

OLAP Theory-English version
On-Line Analytical processing (Business Intelligence)

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KPH_ESF_MU

Agenda

- The Market
- Why OLAP
- Introduction to OLAP
- OLAP Terms and Concepts
- Summary

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(burden) and network traffic
 - 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. “

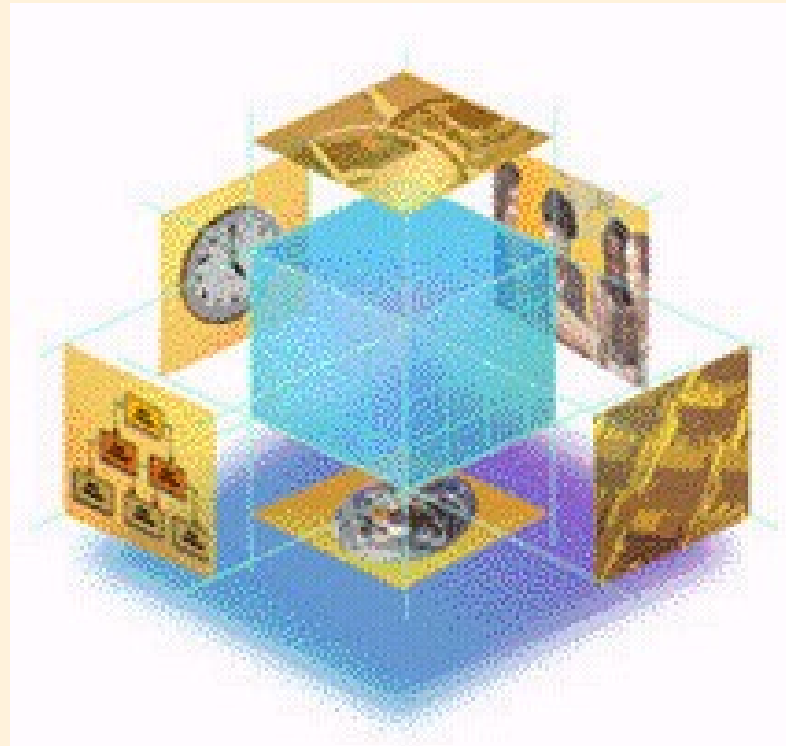
Introduction to OLAP

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

Introduction to OLAP

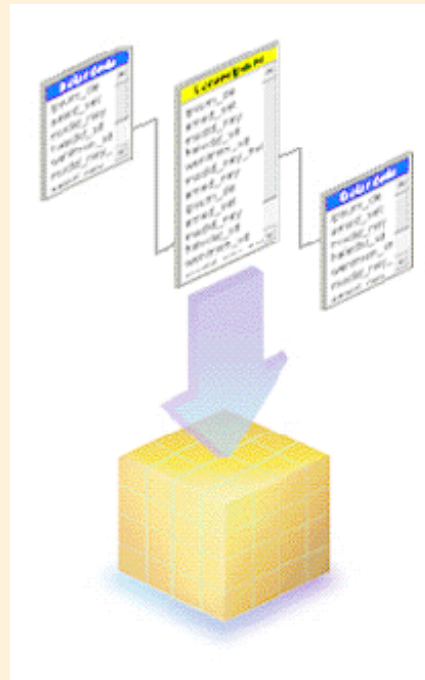
- Organizational functions
 - Finance
 - Budgeting
 - Performance analysis
 - Sales
 - Sales analysis and forecasting
 - Marketing
 - Market research analysis
 - Market/customer segmentation
 - Purchase
 - Cost of materials
 - Production
 - Cost of conversion
 - Distribution
 - Cost of shipping
 - etc

OLAP Terms and Concepts (cubes)



