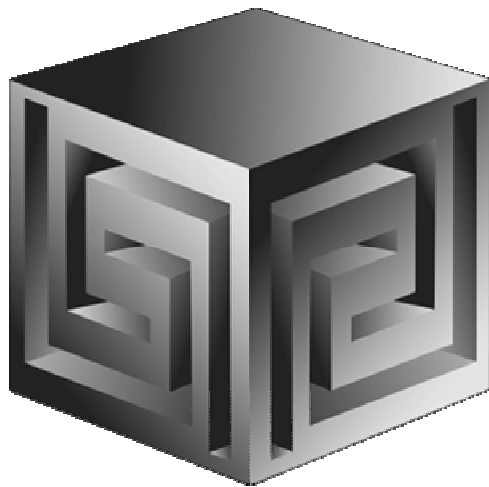


Using Multidimensional Data Sources in Oracle OBIEE+

Collaborate 2010 Session #239



Chris Claterbos

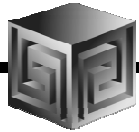
claterbos@vlamis.com

Vlamis Software Solutions, Inc.

<http://www.vlamis.com>

816.781.2880

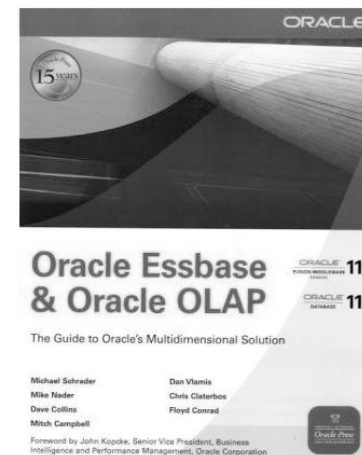
816.729.1034(cell)



Speaker Information

- **Chris Claterbos, Consulting Manager**

- Consulting and Development Manager for Vlamis Software Solutions, Inc.
- DBA and applications developer for Oracle products, since 1981.
- Beta tester and early adopter of - including Oracle 8i, 9i, 10g and 11g, OLAP, JDeveloper and BIBeans, Oracle AS, Portal , and Reports, OBIEE.
- Expert Presenter and Author (newest book on OLAP).
- Previous IOUG Focus Area Manager for Data Warehousing and BI
- Member of Oracle Magazine Editorial Board

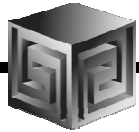




Silence Is Golden

**Please silence portable electronic devices
and**

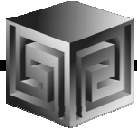
Please no pictures of the screens



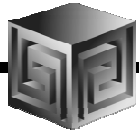
Presentation Goals

- **Quick overview of Oracle OLAP and OBIEE**
- **Demonstrate “how to” integrate Oracle OLAP 10g and 11g cubes with OBIEE**
- **Discuss what is next for OBIEE**

Oracle OLAP – 30,000 Ft View

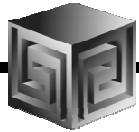


- OLAP cubes stored in an Analytic Workspace (LOB) in the Oracle database
- Data stored in multi-dimensional arrays
- Analytic workspaces created using Analytic Workspace Manager (AWM) or Oracle Warehouse Builder (OWB)
- Dimensions & Hierarchies
- Measures (Stored, Derived)
- FAST performance



Why MOLAP for BIEE?

