

Data warehouse presentation evaluation

[Business](#)



Generally a data warehouse is a trace of an enterprise's past transactional and operational information that is stored in a specially designed database with appropriate facilities for data analysis and reporting.

There is one common idea in the basis of data warehousing design: first data should be integrated from distributed and differently structured databases and then it should be picked out for purposes of reporting, decision support, analysis or control. There are four design approaches to this process that differ by scale of data, action sequences and complexity.

Top-Down Approach assumes that data is transferred from diverse OLTP systems into a centralized place where it could be used for analysis. As Eckerson writes, the major benefit of a Top-Down Approach is that it provides an integrated, flexible architecture to support downstream analytic data structures. On the downside, a top-down approach may take longer and cost more to deploy than other approaches, especially in the initial increments.

(para. 8-11)

Bottom-Up Approach uses the bus structure that contains all the common elements that are used by data marts such as conformed dimensions, measures etc defined for the enterprise as a whole. The major benefit of a Bottom-Up Approach is user-friendly, flexible data structure using dimensional, star schema models. It also delivers value rapidly. One problem is that it requires organizations to enforce the use of standard dimensions and facts to ensure integration and deliver a single version of the truth.

(Eckerson para. 12-18)

Hybrid Approach aims to harness the speed and user orientation of the Bottom-Up Approach to the integration of the Top-Down Approach. By Eckerson (para. 19-25), Hybrid Approach recommends spending about two

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weeks developing an enterprise model in third normal form before developing the first data mart. The first several data marts are also designed in third normal form but deployed using star schema physical models.

Federated Approach is a hub-and-spoke architecture often described as the "architecture of architectures" ("Tutorial 4" para. 12). The major problem with the federated approach is that it is not well documented. Also, integrating metadata is a pernicious problem in a heterogeneous, ever-changing environment.

Various IT companies offer different solutions to implement data warehousing decisions.

NCR Teradata Solutions Methodology allows a controlled way of building and introducing a successful data warehouse. It describes 4 steps required to generate the information out of the structured data. (NCR Corporation)

The SAS System provides a data warehouse model that addresses the entire scope of warehouse Management, Organization and Exploitation. (Welbrock 2-12)

The goal of the Microsoft Data Warehousing Framework is to provide access to any data from any source. Microsoft SQL Server 7.0 includes built-in support for OLE-DB and Open Information Models for universal data and metadata access. I think now it is the most developed methodology, because it has great facilities for data transformation from third parties through Data Transformation Services. (Microsoft Corporation)

Kimball Methodology includes the Nine-Step Method in the Design of a Data Warehouse, following to which one can get a rationally built data warehouse, but it requires a lot of experience to successfully use it. (Kimball)

Works Cited

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