OLAP Theory-English version

supplement to OLAP 20050425

[Ing.Skorkovský,CSc]

Katedra aplikované
matematiky a informatiky

Agenda

- The Market / obchod/ marketing
- Why OLAP / proč OLAP
- Introduction to OLAP / úvod
- OLAP Terms and Concepts/ terminologie
- Summary / Závěr

OLAP market size

Why OLAP

- **The Right Information In The Right Place At The Right Time**
- **Why**
  - More self-sufficient Business users
  - Keep the integrity of the data
  - Reduces the query drag(přítěž) and network traffic (zatížení na síti)
  - Organization can respond more quickly to market demands

Introduction to OLAP

“OLAP enables analysts, managers, and executives to gain insight into data through fast, consistent, interactive access to a wide variety of possible views of information. OLAP transforms raw data so that it reflects the real dimensionality of the enterprise as understood by the user. “

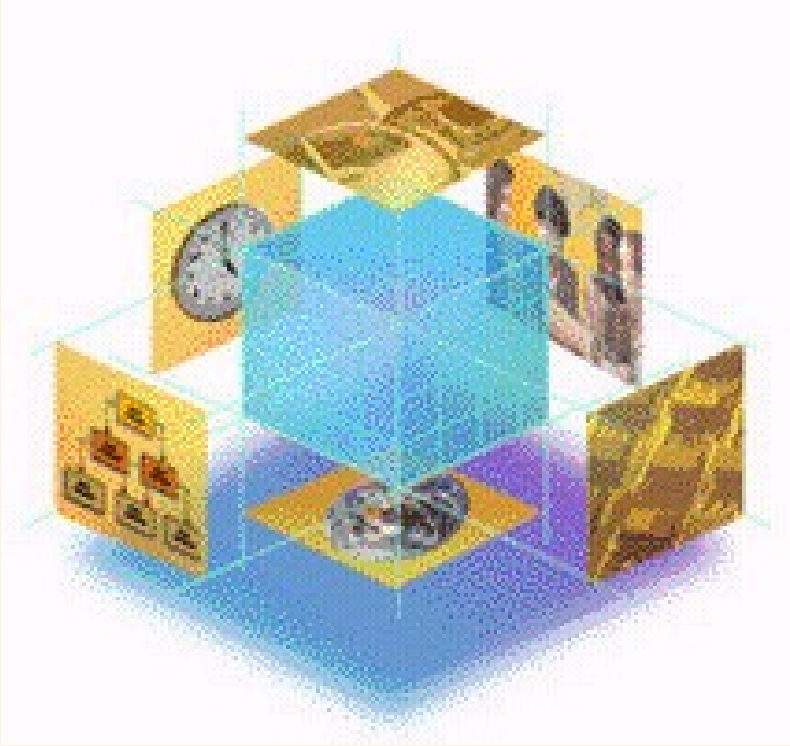
Introduction to OLAP

- Users
  - Analysts, managers and executive
- Access
  - Fast consistent, interactive
  - Wide variety of possible views
- Transformation
  - Raw data
  - Real dimensionality of enterprise

Introduction to OLAP

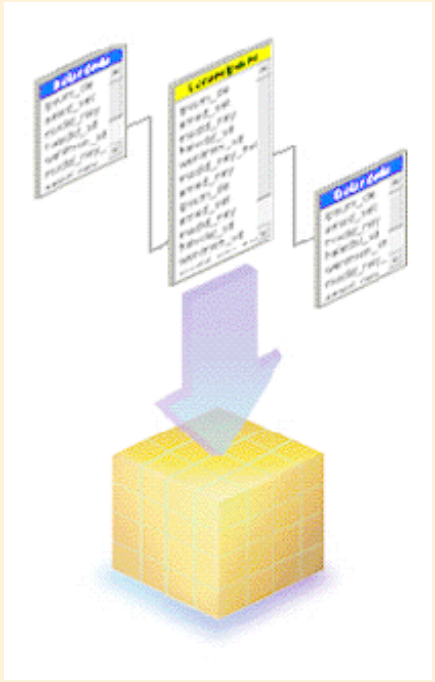
- Organizational functions
  - Finance
    - Budgeting
    - Performance analysis
  - Sales
    - Sales analysis and forecasting
  - Marketing
    - Market research analysis
    - Market/customer segmentation
  - Purchase
    - Cost of materials
  - Production
    - Cost of conversion
  - Distribution
    - Cost of shipping
  - etc

