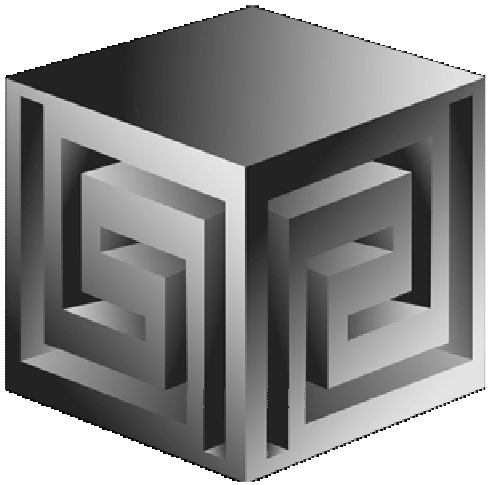
Developing Advanced Thin Client Applications with BI Beans

OracleWorld 2004
Session #1230



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Vlamis Software Solutions, Inc.

- Founded in 1992 in Kansas City, Missouri
- Oracle Certified professional services company
- Provides business solutions to international and domestic clients based 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.

ORACLE | CERTIFIED SOLUTION PARTNER

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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.**
  - **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).**

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In the Past

- Previous development of BI and OLAP Applications required proprietary development environment
- Each deployment model required a different tool
- Development effort very labor intensive
- Concept to Deployment takes long time
- Requires specialized skills

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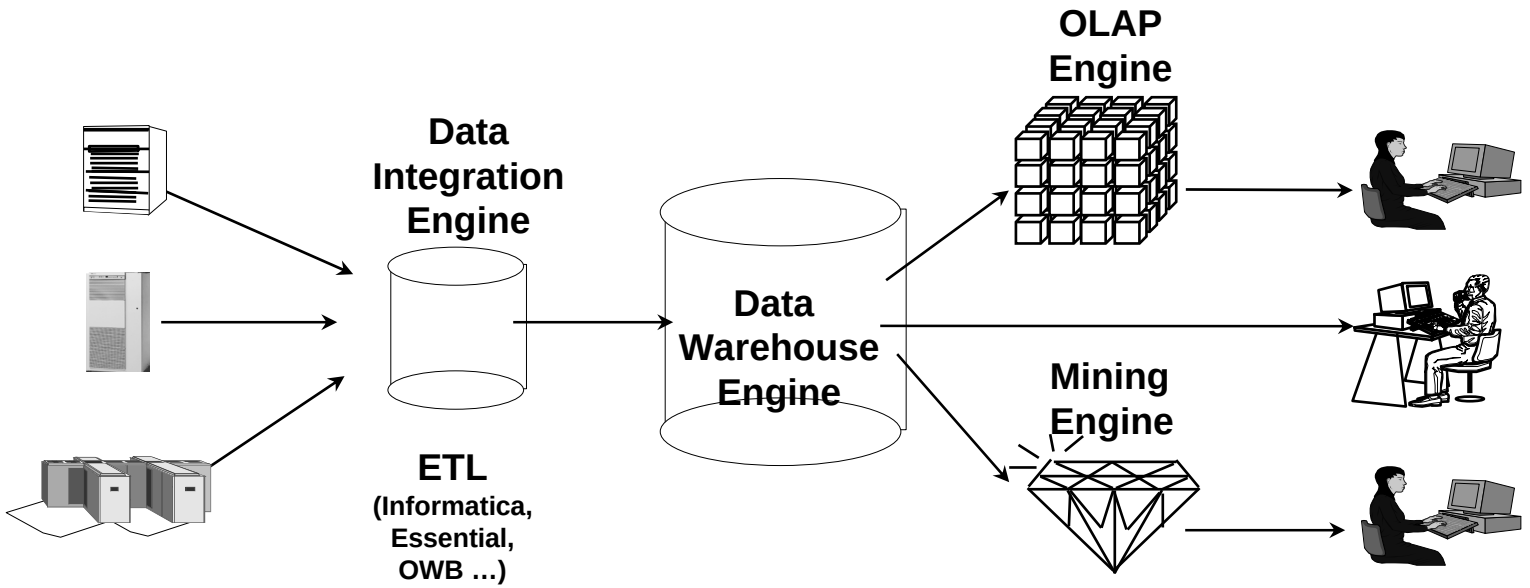
Business Intelligence the Old Way