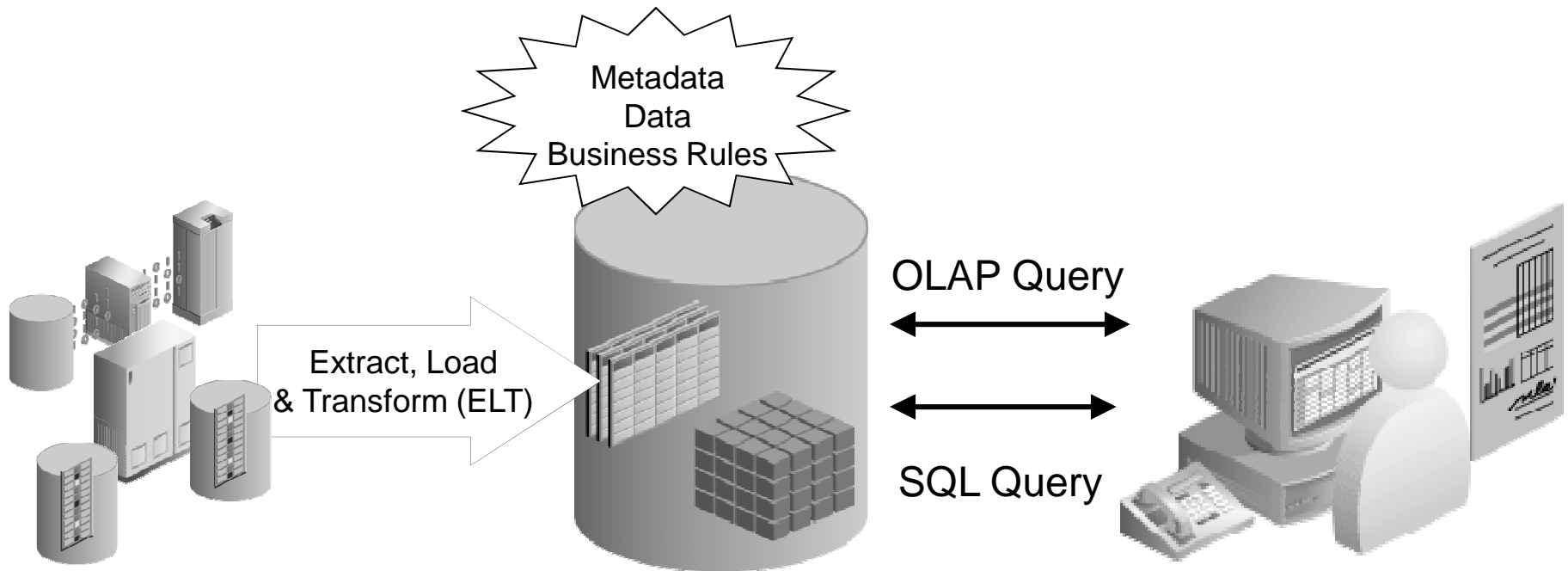
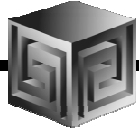
- Embedded Total view
- Measure columns return stored and calculated data at all summary levels
- Simple SQL for complex queries
- Summary management (sum, last, average, weighted average, etc...)



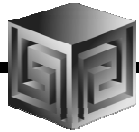
Why MOLAP for BIEE?

- Supports all hierarchy types (skip level, value based, ragged, etc...)
- Can include very complex formulas and functions using OLAP DML
- Extremely FAST!

One Cube, Dimensional or SQL Tools



Centrally managed data, meta data and business rules



Oracle BI Suite Enterprise Edition

Unified Business Intelligence Infrastructure

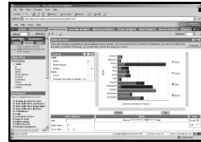
Interactive
Dashboards



Reporting &
Publishing



Ad-hoc
Analysis



Proactive
Detection
and Alerts



Disconnected
Analytics



MS Office
Plug-in



Oracle
BI Server

Simplified Business Model and Abstraction Layer

Intelligent Caching Services

Multidimensional Calculation and Integration Engine

Intelligent Request Generation and Optimized Data Access Services



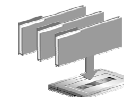
OLTP & ODS
Systems



Data Warehouse
Data Mart
OLAP



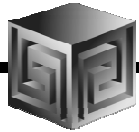
SAP, Oracle
PeopleSoft, Siebel,
Custom Apps



Files
Excel
XML

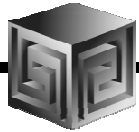


Business
Process



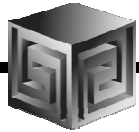
Overview of OBIEE

- Presents relational data in a pseudo-multidimensional manner
- Dimensional and hierarchical presentation
- Use any Oracle Database (Relational and Multidimensional)
- Use any ODBC-compliant relational data sources
- User-customizable Dashboards
- Rich feature set of analysis tools (crosstab, charts and graphs, links, tickers, speedometers...)
- Ad-hoc, Dashboards, and Alerts



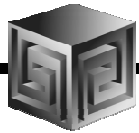
OBIEE Administration Tool

- OBIEE Administration tool defines environment
- Physical Layer – imports tables and views from relational sources
- Business Model Layer – Organizes physical tables/views into logical business model
- Presentation Layer – Converts Business Model to user presentation view
- OBIEE Analytics – Web browser interface



Process Overview

- Design and Build OLAP Dimensions and Cubes
- Using Analytic Workspace Manager create OBIEE Metadata Repository file
- Validate and enhance the repository using OBIEE Administration tool
- Create reports/dashboards using OLAP data in OBIEE Analytics



Oracle Analytic Workspace Manager

- Tool used to create and maintain OLAP Cubes in Oracle Database.
- Plug-in Technology to add features

The screenshot shows the Oracle Analytic Workspace Manager interface. On the left is a tree view of the database structure. The main area on the right displays three tables: Dimensions, Cubes, and Measures.