OLAP Terms and Concepts

- Relational database
- Multidimensional database

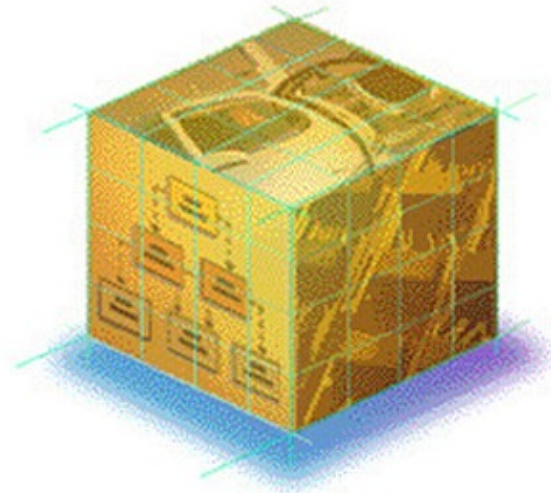


Relational
database

Multidimensional
database

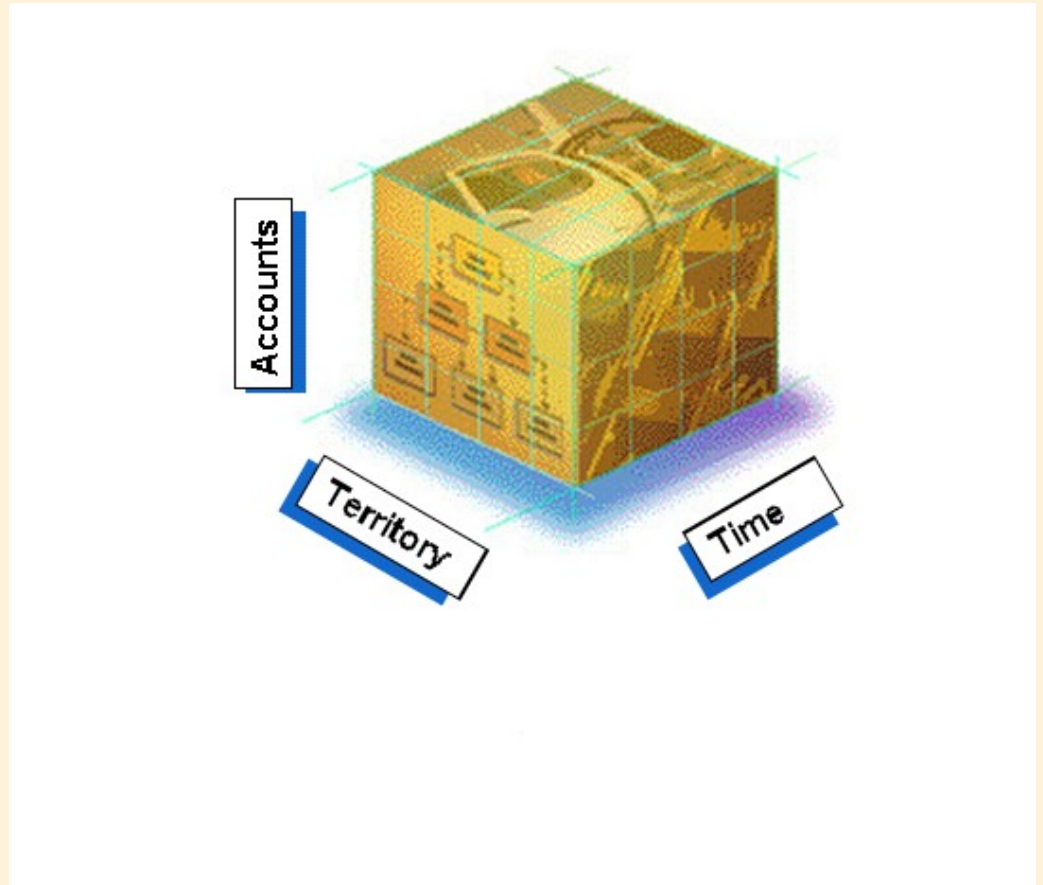
OLAP Terms and Concepts

- Cube
 - Information Is conceptually viewed as cubes !!!



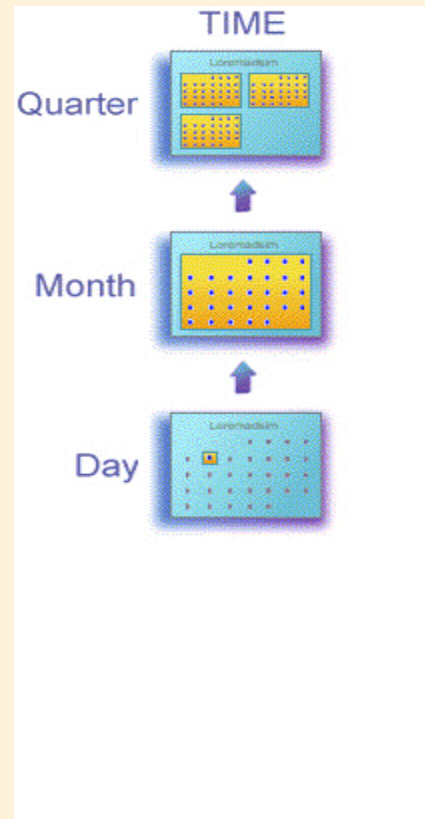
OLAP Terms and Concepts

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



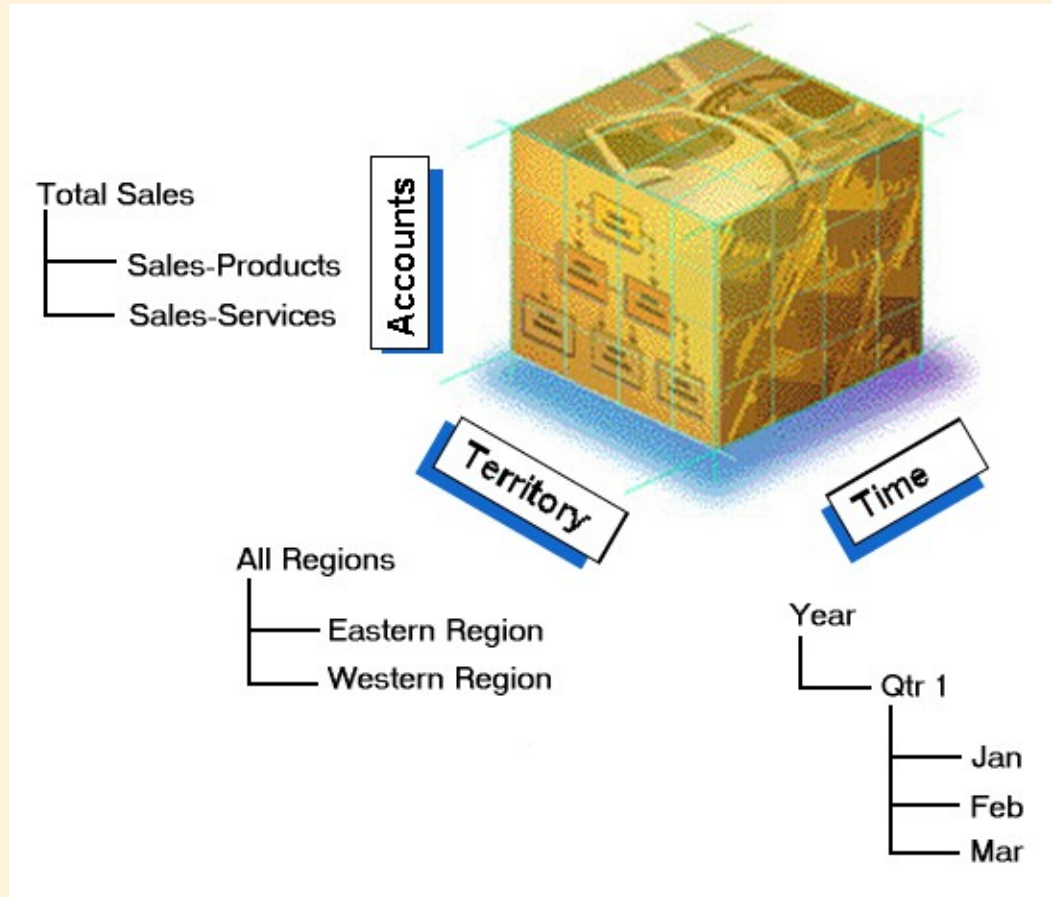
OLAP Terms and Concepts

- Cube
 - Information is conceptually viewed as cubes.
- Dimension
 - Distinct categories for business data.
- Hierarchy
 - Levels of details on the data.