OLAP Terms and Concepts



OLAP Terms and Concepts

- Relational database
- Multidimensional database

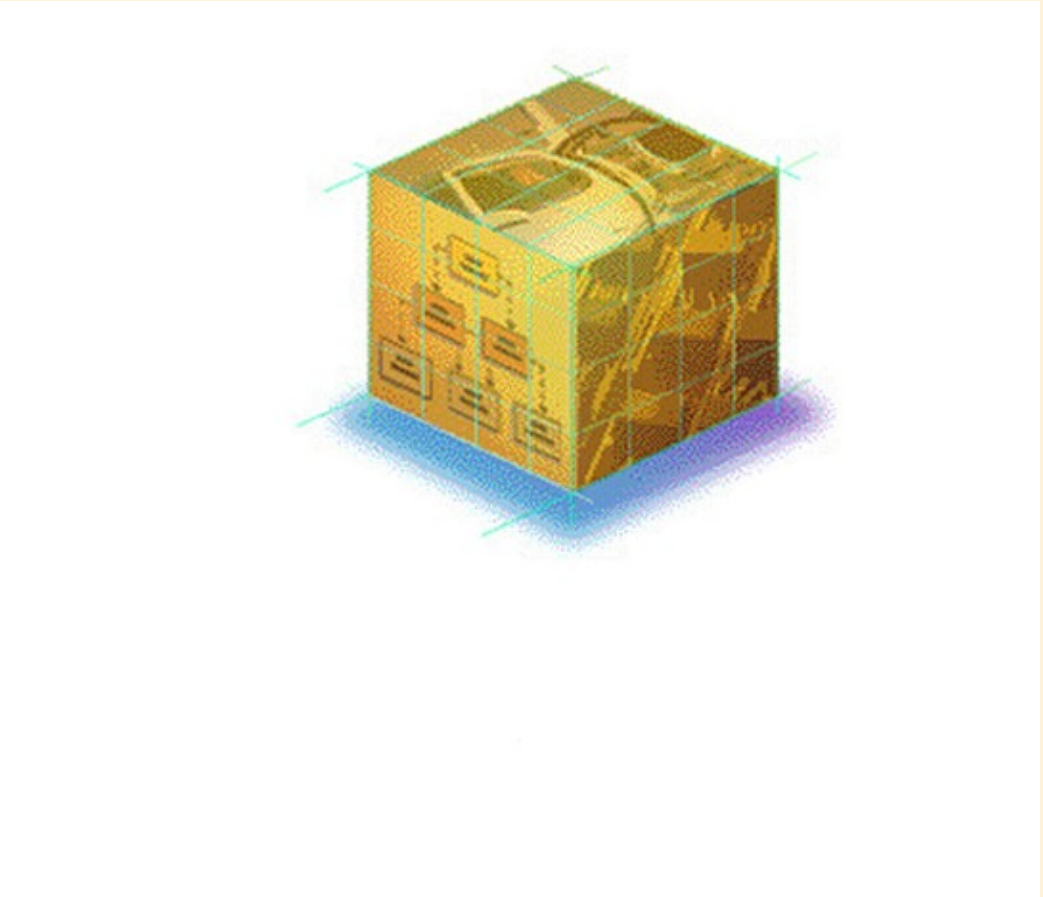


Relational database

Multidimensional database

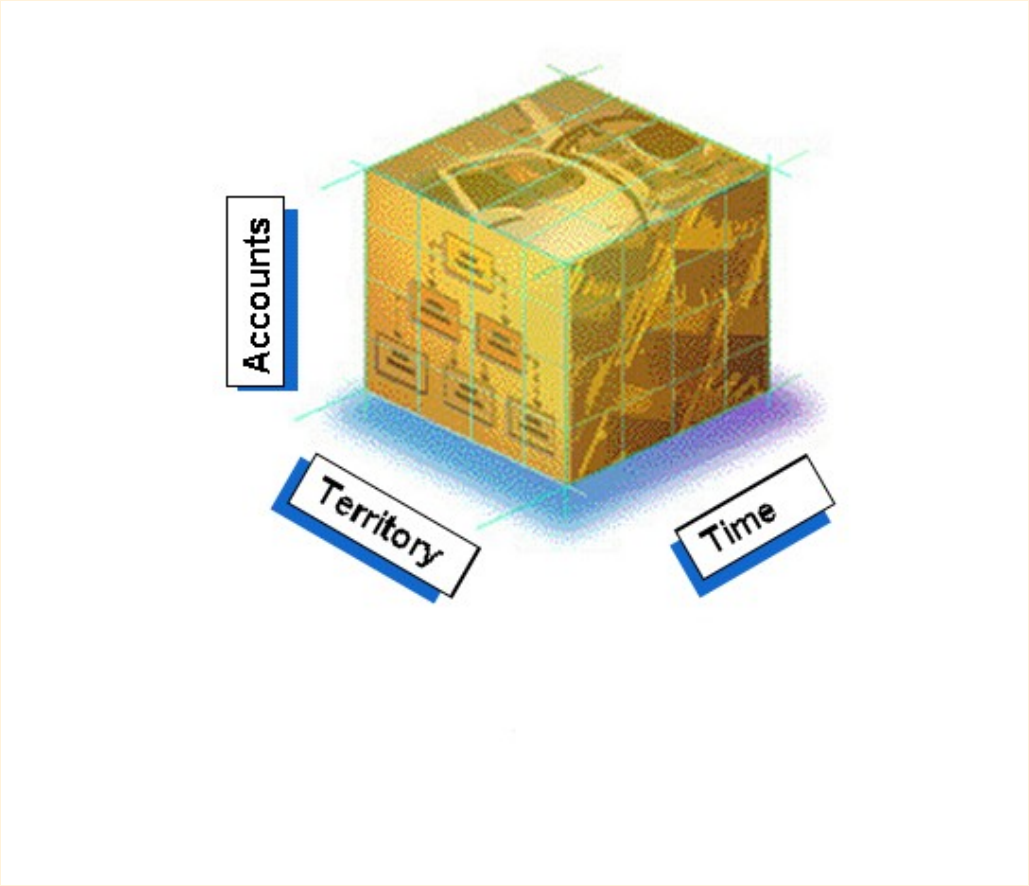
OLAP Terms and Concepts

- Cube
  - Information Is conceptually viewed as cubes.



OLAP Terms and Concepts

- Cube