Dimensions:

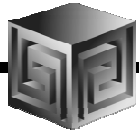
Name	Long Description	Type
CHANNEL	Channel	User
COMPANY_CUSTOMERS_DIM	Company Customers Dim	User
CUSTOMER	Customer	User
GEOGRAPHY	Geography	User
PRODUCT	Product	User
TIME	Time	Time

Cubes:

Name	Long Description	Dimensions
FORECAST		TIME, PRODUCT, GEOGRAP...
SALES_CUBE	Sales Cube	TIME, CHANNEL, GEOGRAP...

Measures:

Name	Cube	Long Description
BEST_FIT	FORECAST	Best Fit
LINEAR_REGRESSION	FORECAST	Linear Regression
SALES	SALES_CUBE	Sales
QUANTITY	SALES_CUBE	Quantity



Analytic Workspace Manager

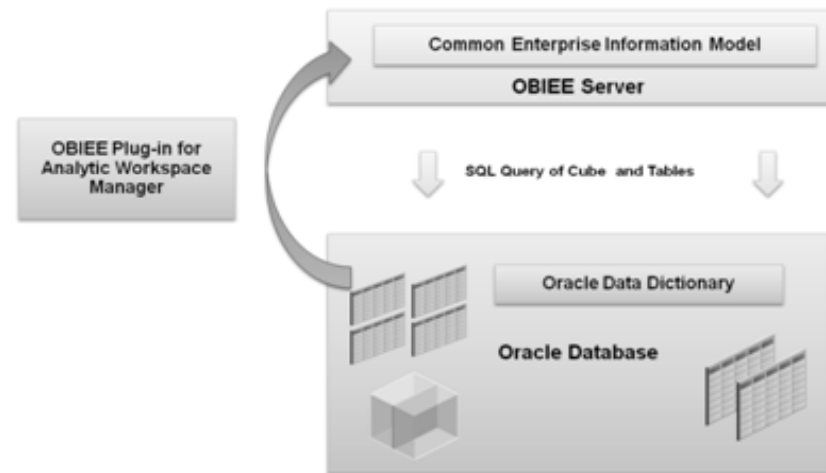
OLAP OBIEE Plug-in

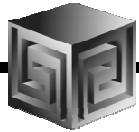
<http://www.oracle.com>

[/technology/products/bi/olap/olap_downloads.html#software](http://www.oracle.com/technology/products/bi/olap/olap_downloads.html#software)

Download and extract obieeplugin.jar to that specified directory.

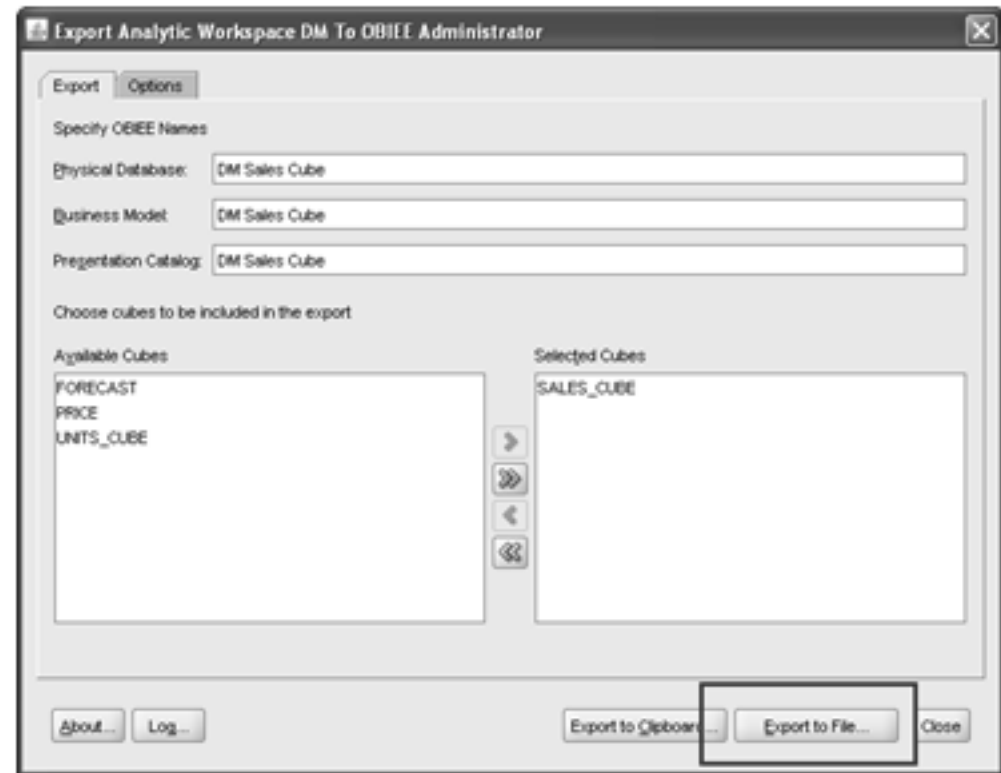
Requires AWM 11.1.0.7





Analytic Workspace Manager

- **Start Plug-in**
- **Select Cubes to Export**
- **Export to XML File**





OBIEE Administrator and OLAP

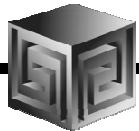
Convert the XML file from plug-in to repository file using nqudmlexe utility.

```
C:> nqudmlexec -I sales_cube_obiee.txt -O sales_cube.rpd
```