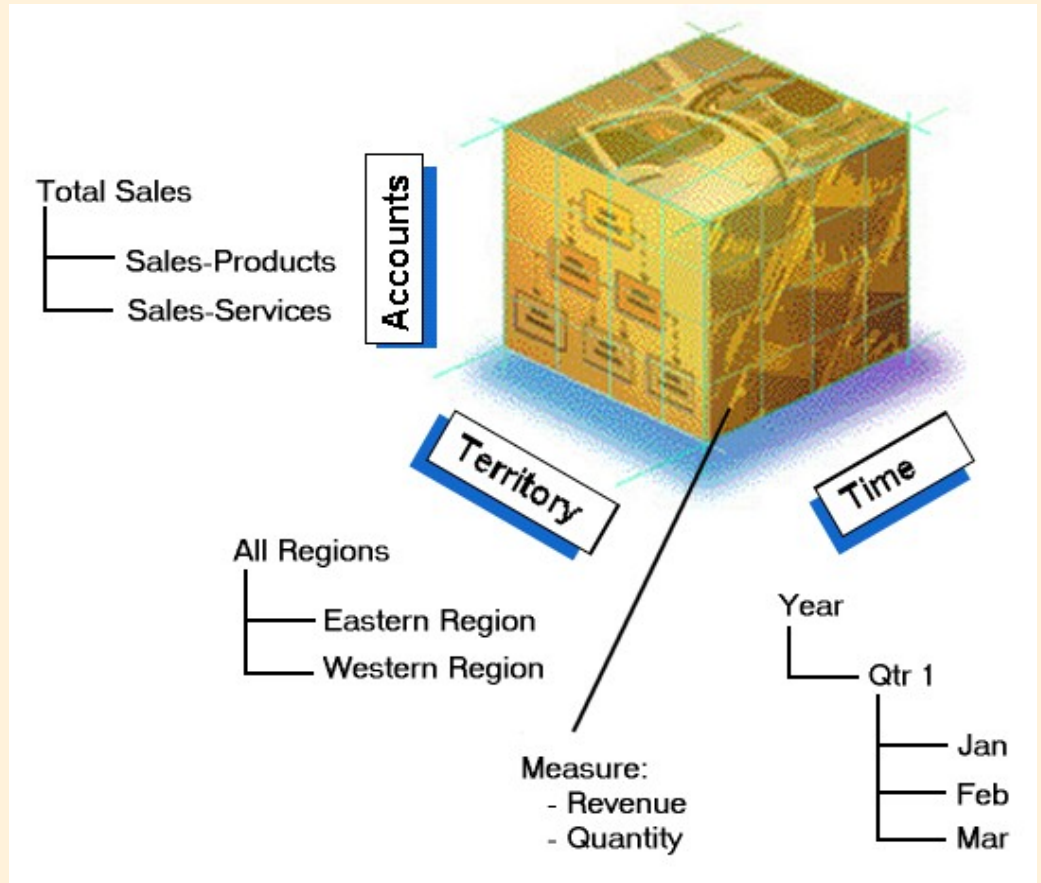
OLAP Terms and Concepts

- **Cube**
 - Information is conceptually viewed as cubes.
- **Dimension**
 - Distinct categories for business data.
- **Hierarchy**
 - Levels of details on the data.



OLAP Terms and Concepts

- Cube
 - Information is conceptually viewed as cubes.
- Dimension
 - Distinct categories for business data.
- Hierarchy
 - Levels of details on the data.
- Measure
 - Quantitative values.



OLAP Terms and Concepts

Cube

Information Is conceptually viewed as cubes.

Dimension

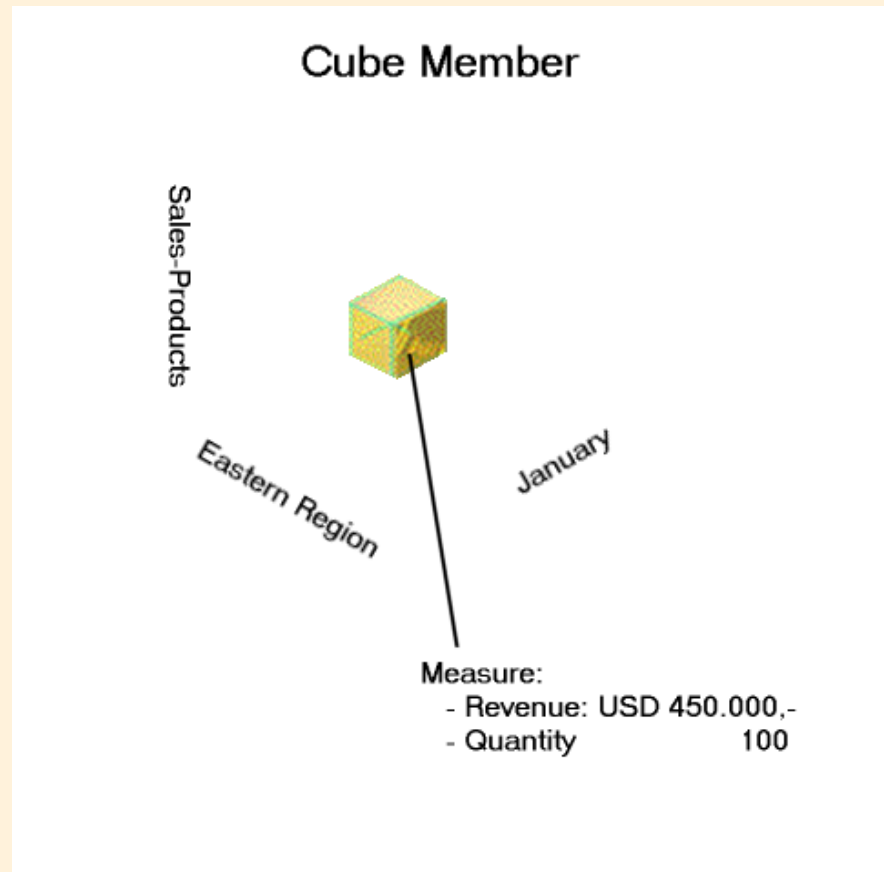
Distinct categories for business data.