- Special purpose engines for differing tasks
- Metadata migration tools ease replication
- User interfaces generally different for different tools

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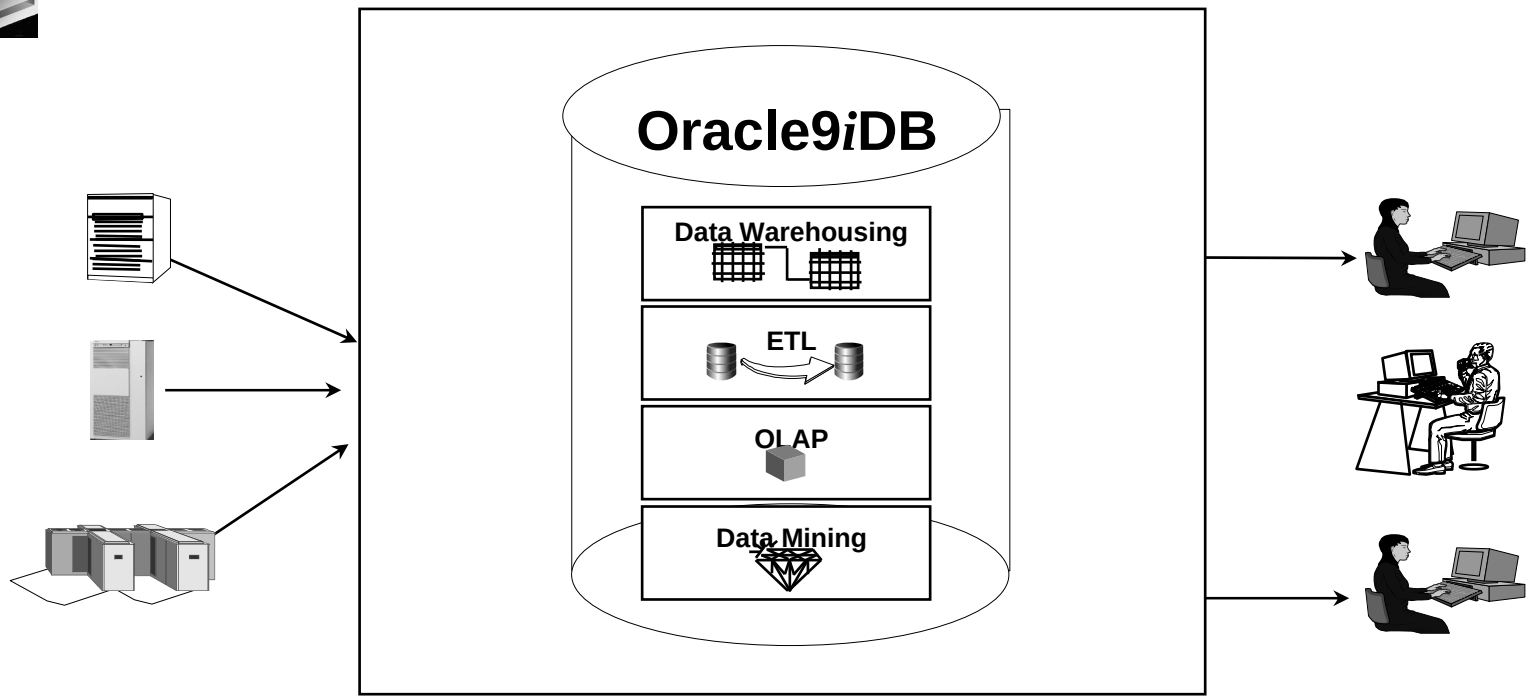
BI the New Way: Oracle 9iDB



- Single business intelligence platform
  - –Reduce administration, implementation costs
  - –Faster deployment & Improved scalability and reliability

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Oracle OLAP – What Is It?

