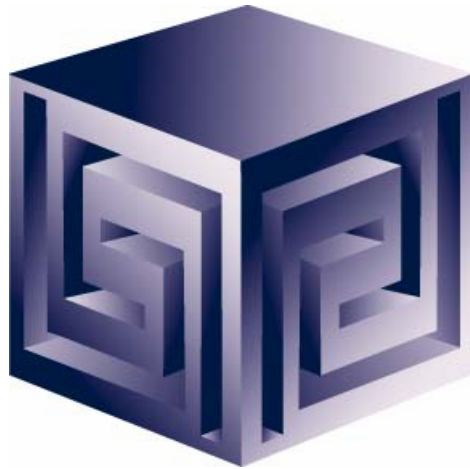


Using Oracle9i Warehouse Builder and Oracle 9i to create OLAP ready Warehouses

KCOUG
January 2004



Chris Claterbos
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Vlamis Software Solutions, Inc.
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Vlamiis Software Solutions, Inc.

- **Oracle Certified professional services company**
- **Provides business solutions to international and domestic clients based on Oracle technologies.**
- **Provide consulting and training on Oracle Technologies**
- **Authorized software reseller**
- **Creator of the first Oracle 9i Business Intelligence and Analytics tool.**
- **Core competency include:**
 - Certified designers,**
 - Developers,**
 - Implementers**
 - Nationally recognized technical authors, speakers and publishers.**

Who are we?



- **Chris Claterbos, Consulting & Development Manager**

- ❑ **DBA and applications developer for Oracle products, since 1981.**
- ❑ **Beta tester and early adopter of - including Oracle 8i and 9i, 9i OLAP, JDeveloper and BIBeans, Oracle 9IAS, Portal (formerly WebDB), and Reports.**
- ❑ **Speaker and author. (new Article on OTN May 12th)**
- ❑ **IOUG Focus Area Manager for Data Warehousing and BI**
- ❑ **Utilized Oracle SQL, PL/sql, Oracle Forms, Reports, Discoverer, Express, Express Objects, Web Objects, OWB, Designer and Oracle Applications (since version 7).**

Using OWB to Build 9i Databases



- What is OWB?**
- Oracle 9i Integration**
- The Process**
- OWB Transfer Wizard**
- Demonstration**
- Administration**
- AW Manager Demo**
- Questions**



What is Oracle Warehouse Builder?

- **Integrated Tool for Data Warehousing**
- **Based on Common Warehouse Metadata Standard (OMG)**
- **Supports Design and ETL Functions**
- **Enterprise Framework for Designing and Deploying Datawarehouses and Datamarts**
- **Integration Platform for 9i OLAP**

What is OWB?

Components: Overview



Components of Oracle Warehouse Builder

- Repository (CWM)
- Graphical User Interface
- Code Generator
- Integrators
- OWB Transfer Wizard



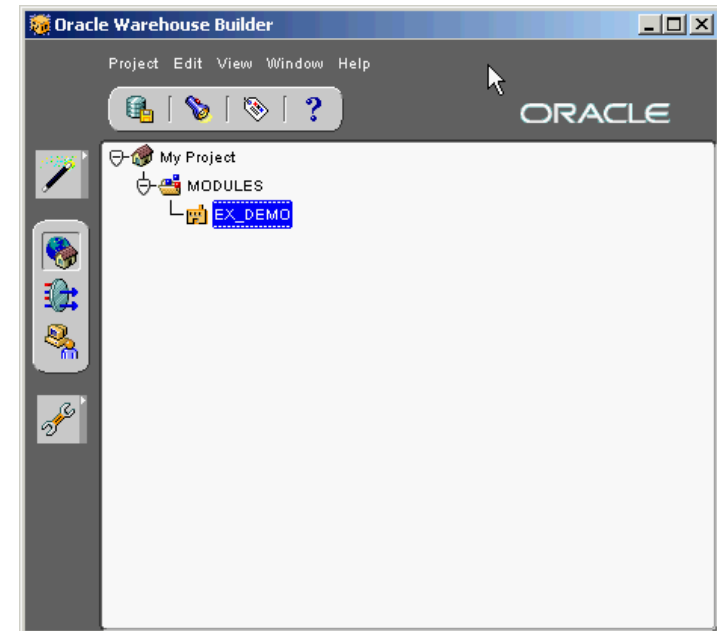
Components: *OWB Repository*

- **Based upon Common Warehouse Metadata Standard (CWM)**
- **Supports Industry Standards**
- **Oracle 9i/10g based**
- **Integration point for future products (Designer, Developer, BI Beans ...)**