Hierarchy

Levels of details on the data.

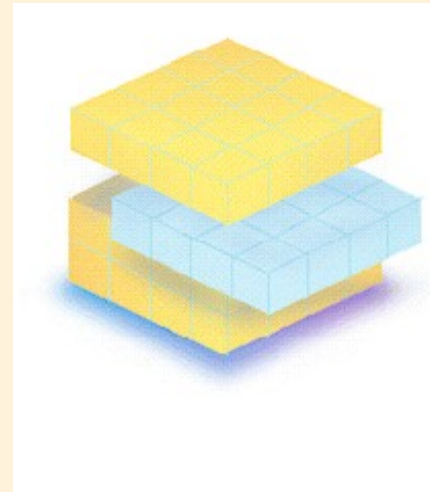
Measure

Quantitative values.

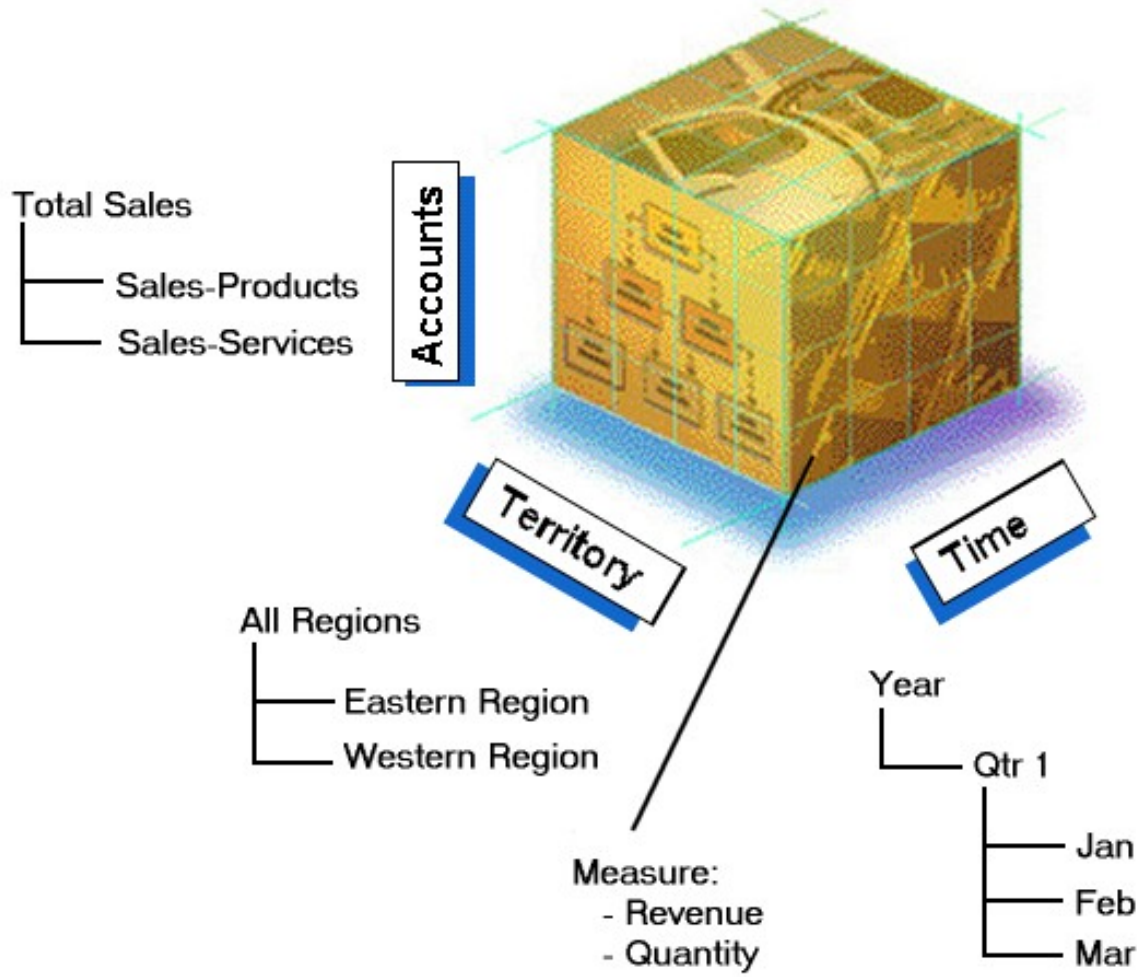


OLAP Terms and Concepts

- **Cube**
 - Information is conceptually viewed as cubes.
- **Dimension**
 - Distinct categories for business data.
- **Hierarchy**
 - Levels of details on the data.
- **Measure**
 - Quantitative values.
- **Data slice**
 - A subset of the data in a partition.



