

Data Warehouse

D06. DW Management



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- Course: Information Policy
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Contents

- 01. Summary Table
- 02. Security
- 03. Hardware



01. Summary Table

- Summary Table
 - Basic goal of DW implementation
 - Speedy offering data at the desired time
 - Supporting decision making

3

01. Summary Table

- DW Environment
 - Huge data
 - Continuous and increasing data
 - Impossible to secure high performance only by OLAP system tuning methodology
- Solution
 - Decreasing data → Summary

4

01. Summary Table

- Problems of Summary
 - Semantic redundancy of data of existing tables
 - → Bad integrity
 - Burdens (of time, location) in the process of summarization

5

01. Summary Table

- Managing Factors for Summary Table
 - Decreasing burdens for creating/deleting summary tables
 - Optimizing for creating summary tables
 - Securing integrity of summary tables
 - Expansibility

6

02. Security

- Security
 - Nowadays
 - DW focuses on implementation and practical application.
 - DW Ignores security.
 - Data at DW
 - Foundation in decision making
 - Securing data is as important as effective decision making.

7

02. Security

- Security of OLAP
 - Simple security
 - Discretionary access control
- Security of DW
 - Complex security
 - Mandatory access control = Discretionary one + α
 - Application independent

8

03. Hardware

- Hardware Functions for DW
 - Powerful Batch Process
 - In general, only the performance of real-only query is considered when considering hardware for DW.
 - But, there are not many burdens of hardware for read-only query.
 - ← In the real world, read-only query accesses summary tables.
 - ← Summary tables are mostly less than 100,000.
 - Stronger batch process is need for ETT.
 - Disk performance, the number of disk controllers, and IO bus bandwidth should be also considered.

9

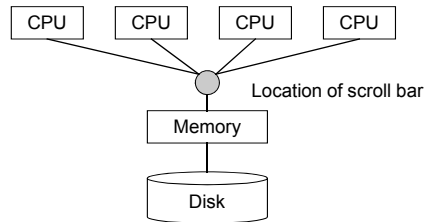
03. Hardware

- Hardware Functions for DW
 - Expansibility
 - The velocity in accumulating time-series data is very fast.
 - → To expand hardware is important.
 - System Stability
 - It is not correct to think that operating systems have all the data for recovery of DW.
 - It's impossible to recover by use of data of operating systems.

10

03. Hardware

- General Structure of Disk
 - SMP(Symmetric Multi-Processing)



- MPP(Massive Parallel-Processing)