Components: *OWB User Interface*



- Java Based
- Same look and feel as Designer 6i
- Run on Thin Client Platform





Components: *Code Generators*

Code Generators are provided for:

- Transformations**
- DDL**
- SQL Loader scripts**
- User Defined transformations**



Components: *Integrators*

- **Several Integrators provided**
- **Relational and non-relational support**
- **Oracle Applications Data Source**
- **SAP R/3 Data Source**
- **Discoverer**
- **Express**
- **CWM**
- **Oracle OLAP**



Components: *OWB Transfer Wizard*

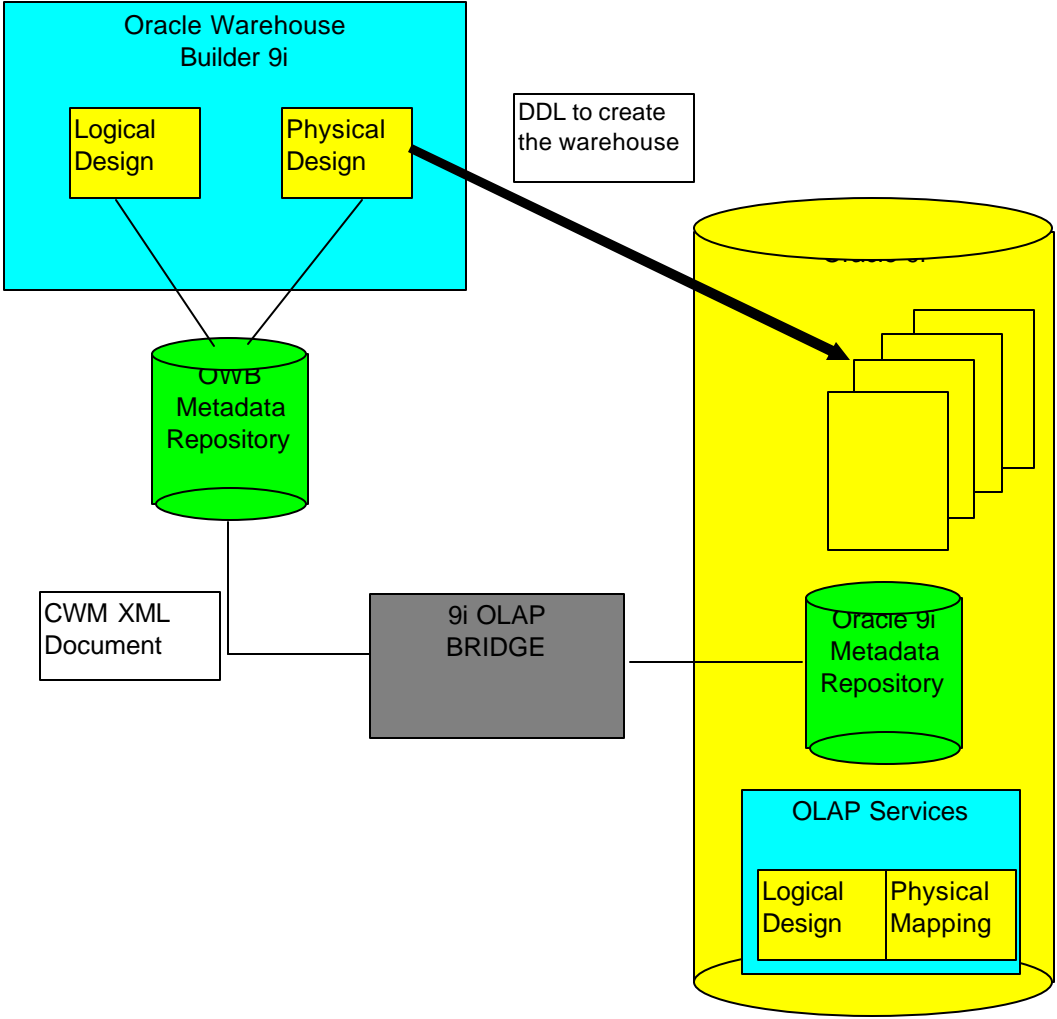
- **Bridging Technology to Oracle OLAP, Express, CWM and Discoverer**
- **Two-way support for Oracle OLAP**
- **Only supports One Way to Express RAM metadata**
- **No support for Express MOLAP**