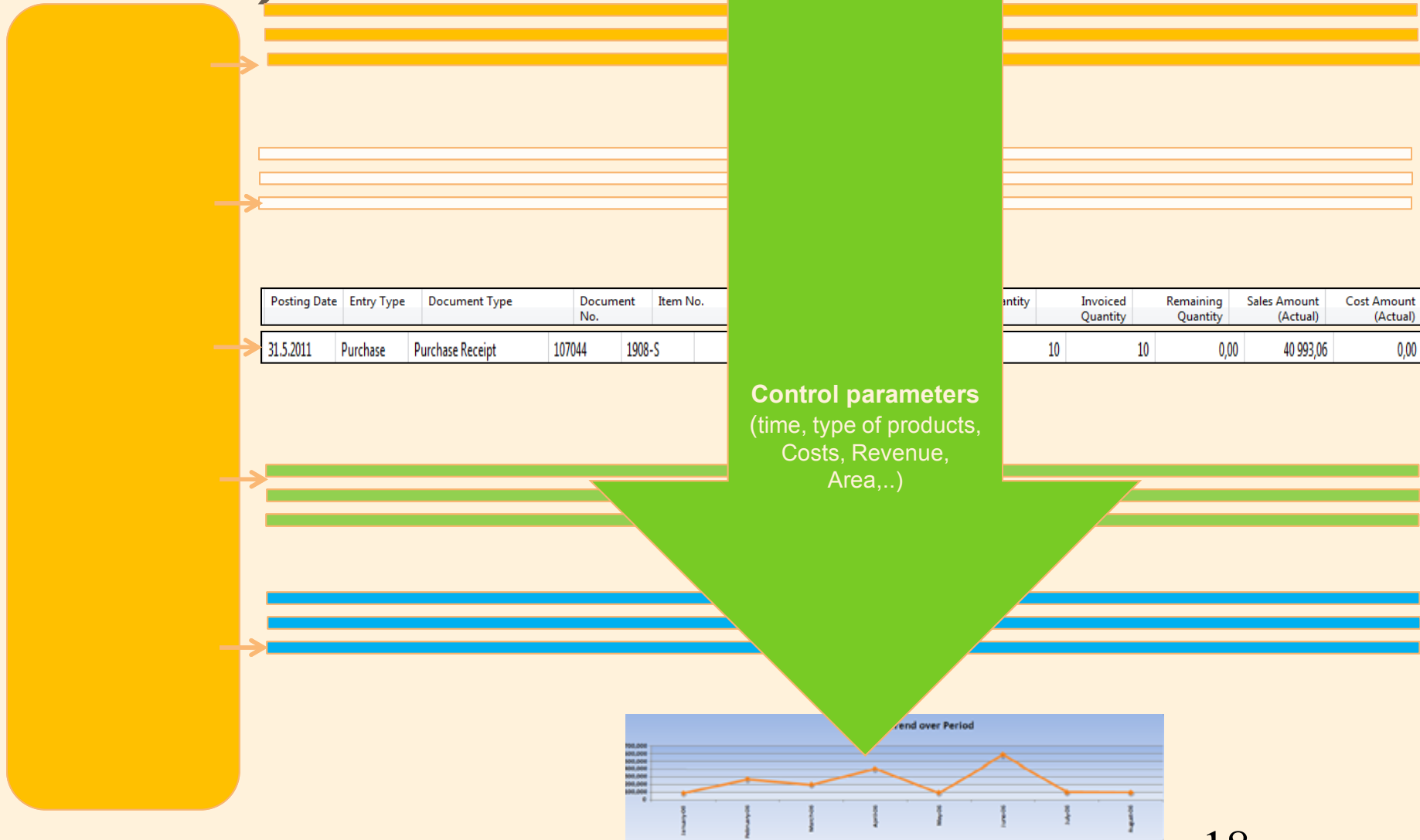
OLAP Cube



Reporting (NAV tools or JETs)



Main principles (source tables and their entries)



Some chosen analysis created by MS Dynamics NAV

- Working capital – setup of the accounting schedule from NAV

Edit - Acc. Schedule Overview - ANALYSIS - DEFAULT

HOME ACTIONS

Delete Previous Column Next Column Process Refresh Find Page

General

Account Schedule Name: ANALYSIS View by: Month

Column Layout Name: DEFAULT Date Filter: 01.12.1

Row No.	Description	Net Change Debit	Net Change Credit	Balance at Date Debit	Balance at Date Credit
ACID-TEST ANALYSIS					
Current Assets					
101	Inventory	159 963,84		1 172 562,90	
102	Accounts Receivable		139 299,23	1 109 781,35	
103	Securities			11 860,69	
104	Liquid Assets		3 321,08	253 221,15	
105	Current Assets, Total	17 343,53		2 547 426,09	
Short-term Liabilities					
111	Revolving Credit	349 300,01			1 349 660,28
112	Accounts Payable		72 953,66		590 856,60
113	VAT		61 520,56		172 352,95
114	Personnel-related Items		138 520,65		138 520,65
115	Other Liabilities		34 572,80		34 572,80
116	Short-term Liabilities, Total	41 732,34			2 285 963,28
Current Assets minus Short-term Liabili...		59 075,87		261 462,81	

Some chosen analysis created by MS Dynamics NAV

Revenue analysis – Show of the results from NAV

Edit - Acc. Schedule Overview - REVENUE - BUDGANALYS

HOME ACTIONS

Delete Previous Column Next Column Next Period Previous Period Refresh Find

Manage Process Page

General

Account Schedule Name: REVENUE View by: Month

Column Layout Name: BUDGANALYS Date Filter: 01.11.18..30.11.18

Row No.	Description	Net Change	Budget	Variance%
REVENUE				
Sales of Retail				
11	Sales, Retail - Dom.	-74 679,20	-62 730,00	19,05
12	Sales, Retail - EU			-100,00
13	Sales, Retail - Export	-16 940,92	-14 230,00	19,05
14	Job Sales Adjmt, Retail			-100,00
15	Sales of Retail, Total	-91 620,12	-76 960,00	19,05
	Revenue Area 10..30, Total	-74 679,20	-62 730,00	19,05
	Revenue Area 40..85, Total	-16 940,92	-14 230,00	19,05
	Revenue, no Area code, Total			-100,00
	Revenue, Total	-91 620,12	-76 960,00	19,05