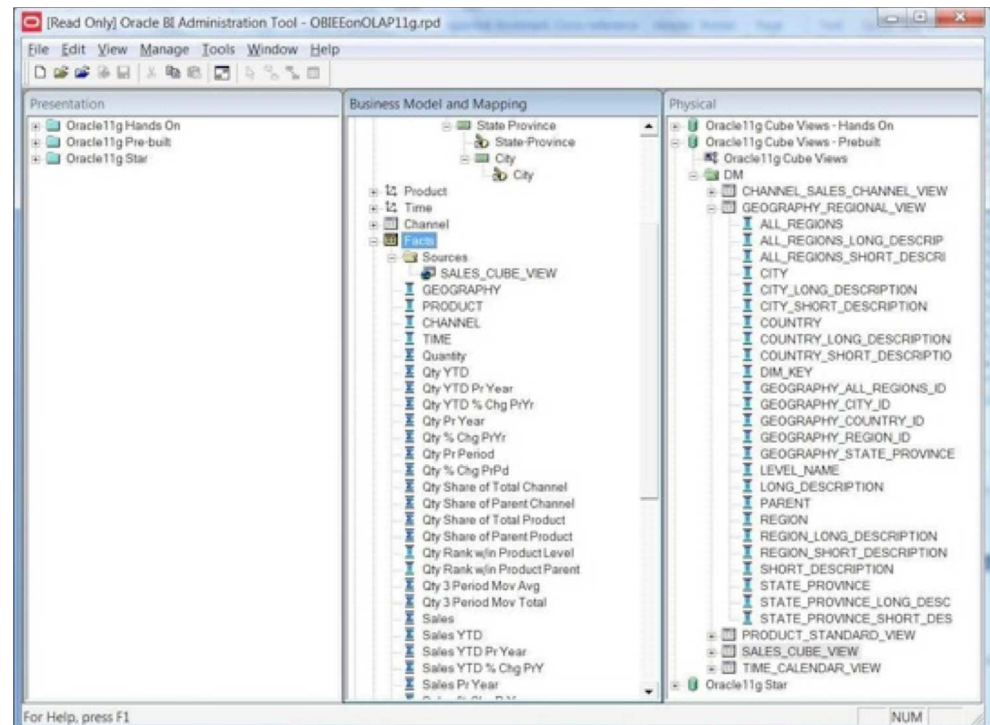

Oracle BIEE Advantages

- **End-to-end visibility to the customer**
- **Provide trending in customer data**
- **Provide trending across customers data**
- **Benchmarking data**
- **Information at the customers finger tips**
- **Tool with a competitive advantage**
- **Tool needs to be flexible and customizable to the customers needs**



Oracle BIEE Administration

- Open Repository
- Validate Dimensions and Facts
- Verify Security
- Add any additional measures

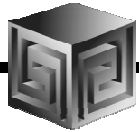


Process Demonstration





The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions. The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.



Oracle BIEE 11g – Coming Soon!

- **Oracle BIEE 11g is in Beta now**
- **Significant changes to the Look and Feel**
- **OLAP Presentation is a Major Update**

Subject Areas

- Paint
 - Markets
 - Total US
 - Region
 - District
 - Market
 - Market Dim
 - Total US
 - CENTRAL REGION
 - EASTERN REGION
 - SOUTHERN REGION
 - WESTERN REGION
- Products
- Periods
 - Total Period
 - Year
 - Month
 - Week
 - Current Date
- Time Dim
- Sales Measures
 - Units
 - Dollars
 - Price Per Unit

Catalog

- List: All
- My Folders
- Shared Folders

Views

- Title
- Pivot Table

Compound Layout

Title				
Pivot Table				
	Total Period			
		2000	2001	2002
	Dollars	Dollars	Dollars	Dollars
Geography				
Total US	\$13,087,529	\$5,689,083	\$6,243,916	\$1,154,530
CENTRAL REGION	\$3,579,658	\$1,493,820	\$1,720,495	\$365,343
CHICAGO DISTRICT	\$1,947,140	\$856,682	\$891,952	\$198,506
DETROIT DISTRICT	\$593,030			
KANSAS CITY DISTRICT	\$248,915			
EASTERN REGION	\$4,642,983			