- Advanced analytics
- Integrated in RDBMS
- Common Metadata
- Easy to develop
- Easy to use
- Facilitate collaboration
- Flexible deployment
- Scaleable and performant

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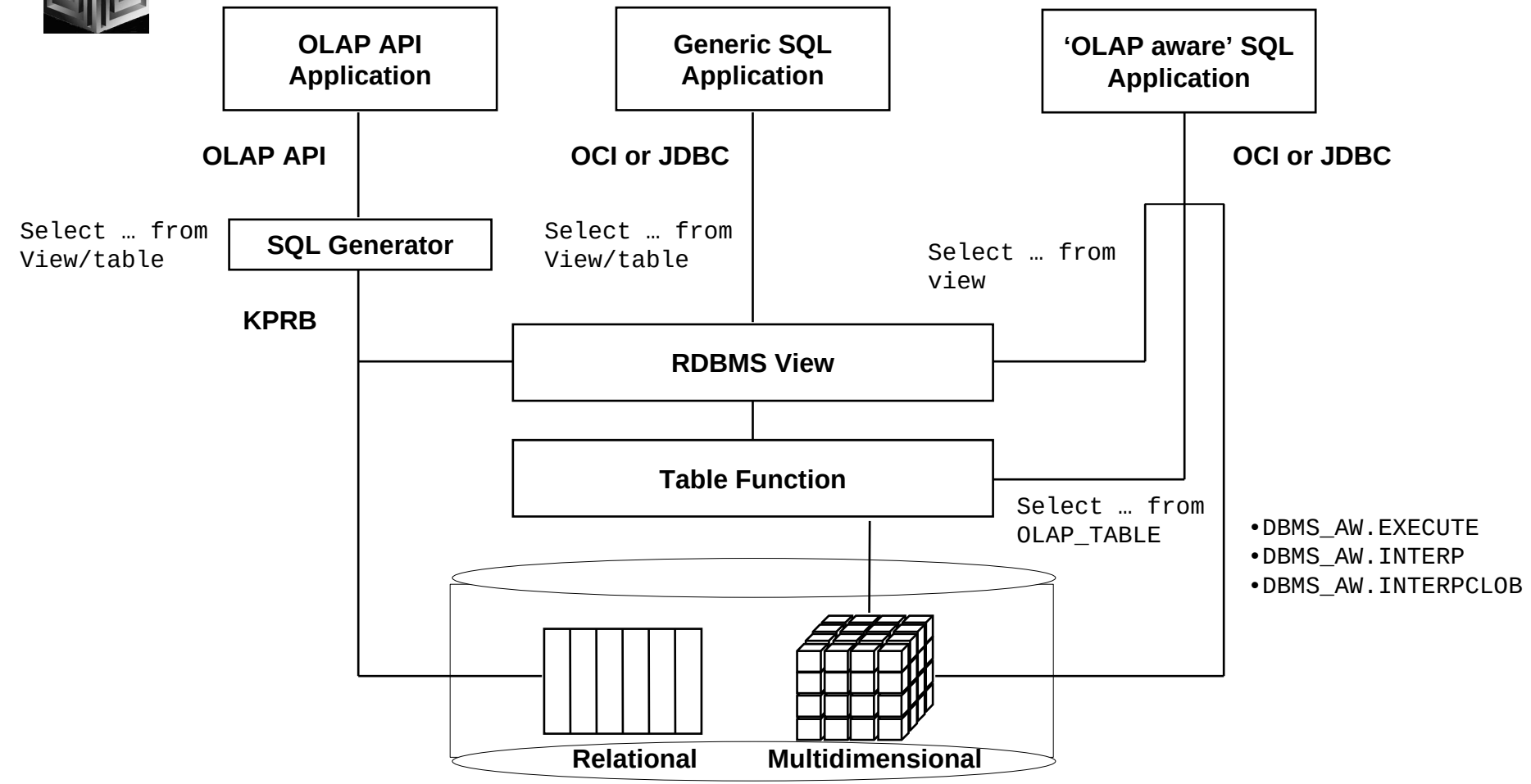
Query Methods