Oracle OLAP Integration

- **OWB Bridge transports OWB metadata to Oracle OLAP Metadata**
- **Creates links to Relational Data for Facts and Dimensions**
- **User can use OEM Cube Builder to make changes**
- **Access to run via Java API**

OLAP Bridge

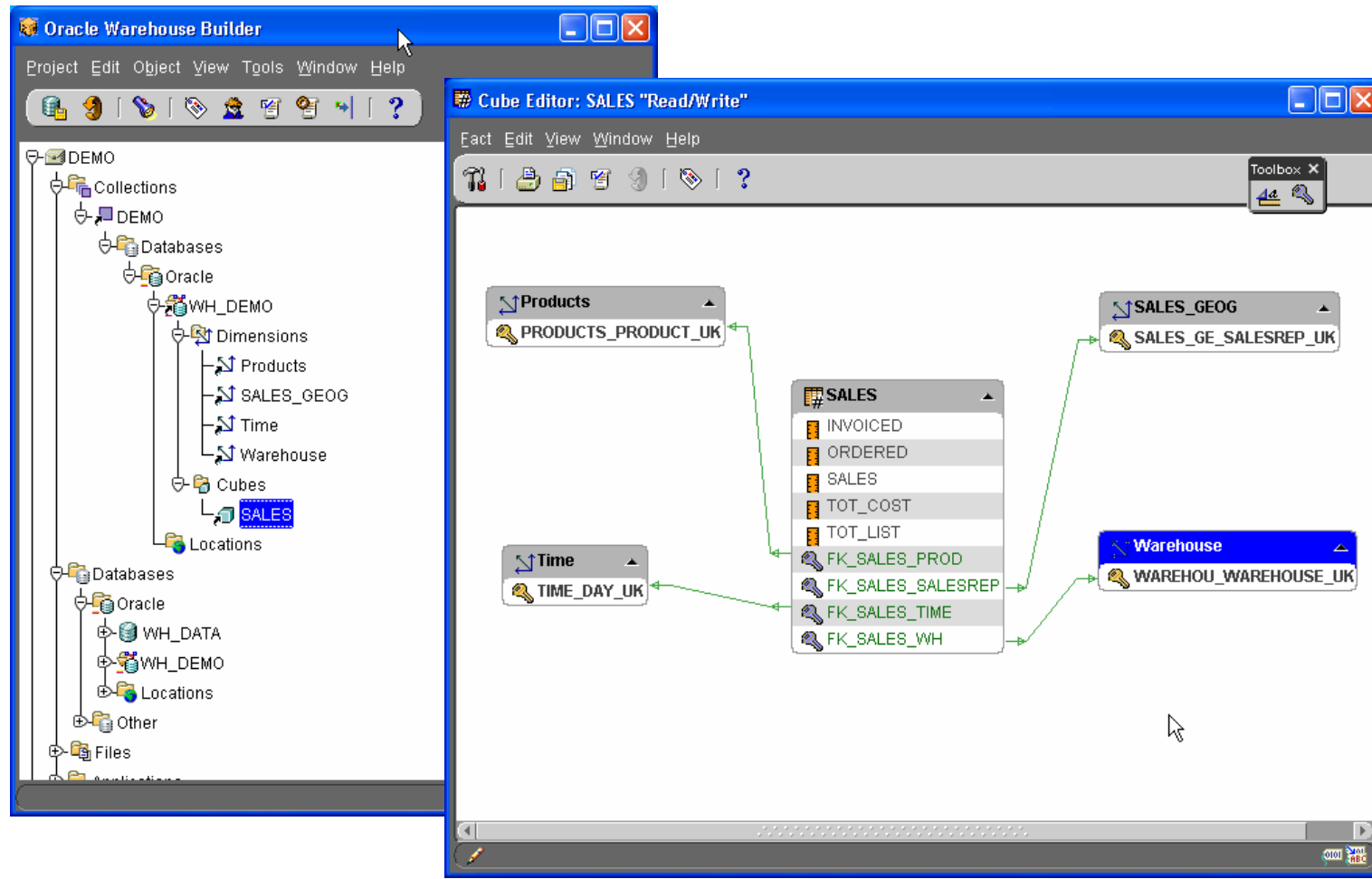




The Process

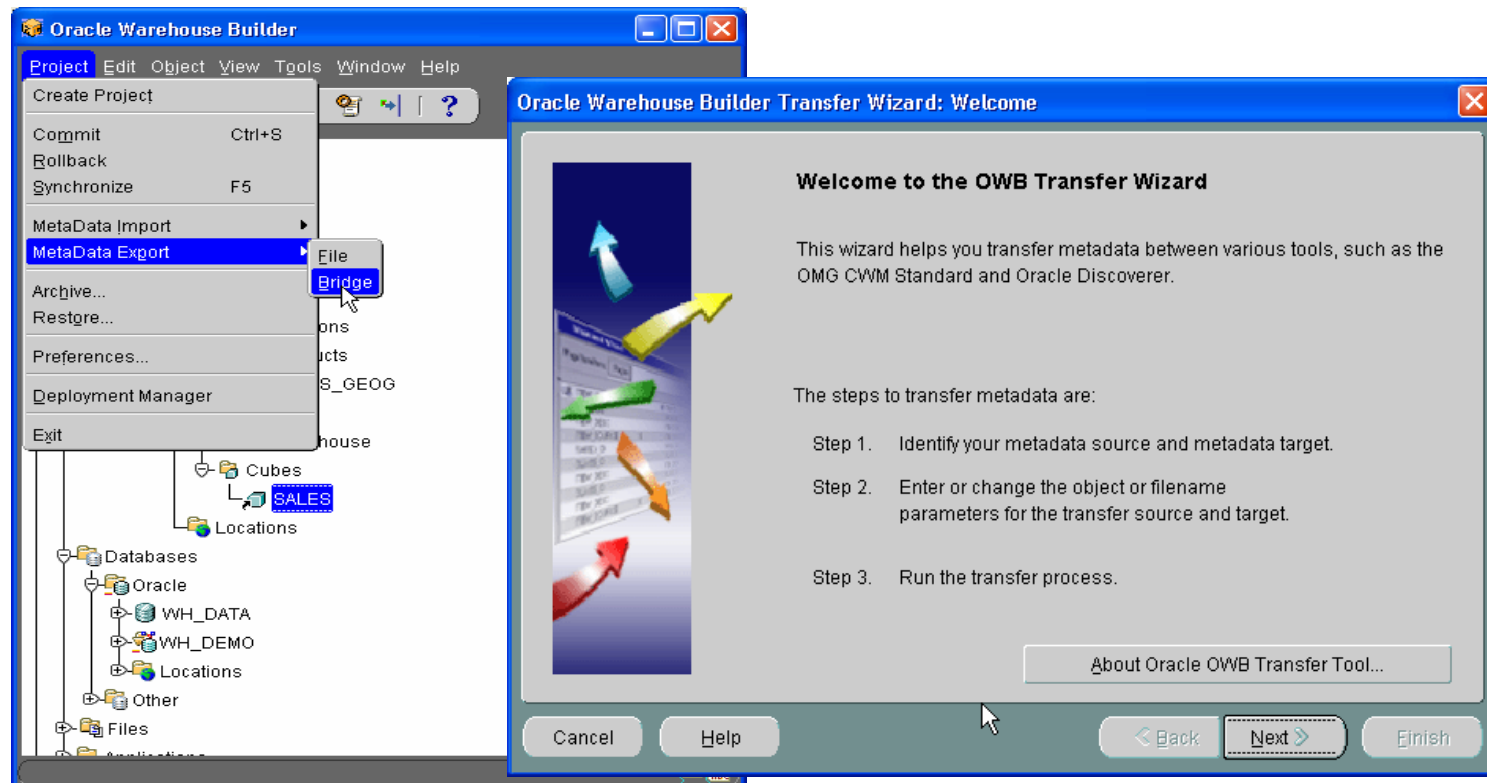
- **Design or Import Relational Schema**
 - ❑ **Define Fact Table(s)**
 - ❑ **Define Dimensions**
 - ❑ **Define Materialized Views (summary tables)**
- **Create Physical Schema**
- **Create Script for Oracle OLAP**
- **Run Script**
- **View/Modify in OEM/Cube Builder**
- **Run Application**
- **Gather Statistics / Tune**

