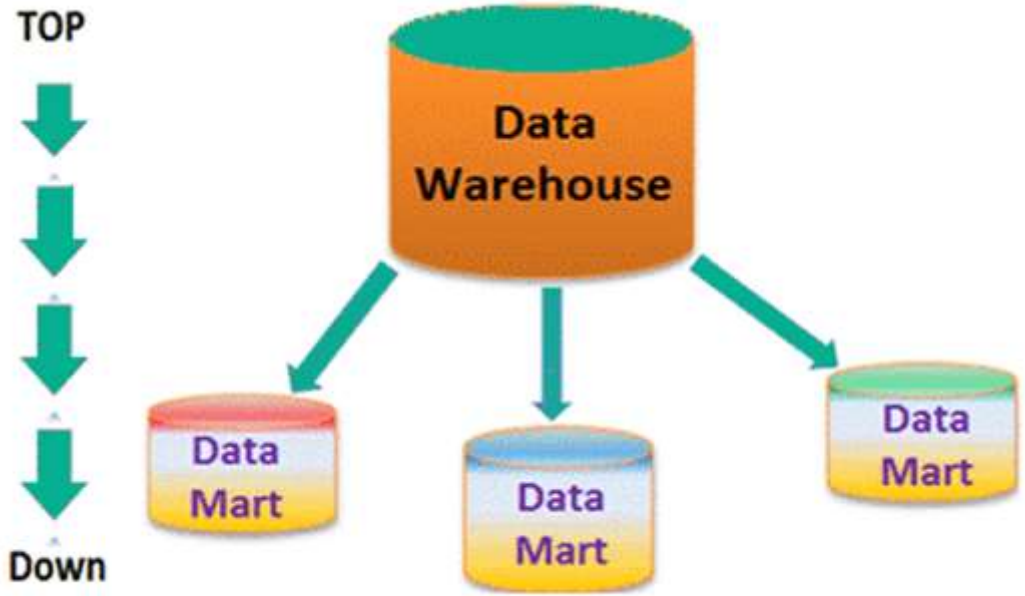
It is a collection of data which is separate from the operational systems and supports the decision making of the company. In Data Warehouse data is stored from a historical perspective.

The data in the warehouse is extracted from multiple functional units. It is checked, cleansed and then integrated with Data warehouse system. Data warehouse used a very fast computer system having large storage capacity. This tool can answer any complex queries relating data.

What is Data Mart?

A data mart is a simple form of a Data Warehouse. It is focused on a single subject. Data Mart draws data from only a few sources. These sources may be central Data warehouse, internal operational systems, or external data sources.

A Data Mart is an index and extraction system. It is an important subset of a data warehouse. It is subject-oriented, and it is designed to meet the needs of a specific group of users. Data marts are fast and easy to use, as they make use of small amounts of data.



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Differences between Data Warehouse and Data Mart

Parameter	Data Warehouse	Data Mart
Definition	A Data Warehouse is a large repository of data collected from different organizations or departments within a corporation.	A data mart is an only subtype of a Data Warehouse. It is designed to meet the need of a certain user group.
Usage	It helps to take a strategic decision.	It helps to take tactical decisions for the business.
Objective	The main objective of Data Warehouse is to provide an integrated environment and coherent picture of the business at a point in time.	A data mart mostly used in a business division at the department level.
Designing	The designing process of Data Warehouse is quite difficult.	The designing process of Data Mart is easy.
	May or may not use in a dimensional model. However, it can feed dimensional models.	It is built focused on a dimensional model using a start schema.

Data Handling	Data warehousing includes large area of the corporation which is why it takes a long time to process it.	Data marts are easy to use, design and implement as it can only handle small amounts of data.
Focus	Data warehousing is broadly focused all the departments. It is possible that it can even represent the entire company.	Data Mart is subject-oriented, and it is used at a department level.
Data type	The data stored inside the Data Warehouse are always detailed when compared with data mart.	Data Marts are built for particular user groups. Therefore, data short and limited.
Subject-area	The main objective of Data Warehouse is to provide an integrated environment and coherent picture of the business at a point in time.	Mostly hold only one subject area- for example, Sales figure.
Data storing	Designed to store enterprise-wide decision data, not just marketing data.	Dimensional modeling and star schema design employed for optimizing the performance of access layer.
Data type	Time variance and non-volatile design are strictly enforced.	Mostly includes consolidation data structures to meet subject area's query and reporting needs.
Data value	Read-Only from the end-users standpoint.	Transaction data regardless of grain fed directly from the Data Warehouse.
Scope	Data warehousing is more helpful as it can bring information from any department.	Data mart contains data, of a specific department of a company. There are maybe separate data marts for sales, finance, marketing, etc. Has limited usage
Source	In Data Warehouse Data comes from many sources.	In Data Mart data comes from very few sources.
Size	The size of the Data Warehouse may range from 100 GB to 1 TB+.	The Size of Data Mart is less than 100 GB.
Implementation time	The implementation process of Data Warehouse can be extended from months to years.	The implementation process of Data Mart is restricted to few months.

Summary:

- A Data Warehouse is a blend of technologies and components which allows the strategic use of data.
- A data mart is simple form of a Data Warehouse. It is focused on a single subject.
- The data in Data Warehouse assembled from multiple sources to provide accurate and timely information.
- Datamart is subject-oriented, and it is designed to meet the needs of a specific group of users.
- Data warehouse comprises data from all the departments of the organization where it is continually updated to remove redundant data.
- A data mart mostly used in a business division at the department level.
- The implementation process of Data Warehouse can be extended from months to years.
- The implementation process of Data Mart is restricted to few months.
- The data stored inside the Data Warehouse are always detailed when compared with data mart.
- Data Marts are built for particular user groups. Therefore, data short and limited.

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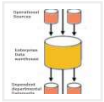

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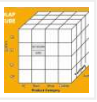

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