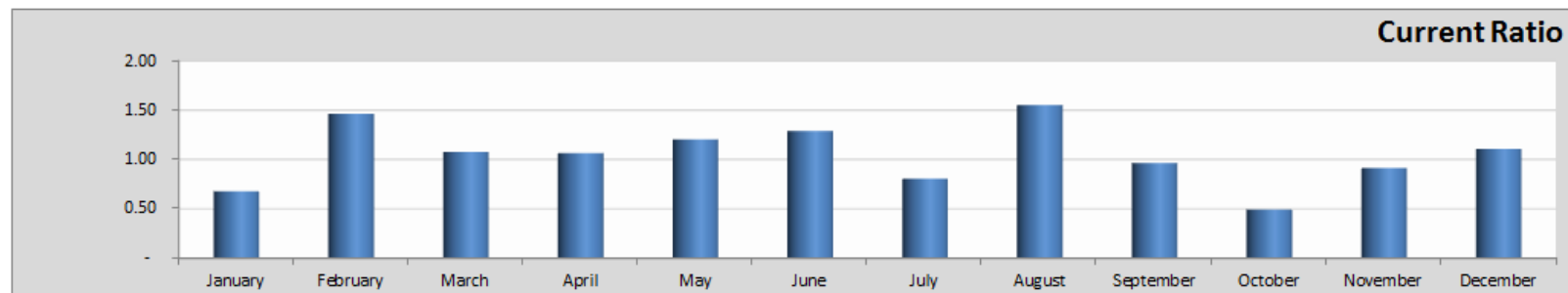
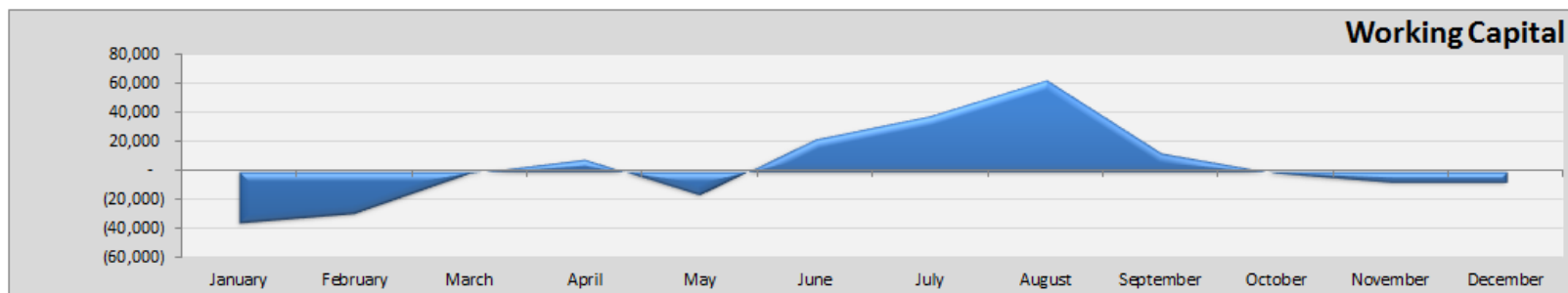
Some chosen analysis asked by CFO of company X in Czech Republic

- Working capital – Show of the results from JETs

Working Capital & Current Ratio

Report Date 8/23/2011

2011												
	January	February	March	April	May	June	July	August	September	October	November	December
Current Assets	74,405	(90,939)	(16,110)	136,096	(92,528)	101,144	(155,777)	174,615	(363,170)	1,015	72,525	(72,789)
Current Liabilities	109,902	(62,118)	(14,989)	127,587	(76,890)	78,566	(193,757)	112,467	(376,168)	2,070	79,494	(65,841)
Working Capital	(35,497)	(28,821)	(1,121)	8,508	(15,638)	22,579	37,980	62,148	12,998	(1,055)	(6,969)	(6,948)
Current Ratio	0.68	1.46	1.07	1.07	1.20	1.29	0.80	1.55	0.97	0.49	0.91	1.11



Some chosen analysis asked by CFO of company X in Czech Republic

Inventory - Dashboard

Company

- JetCorp, Belgium
- JetCorp, North America

Location

- Amsterdam Warehouse 1
- Amsterdam Warehouse 2

Item Category

- Awards & Recognition
- Bags & Totes

Product Group

- Flashlights
- USB Drives

Year

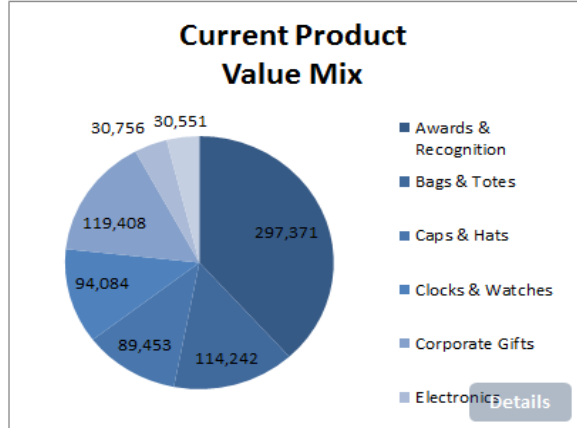
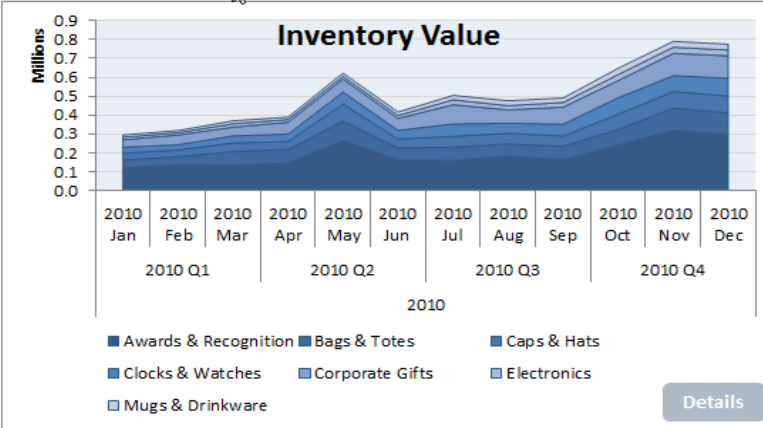
- 2007
- 2008
- 2009
- 2010

