Reporting and Query Tools and Applications

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Introduction

- Purpose of DW -> to provide information to business users for decision making
- Users interact with DW using front-end tools

Tool categories

There are 5 categories of Decision support tools, They are;

1. Reporting
2. Managed Query
3. Executive Information Systems
4. OLAP
5. Data Mining

Reporting

Reporting tools can be divided into two types.

1. Production reporting tools
2. Desktop report writers.

Production Reporting Tools:

- Allows to generate regular operational reports or support high volume batch jobs, such as calculating and printing paychecks.
- This tool includes third generation languages such as COBOL, specialized fourth generation languages Information Builder's and high end client/server tools.

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2. Report writers:

- Inexpensive desktop tools designed for End users.
- Have graphical interfaces and built in charting functions.
- They can pull a group of data from a variety of data sources and integrating them in a single report.

Managed Query Tools

- It shields end users from the complexities of SQL and Data base structures by inserting a meta layer between Users and the Data base.
- Meta layer is the software that provides subject oriented views of a data base and supports point –and –click creation of SQL.
- Has three tiered architecture to improve scalability.
- Cognos Corp, Business Objects Inc., -> vendors
- Support asynchronous Query execution and integrate with web servers.
- Managed Query Tools vendors are racing to embed support for OLAP and data mining features.
- Business Objects -> take all in one-approach

Executive Information System Tools

- Allow developers to build customized, graphical decision support applications
- An **executive information system** (EIS) is a type of management information system intended to facilitate and support the information and decision-making needs of senior executives by providing easy access to both internal and external information relevant to meeting the strategic goals of the organization.
- EIS tools:
  - Pilot Software
  - Platinum Technology Forest and Trees
  - SAS Institute

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Advantages of EIS

- Easy for upper-level executives to use, extensive computer experience is not required in operations
- Provides timely delivery of company summary information
- Information that is provided is better understood

Disadvantages of EIS

- System dependent
- Limited functionality, by design
- Information overload for some managers

OLAP Tools

- In computing, **online analytical processing**, or **OLAP** is an approach to answer multi-dimensional analytical (MDA) queries.
- Typical applications of OLAP include
  - business reporting for sales,
  - marketing, management reporting,
  - business process management (BPM),
  - budgeting and forecasting,
  - financial reporting and similar areas

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- OLAP tools enable users to interactively analyze multidimensional data from multiple perspectives.
- OLAP consists of three basic analytical operations:
- consolidation (roll-up),
- drill-down, and
- slicing and dicing.
- Consolidation involves the aggregation of data that can be accumulated and computed in one or more dimensions.
- Slicing and dicing is a feature whereby users can take out (slicing) a specific set of data of the cube and view (dicing) the slices from different viewpoints.

Data Mining Tools

- Data mining tools are software components and theories that allow users to extract information from data.
- The tools provide individuals and companies with the ability to gather large amounts of data and use it to make determinations about a particular user or groups of users.
- Data mining tools can be classified into one of three categories:

1. traditional data mining tools
2. dashboards, and
3. text-mining tools

Thank You...