Download

Selections

List: ALL

Measures

Sales Measures - Dollars

Markets - Geography

1. Start with: **Market US: All members**
2. Keep: Members of **Region** where "Paint", "Sales Measur
3. Remove: **District:** 'CINCINNATI DISTRICT', 'MINNEAP
4. New

Periods - Time

1. Start with: *All members*
2. New

OLAP-style Interaction 11g

Hierarchy / Member Browsing

Interaction

Dimensional Columns

Member Selection (Query Steps)

Custom Groups

Calculated Items

For relational and OLAP sources

Optimized for Essbase

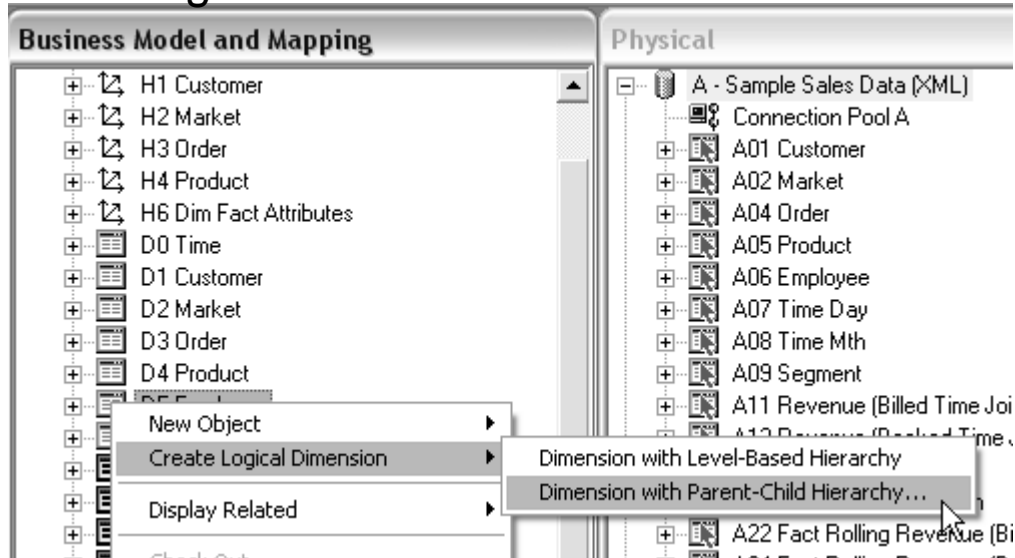
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OLAP-Style Interaction

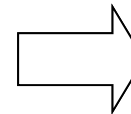


- Asymmetric queries (outline style) and member selection
- Skip-level and unbalanced hierarchies
- Parent-child hierarchies
 - ❑ Generates “closure table” for relational source performance