Design and Generate Schema





Metadata Export – Transfer Wizard





OWB Transfer Wizard

- **What does the OWB to Oracle OLAP Transfer do?**
 - Converts Metadata to CWM Format**
 - Create SQL Script to update 9i OLAP Metadata**
 - Executes Script (optional)**
 - Allows for Building AW Cubes**
 - Moves Data from relational to AW**



OWB Transfer – Choose Destination

Oracle Warehouse Builder Transfer Wizard, 1 of 3: Metadata Source and Target Identification

Source and Target Metadata Locations

The product that contains the metadata

From:

Select the product where you want to transfer the metadata

To:

Enter a description (optional)

Description:

The 'To:' dropdown menu is open, showing the following options:

- OMG CWM 1.0
- Oracle9i OLAP
- Oracle Express
- Oracle9i Discoverer

A mouse cursor is pointing at the 'Oracle9i OLAP' option.



OLAP Bridge – Transfer Parameters

Oracle Warehouse Builder Transfer Wizard, 2 of 3: Transfer Parameter Identification

Metadata Object/Filenames and Detailed Transfer Parameters

Enter or change the transfer parameter values.

| Transfer Parameter Name | Transfer Parameter Value |
|-----------------------------|---------------------------------------|
| OWB Exported Business Areas | All Business Areas |
| Username | BIBDEMO |
| Password | ***** |
| Hostname | chris-insp4000 |
| Port | 1521 |
| SID | orcl |
| PL/SQL Output File | D:\Projects\IOUGA-2002\IOUGA-2002.sql |
| Deploy PL/SQL in database | No |
| Log Level | Information |

Cancel Help < Back Next > Finish



OLAP Bridge – Transfer Parameters

Oracle Warehouse Builder Transfer Wizard, 3 of 3: Summary

Confirmation of Oracle WB Transfer

From: To:

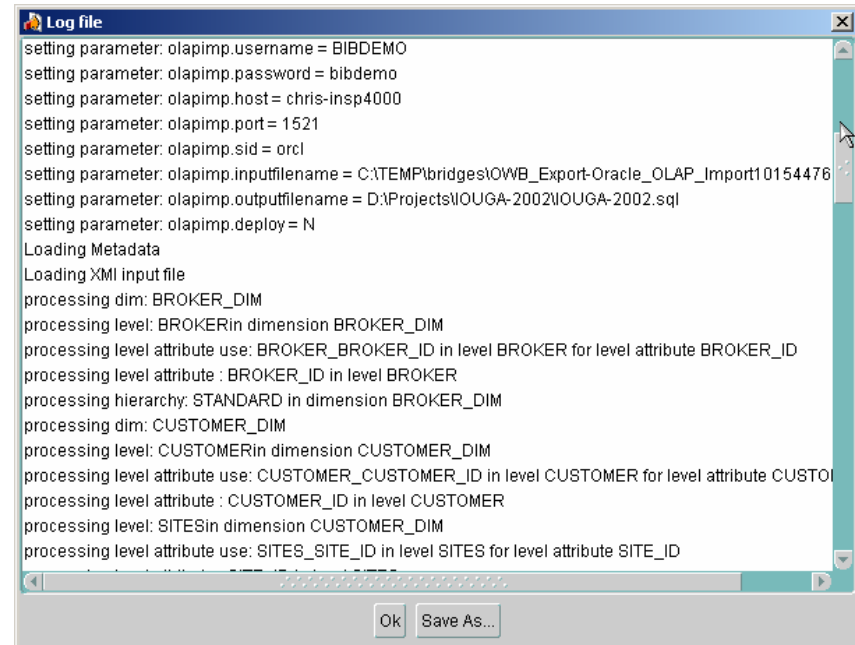
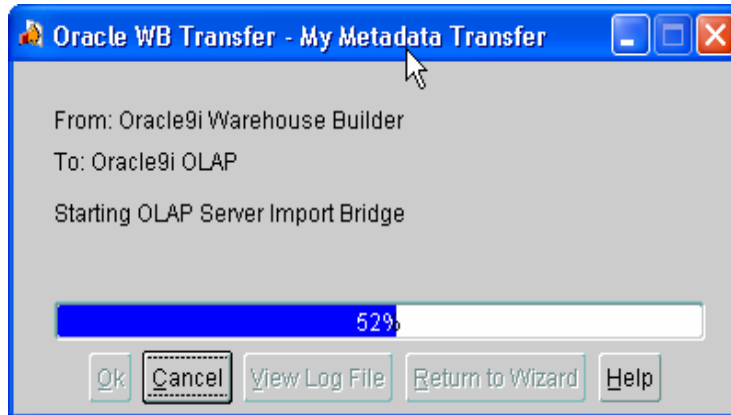
Description:

| Transfer Parameter Name | Transfer Parameter Value |
|-----------------------------|---------------------------------------|
| OWB Exported Business Areas | All Business Areas |
| Username | BIBDEMO |
| Password | ***** |
| Hostname | chris-insp4000 |
| Port | 1521 |
| SID | orcl |
| PL/SQL Output File | D:\Projects\IOUGA-2002\IOUGA-2002.sql |

Click Finish to begin the transfer process.

Cancel Help < Back Next > Finish

CWM Bridge – Running





OEM Cube Builder – The Results

The screenshot displays the Oracle Enterprise Manager Console Standalone interface. The Navigator on the left shows the database structure, including the PITT schema and the SALES cube. The central workspace is currently in the 'Topology' tab, showing a list of measures and their relationships to dimensions. The measures listed are:

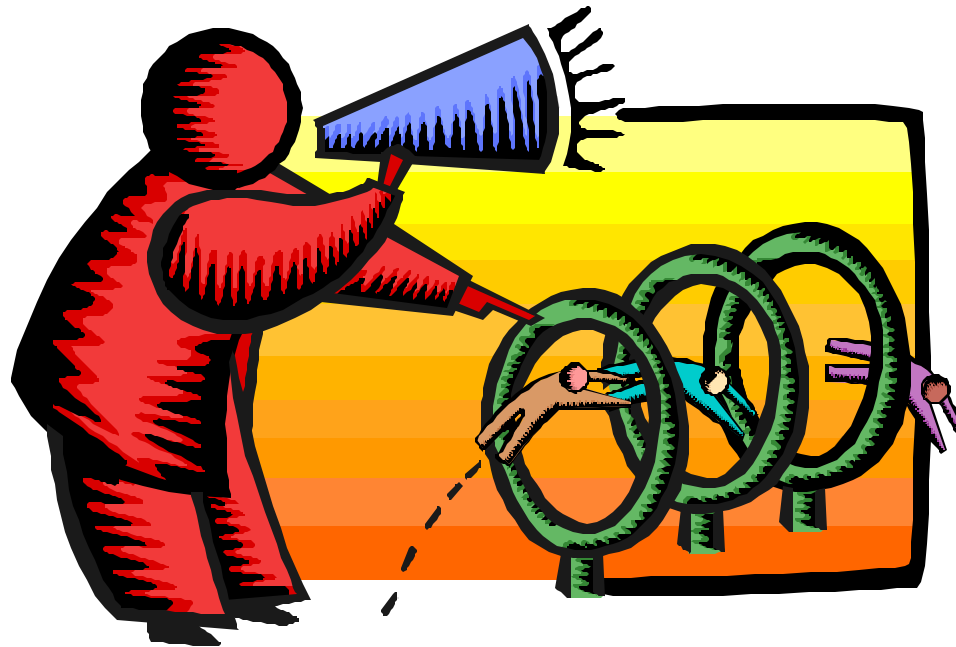
- FK_THROUGHPUT_973
- FK_THROUGHPUT_896
- FK_ON_SALES_FACT_...
- FK_ON_SALES_FACT_T...
- BOX_COST
- CASES
- FREIGHT
- LBS
- LOH COSTS
- MATERIAL_COST
- REVENUE

The right-hand pane shows the dimension levels for the selected measures:

- DRIVER**: Levels include BROKER and SUB_BROKER.
- CUSTOMER**: Levels include ALL_CUSTOMERS and CUSTOMER.
- GEOGRAPHY**: Levels include ALL_GEOG and REGION.
- PRODUCTS**: Levels include ALL_PRODUCTS, PRODUCT, and PRODUCT_CATEGORY.

Buttons at the bottom of the interface include Apply, Revert, Show SQL, and Help.

Demonstration



Demo.exe



Relational or Analytic Workspace?

- **Relational**

- Very large data sets
- Very sparse data
- Need to query with complex SQL

- **Analytic Workspace**

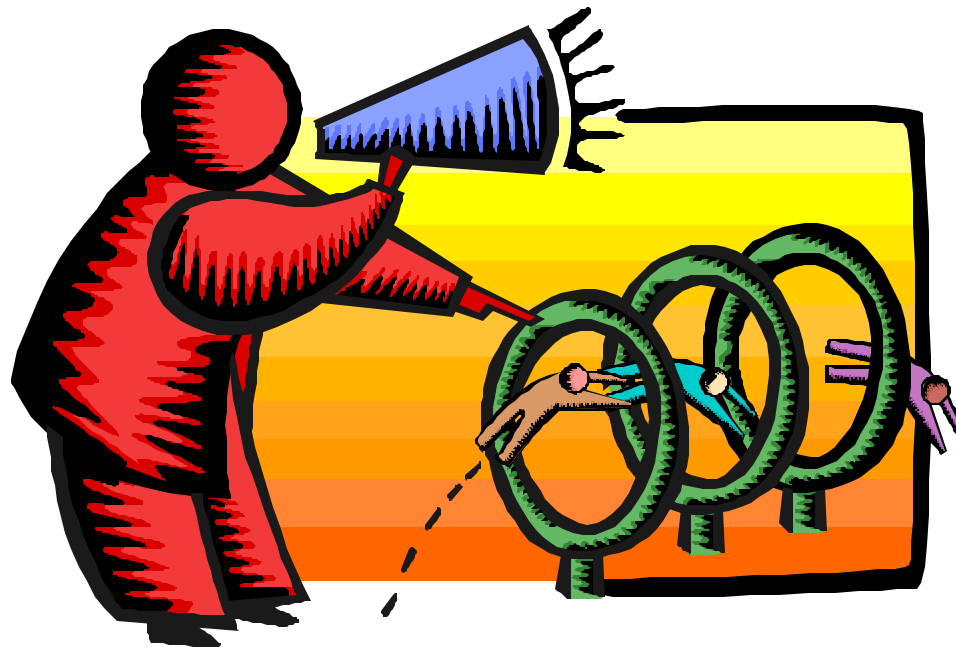
- Summary level or relatively dense data
- Complex, multidimensional calculations
- Planning functions
- What-if analysis
- Computational scalability
- Complex joins