  - Information Is conceptually viewed as cubes.
- Dimension
  - Distinct categories for business data.



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- Cube
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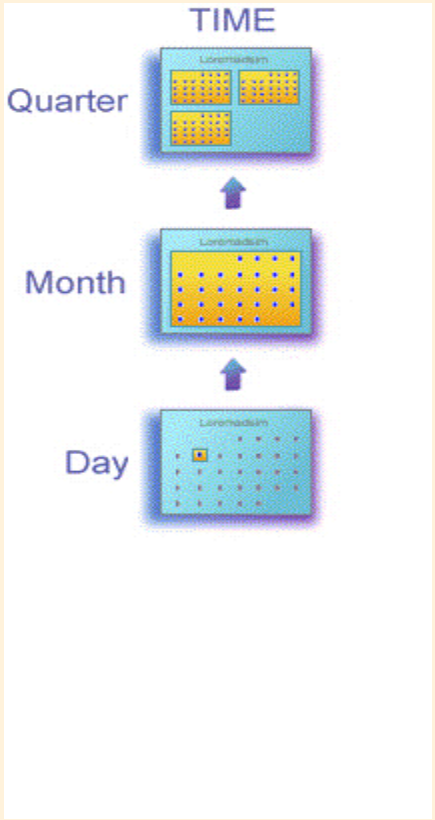
- Dimension
  - Distinct categories for business data.
- Hierarchy
  - Levels of details on the data.



