



New Lecture 2011:

BUSINESS INTELLIGENCE AND DATA WAREHOUSING (BIDW)



Lecture and Exercises
6 Credit Points, 4 SWS (V2 + Ü2)

Overview



The course covers the foundations of Business Intelligence and Data Warehousing from architectural, algorithmic and practical perspective. In addition it covers new trends such as Data Warehouse Appliances, Cloud Analytics, Column Stores and the use of flash memory. The course replaces its predecessor "Data Warehouses", expands on its content and adds a practical exercise.

Lecture:

- BI Architectures
- BI Modeling, Star Schema, Multidimensional Models
- Special DW/BI Operators
- Optimization of DWs
- Special index methods
- Smart implementation of operators
- Back room operations
- ETL: data extraction, data cleansing, data loading
- Column-Oriented Databases in Business Intelligence
- Data Warehousing Appliances
- Cloud Data Analytics

Practical Exercise:

- Business Intelligence: Tools and Techniques (SAP BI)
- Analytical Processing with Column Stores – MonetDB
- Benchmarks for analytical query processing (TPC-H)
- Indexing analytical data
- Analytical Query Processing on Flash memory
- Cloud Analytics (Hadoop, HBase)
- MOLAP Query Languages – Multi-Dimensional Expressions (MDX)

General Information

Objectives

Discuss **state of the art research** in the exercise sessions.

Hands-on experience with a BI system.

All-around view of Business Intelligence and Data Warehousing.

Language

Lecture will be held in English

Organization and Contact

Course URL: <http://www.dvs.tu-darmstadt.de/teaching/bidw/>

Contact: {buchmann | petrov | bausch | gottstein}@dvs.tu-darmstadt.de