Administration and Moving to AW

- **Administration of OLAP Option and Cubes is performed using OEM**
- **New Tools for Analytic Workspace – AW Manager**
- **Using OLAP DML and OLAP Worksheet**

AW Manager Demonstration



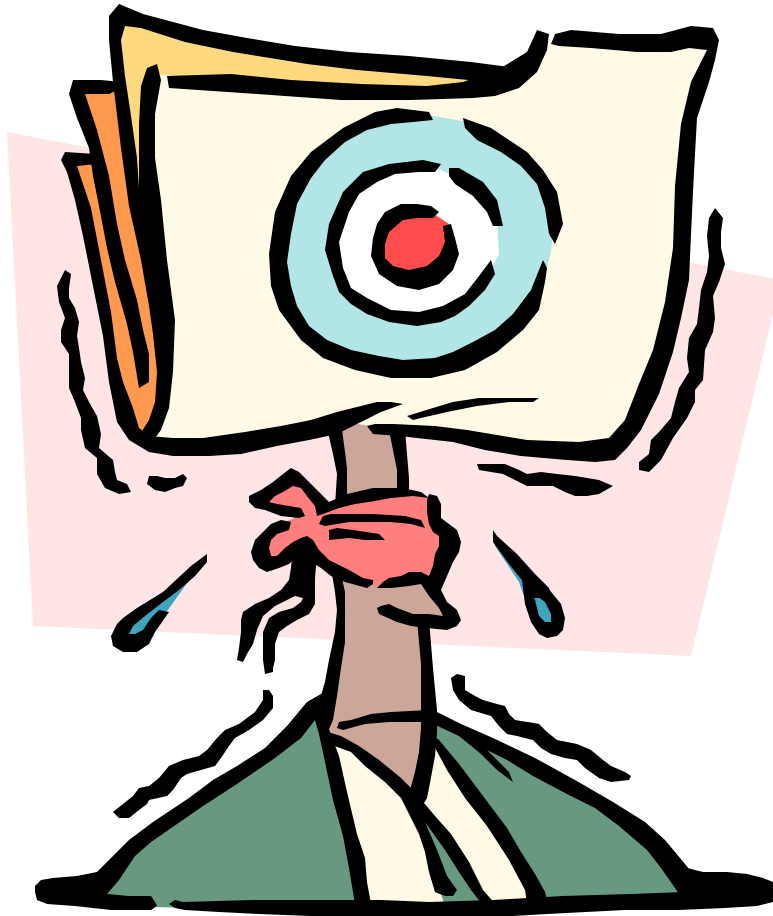
Oem_awm.exe



Conclusions

- **We can finally design OLAP Solutions**
- **Support for both ROLAP and MOLAP (AW)**
- **Strong Foundation for the Future**
- **Still Lacking all the Pieces**
 - ❑ **Bi-Directional Bridge does not support incremental changes**
 - ❑ **No Migration for Express Databases (never)**

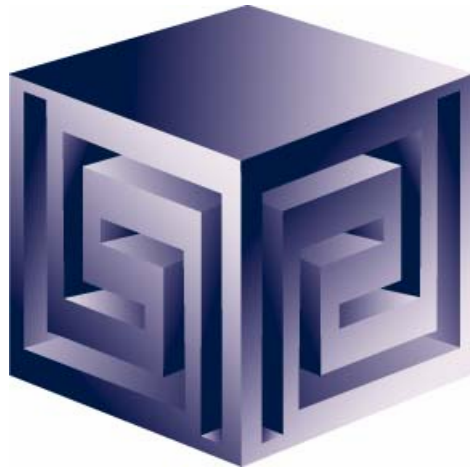
QUESTIONS?



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