Design Hierarchies in Admin Tool

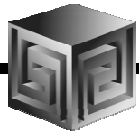


Consume Hierarchies in Answers and Dashboards

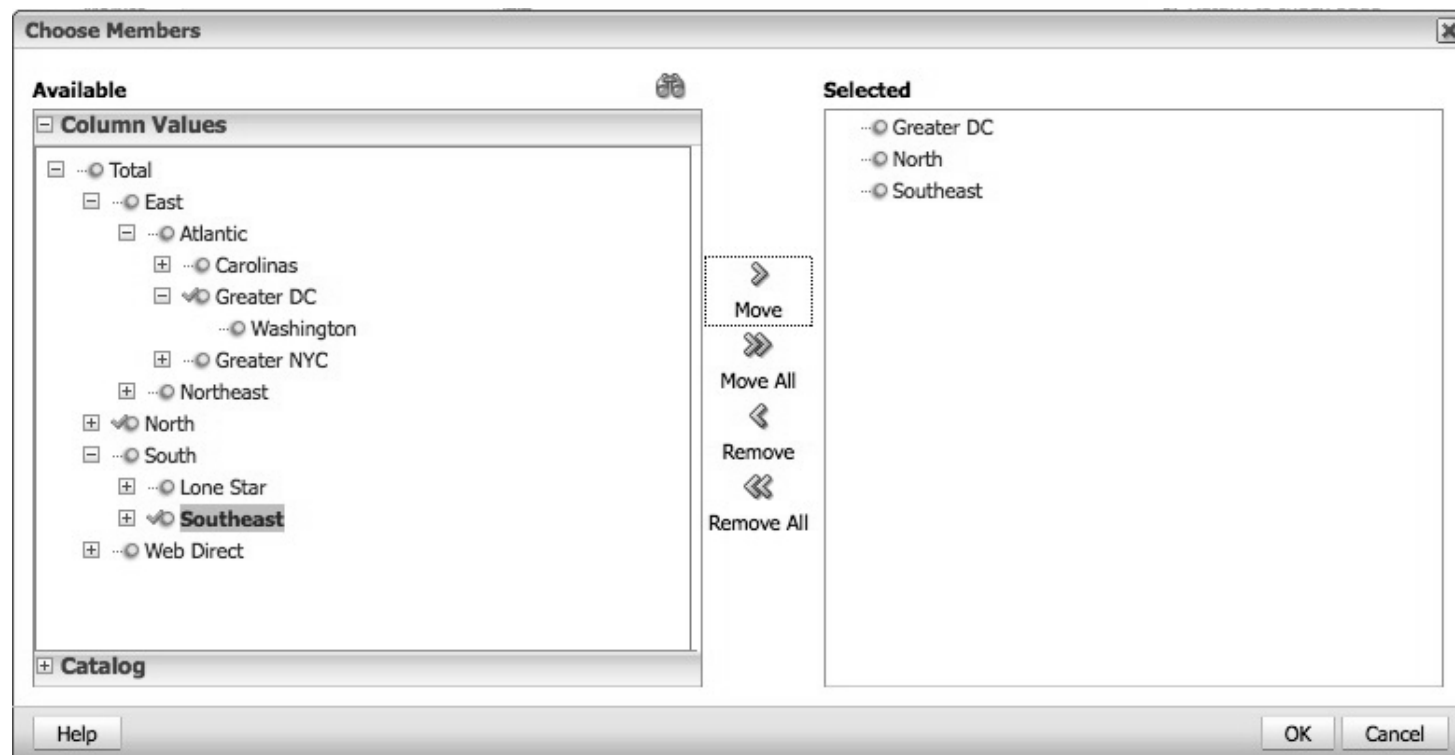


Geography
Total US
CENTRAL REGION
CHICAGO DISTRICT
DETROIT DISTRICT
KANSAS CITY DISTRICT
EASTERN REGION

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Hierarchical View of Data



And More...



Geo Time Revenue Home Catalog Dashboards ▾ New ▾ Open ▾ Signed In As demo ▾

Criteria Results Prompts Advanced

Subject Areas

- Sample Sales Reduced
 - Time
 - Customers
 - Market
 - Product
 - Orders
 - Employee (Value)
 - Facts Revenue
 - Facts Other

Catalog

List All ▾

- My Folders
- Shared Folders

Views

Title

Pivot Table

Compound Layout

Title

Geo Time Revenue
Time run: 2/11/2010 4:11:08 PM

Pivot Table

	Total	2007					2008
		2007 Q1	2007 Q2	2007 Q3	2007 Q4		
	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	
Market							
Total	24,903,044	11,371,280	952,206	3,387,276	4,987,611	2,044,186	
East	13,824,546	6,400,147	533,291	1,999,585	2,696,523	1,170,748	
Atlantic	12,558,896	5,766,713	476,970	1,854,538	2,378,789	1,056,416	
Northeast	1,265,650	633,434	56,321	145,047	317,734	114,332	
South	10,591,662	4,814,082	395,795	1,350,104	2,218,146	850,037	
Web Direct	486,836	157,052	23,120	37,588	72,942	23,402	