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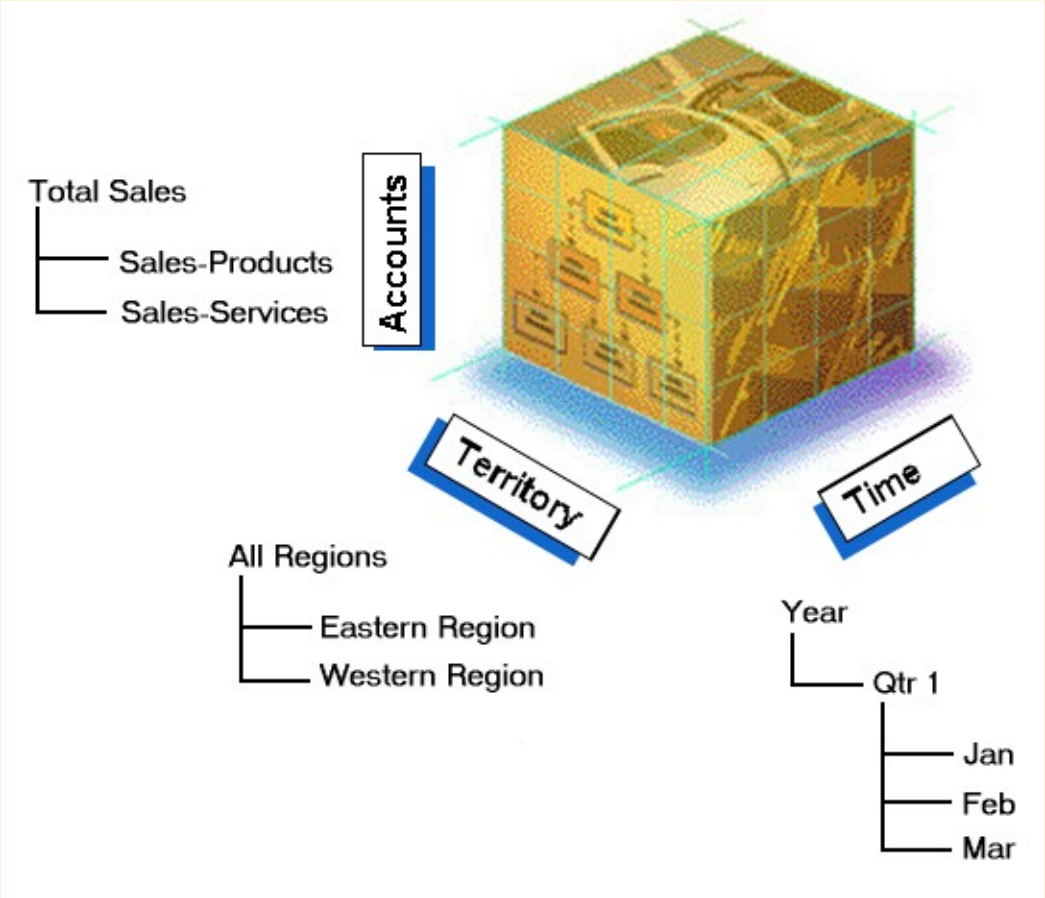

OLAP Terms and Concepts

- Cube
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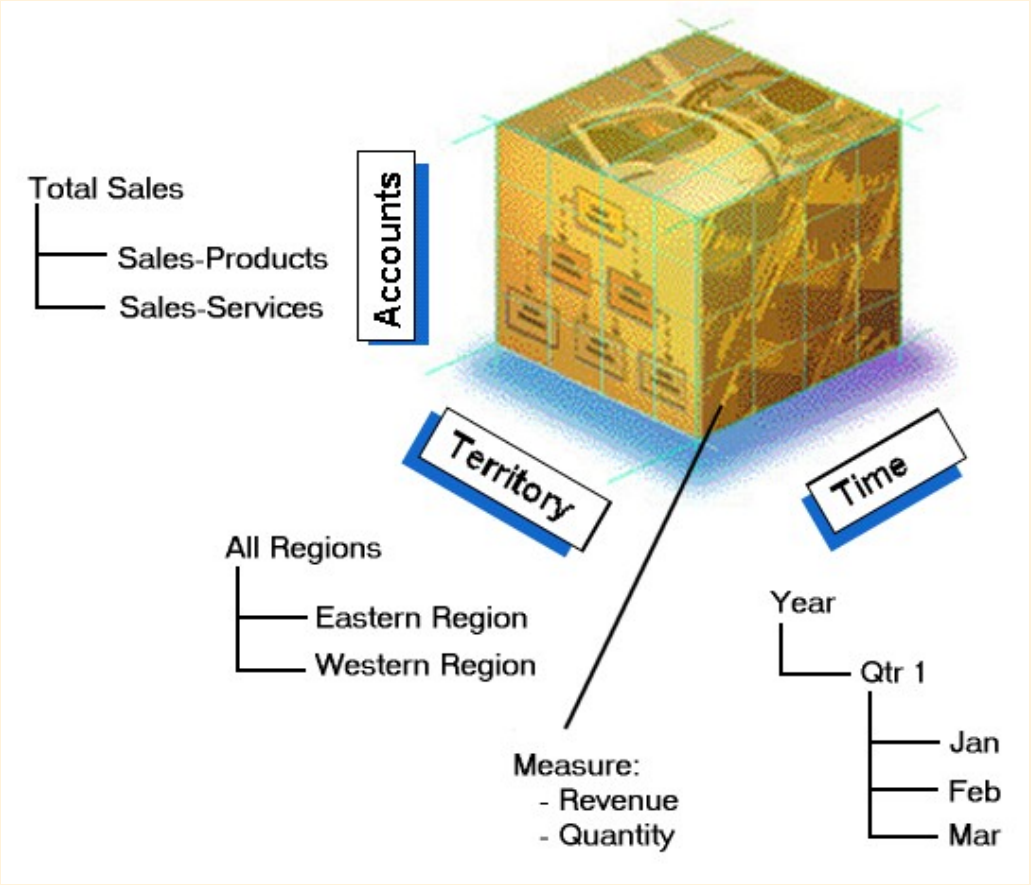
- Dimension
  - Distinct categories for business data.
- Hierarchy
  - Levels of details on the data.
- Measure
  - Quantitative values.