Quarter

- 2010 Q1
- 2010 Q2
- 2010 Q3
- 2010 Q4

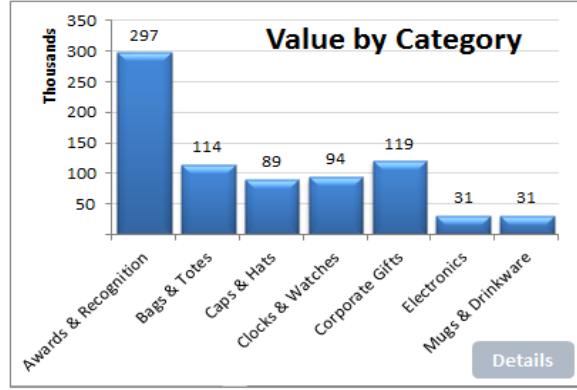
Month

- 2010 May
- 2010 Jun
- 2010 Jul
- 2010 Aug

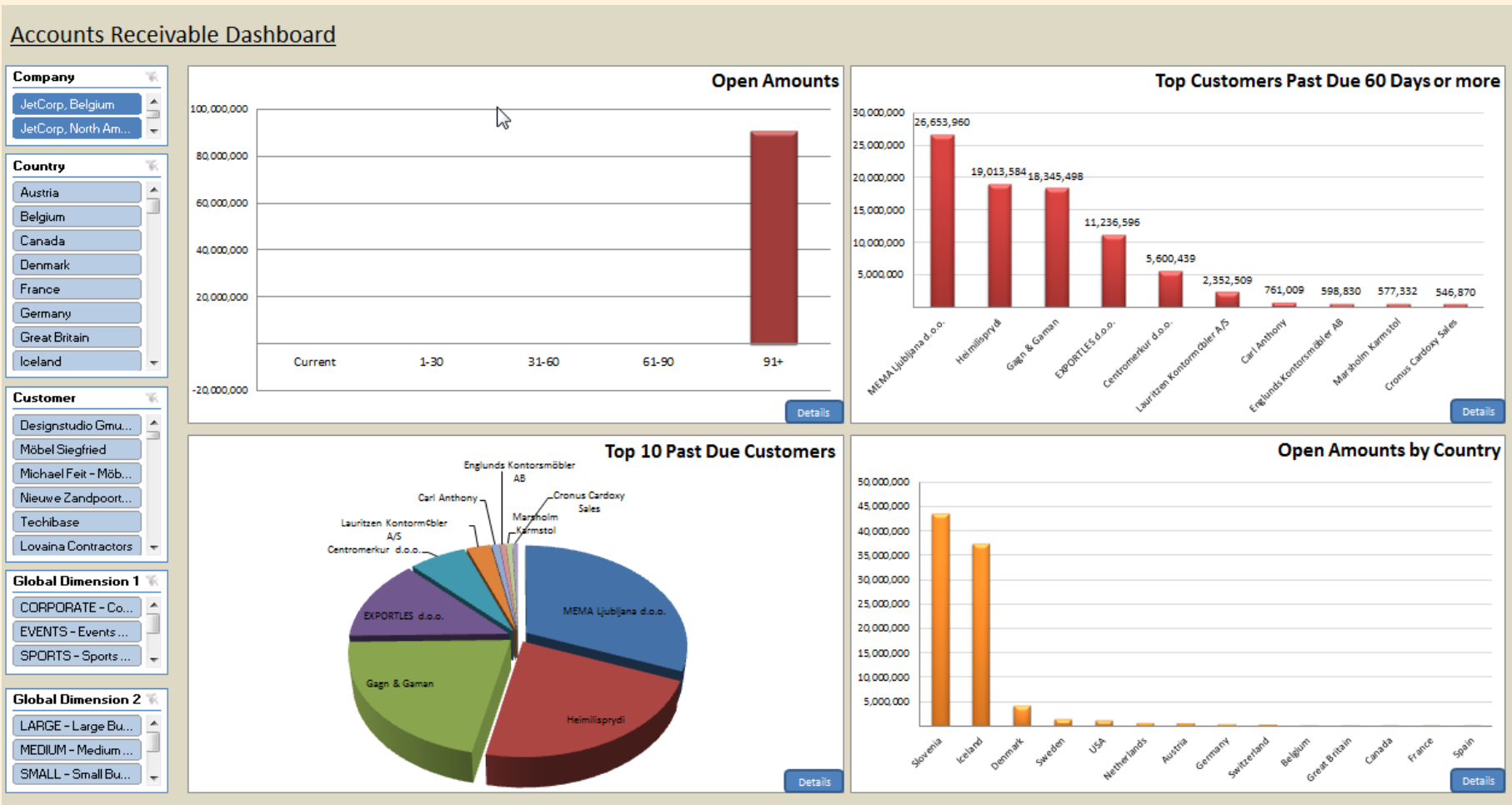


Average Inventory Value

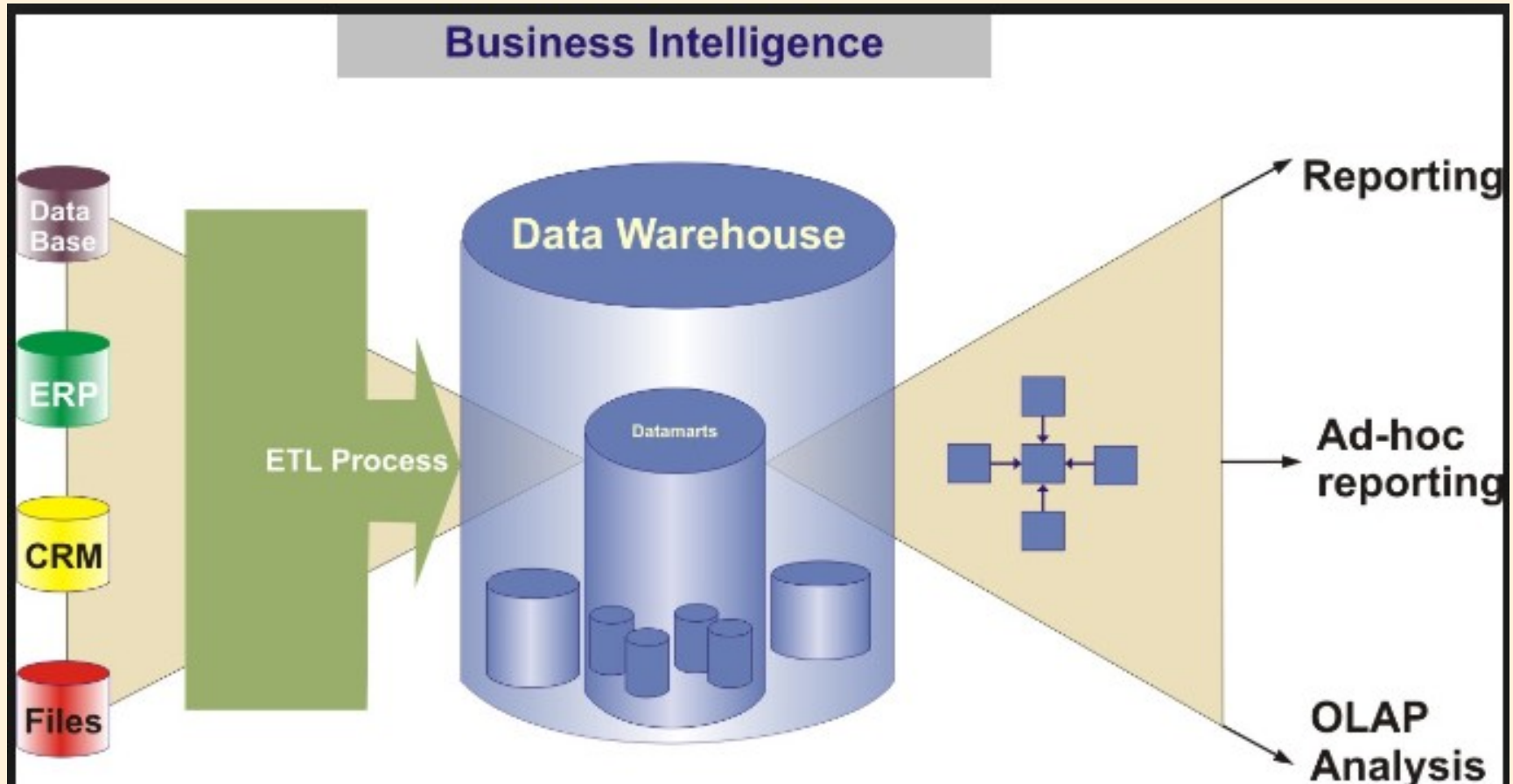
	Period	Prev. Yr	Variance	%	Grand Total
Awards & Recognition	188,840	200,797	-11,957	-5.95%	188,840
Bags & Totes	72,551	83,459	-10,908	-13.07%	72,551
Caps & Hats	56,765	63,983	-7,218	-11.28%	56,765