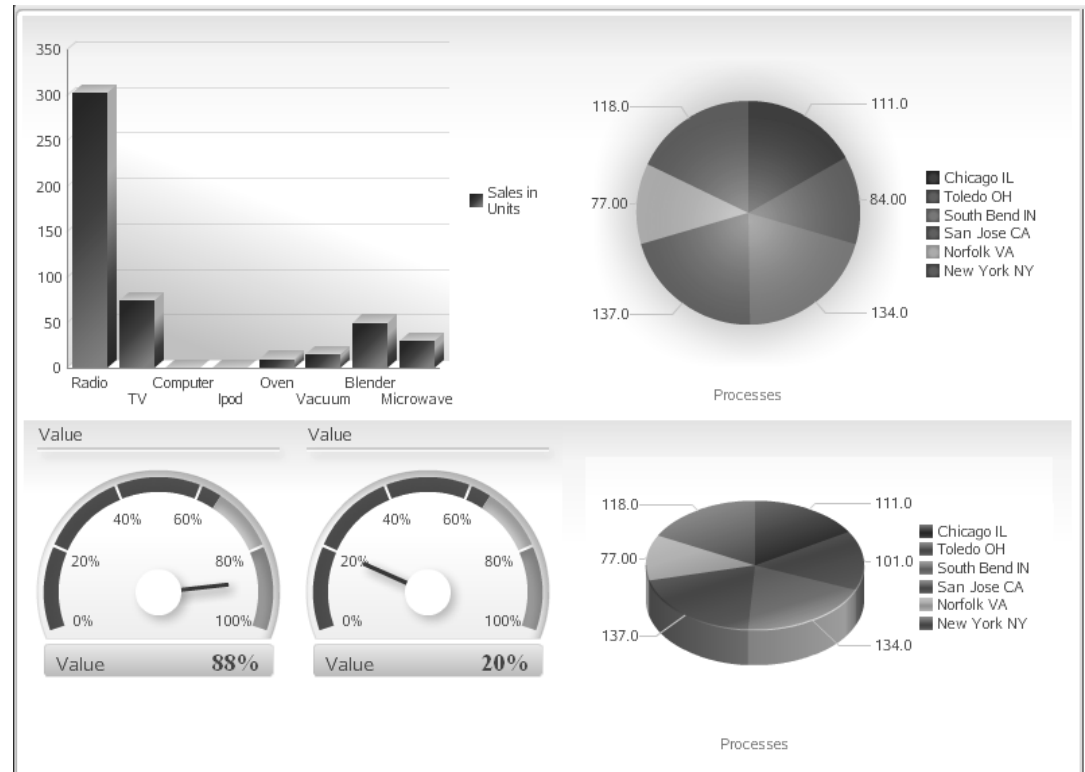
Export

Selection Steps

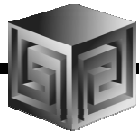
Improved BI Visualizations



- Technology
 - Uses ADF DVT chart engine
 - Exposed as native views within Answers
 - Fully integrated with BI Action Framework
- Increased visual appeal
- New additional chart types
- Interactivity
 - Animated transitions
 - Master-Detail linking
 - Paging sliders (time, segments)
 - Range sliders
 - Legend-based interactions



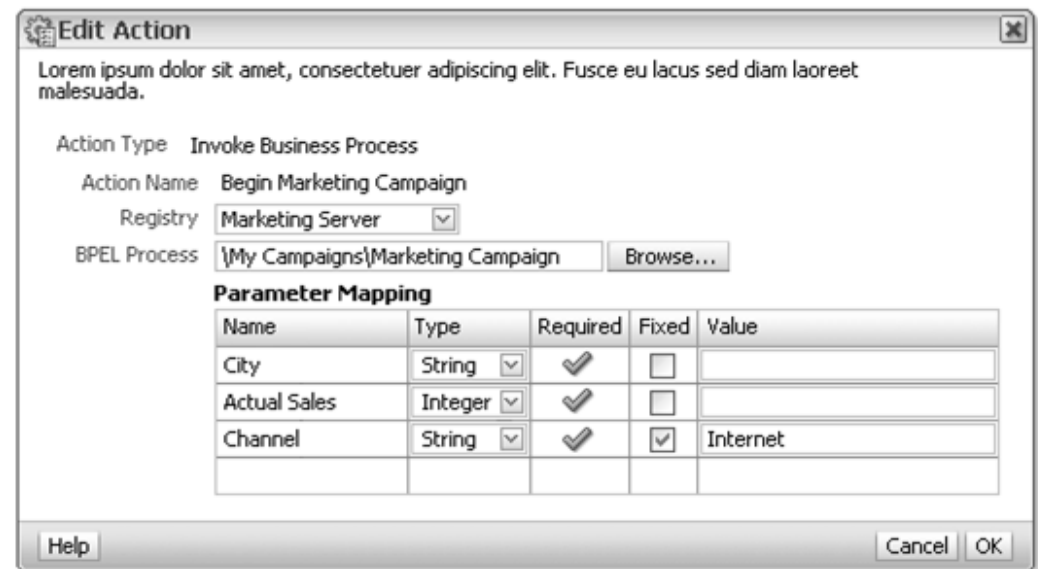
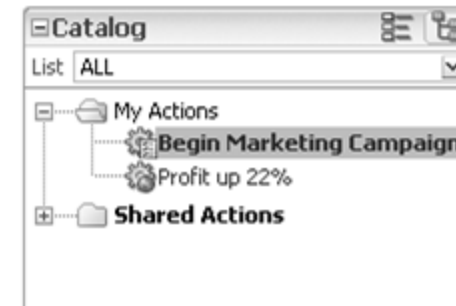
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OBIEE Action Framework

Seamless integration with BPM and workflow in 11g

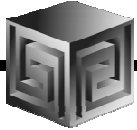
- Invoke Workflow/Business Processes (BPEL)
- Send Message/Post Event (ESB)
- Navigate to BI Content
- Navigate to Analytic App Views
- Navigate to Web Content
- Execute Java Method
- Execute Siebel Workflow
- Invoke a Delivers iBot
- Deliver BI Content
- Deliver Web Content
- Invoke Web Service