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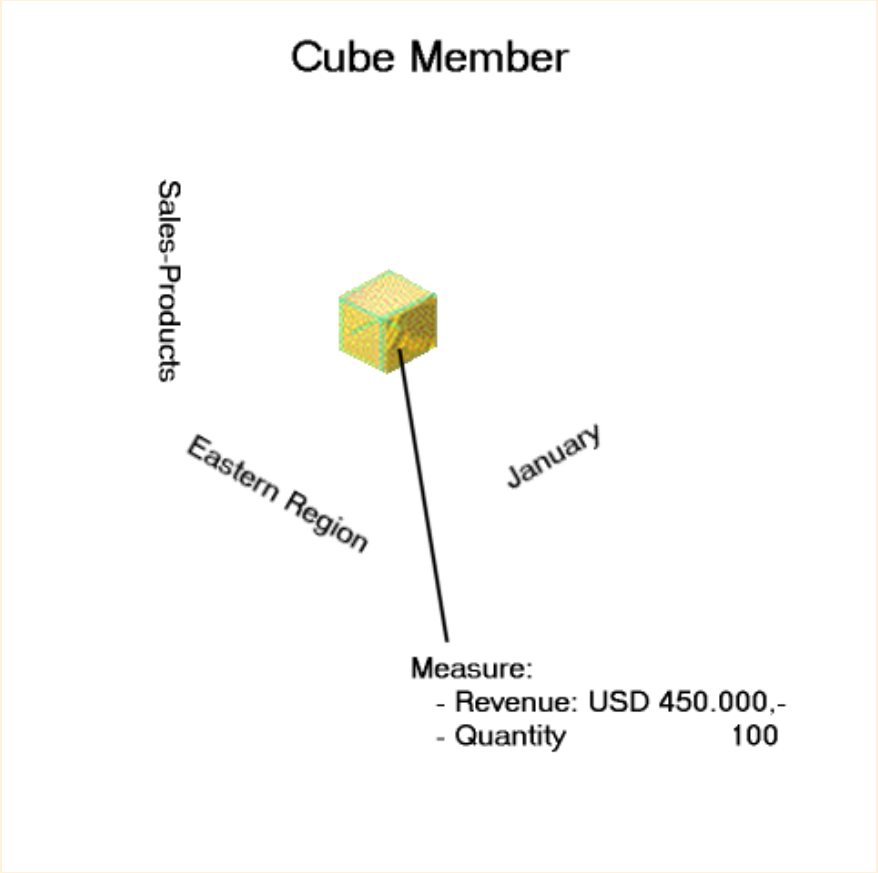