Clocks & Watches	57,043	63,353	-6,310	-9.96%	57,043
Corporate Gifts	73,856	81,520	-7,664	-9.40%	73,856
Electronics	19,293	18,451	842	4.56%	19,293
Mugs & Drinkware	19,052	16,732	2,320	13.86%	19,052



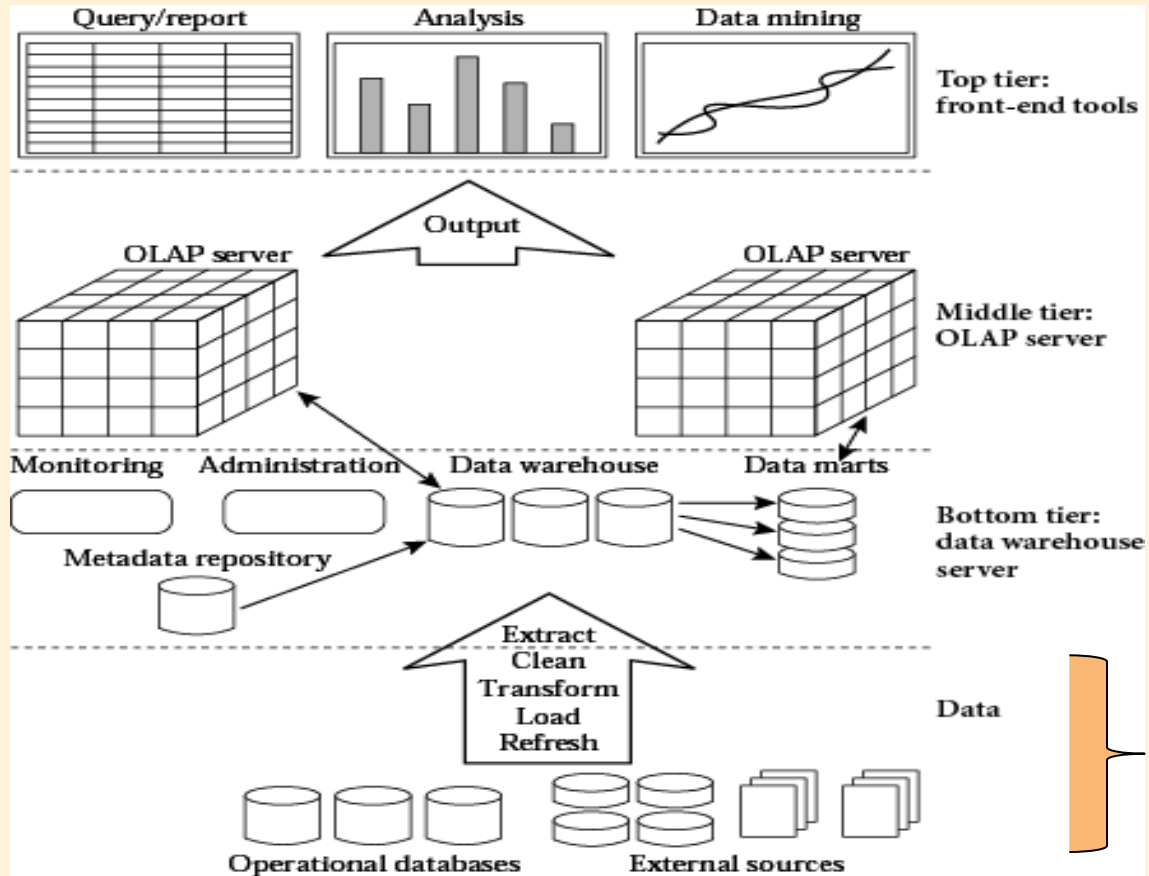
Some chosen analysis examples (JETs)



Business Intelligence principle



Business Intelligence Architecture



END OF SESSION

"THIS IS THE END,
BEAUTIFUL FRIEND.

THIS IS THE END,
MY ONLY FRIEND,
THE END."