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Oracle BI Scorecard

Scorecards and KPIs as First Class Citizens



New in OBIEE 11g

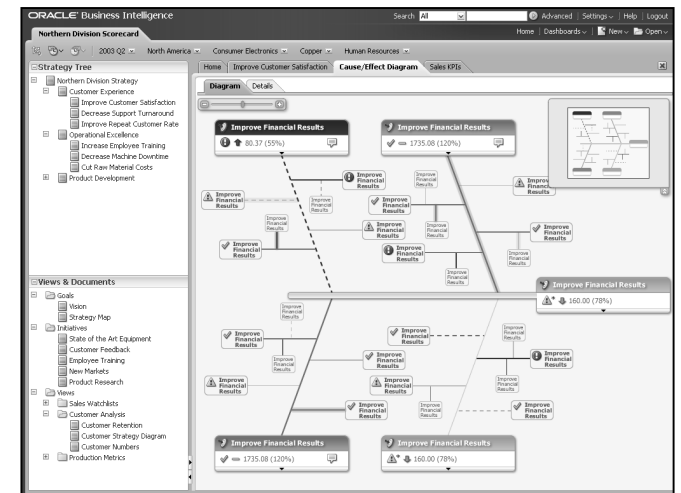
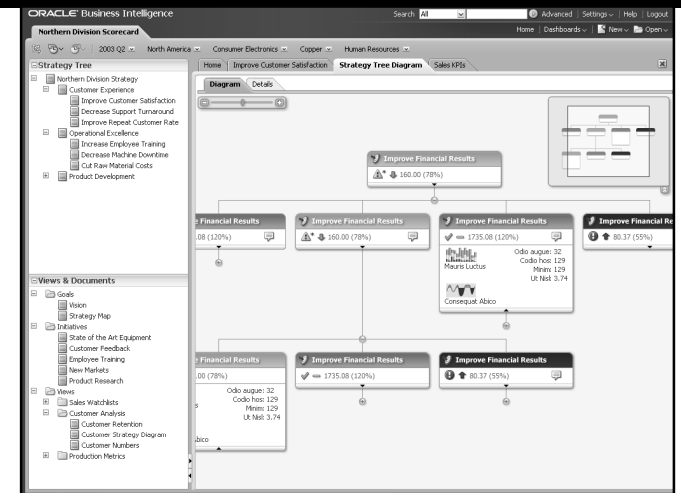
- Scorecards
- Cause and Effect Maps (Fishbone Diagrams), Strategy Trees, Strategy Maps
- Key Performance Indicators as first class metadata objects

KPIs calculated from ...

- Common Enterprise Information Model
- Heterogeneous data sources

KPIs everywhere...

- Interactive Tables, Crosstabs, Charts
- Briefing Books, Dashboards, Reporting
- Alerting, Notification, Workflow



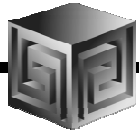
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Summary

**It is a far, far better thing we have,
than we have ever had before.**

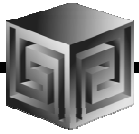
(With apologies to Charles Dickens.)



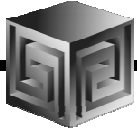
Presentation Summary

- Oracle OLAP and OBIEE are complementary technologies
- AWM and the Oracle OLAP multi-dimensional environment extend the functionality of OBIEE
- OBIEE provides an alternative presentation layer for Oracle OLAP (vs. Discoverer)

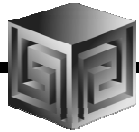
Questions?



Thank You for Attending

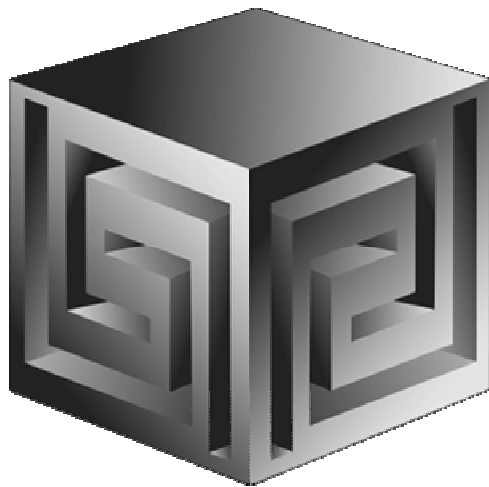


- Chris Claterbos, Session #239
- Further questions: claterbos@vlamis.com
- Website: www.vlamis.com
- Vlamis Software Solutions: 816.781.2880
cell 816.729.1034



Using Multidimensional Data Sources in Oracle OBIEE+

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<http://www.vlamis.com>

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