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- Dimension
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- Hierarchy
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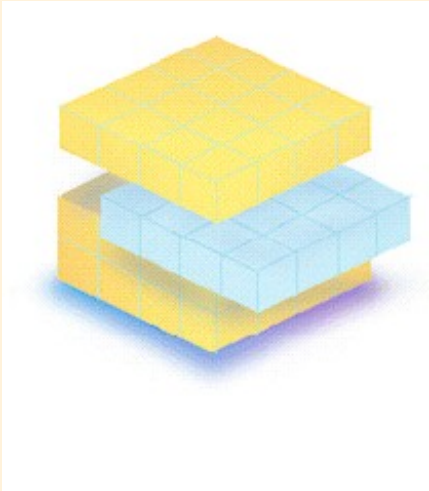
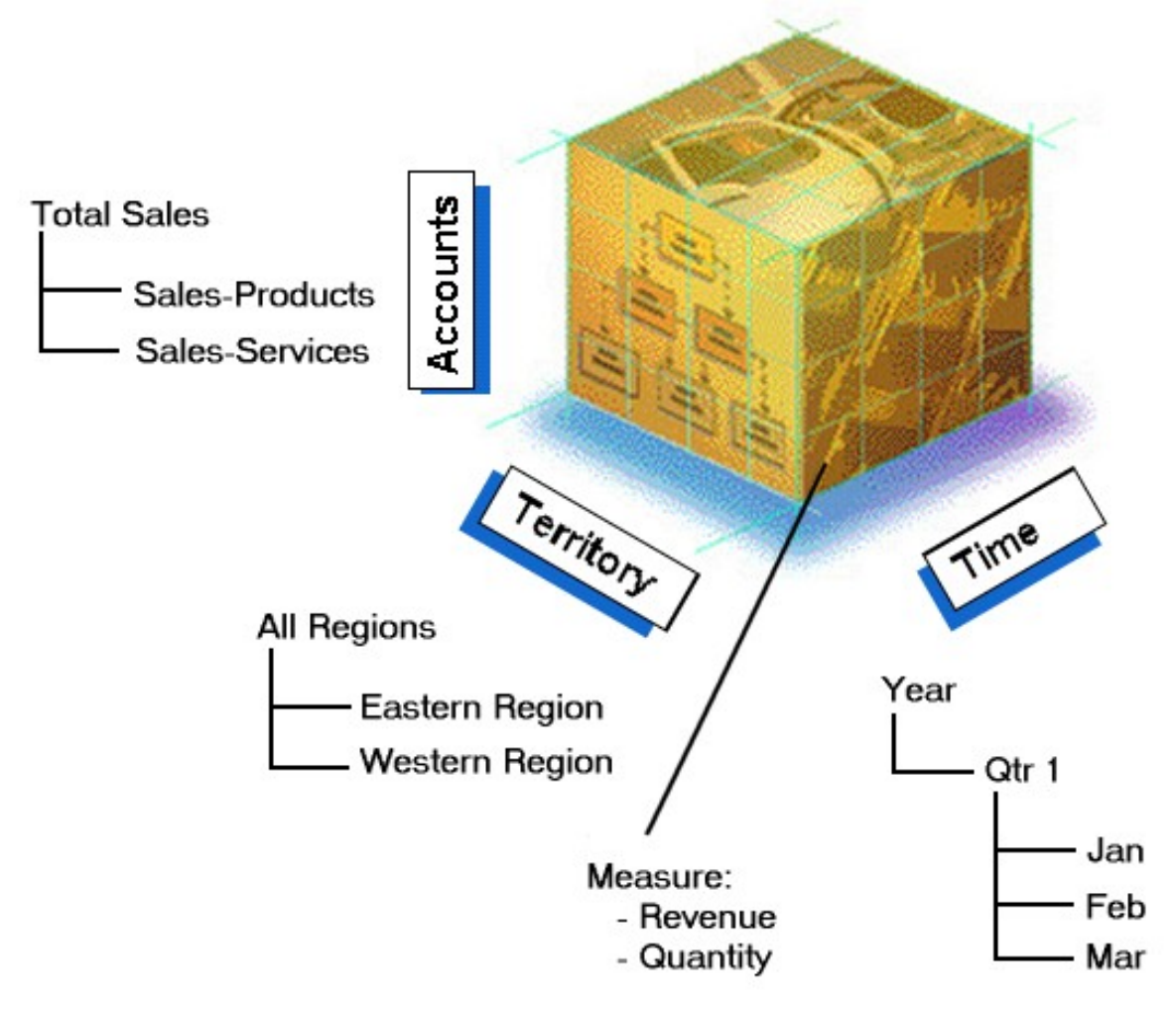
- Measure
  - Quantitative values.
- Data slice
  - A subset of the data in a partition.



OLAP Cube


Total Sales
Sales-Products
Sales-Services
Accounts
Territory
Time
All Regions
Eastern Region
Western Region
Year
Qtr 1
Jan
Feb
Mar
Measure:
- Revenue
- Quantity