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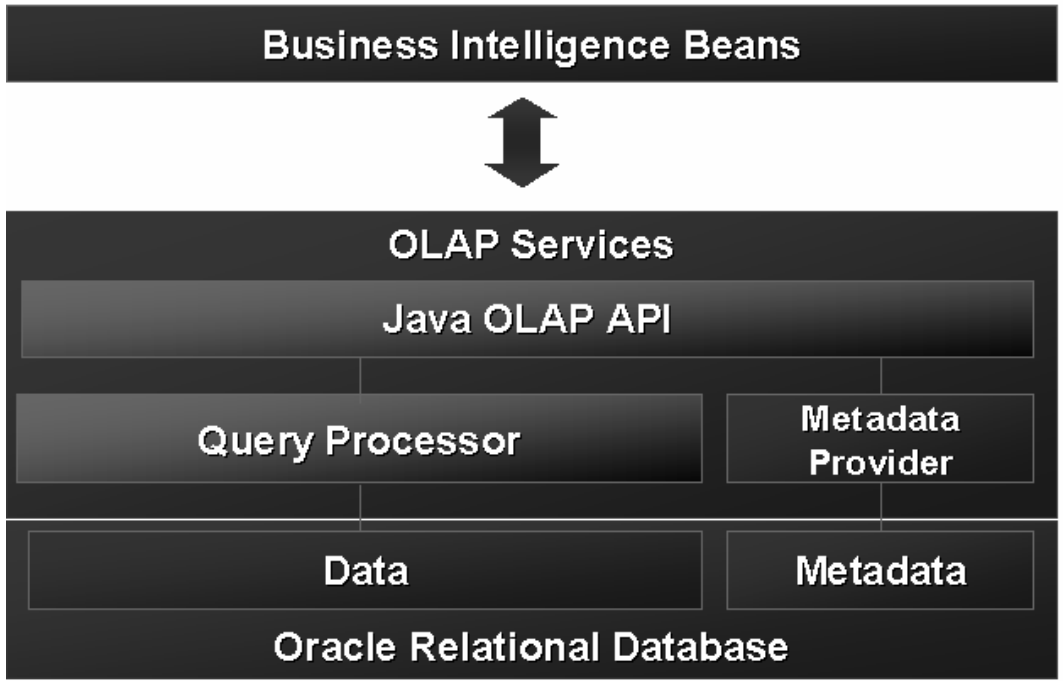
Oracle OLAP Architecture



Rapid application development
Analysis ready

Java OLAP API
Predictive analysis functions

Scaleable data store
Integrated meta data
Summary management
SQL analytic functions

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Clarifications *

- BI Products with 10g in Names will run using 9.2.0.5 DB and above (i.e. do not require 10g Database!)
- Minimum DB to run TODAY is 9.2.0.5 - 9.2.0.6 is most current. 10.1.0.3 also…
- New Discoverer 10g now supports OLAP
- New Worksheet Add-in supports 9.2.0.5 +

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Deployment Models

- **Deploying BI Beans Apps**
  - **Thick Java Client – feature Rich!**
  - **Thin Client – More limited**
    - **JSPs**
    - **Servlets**
    - **UIXml**
    - **Oracle Portal Portlets**
  - **Reports OLAP plug-in (built into 10g Reports)**
  - **Excel Add-in**
  - **Discoverer 10g R2**

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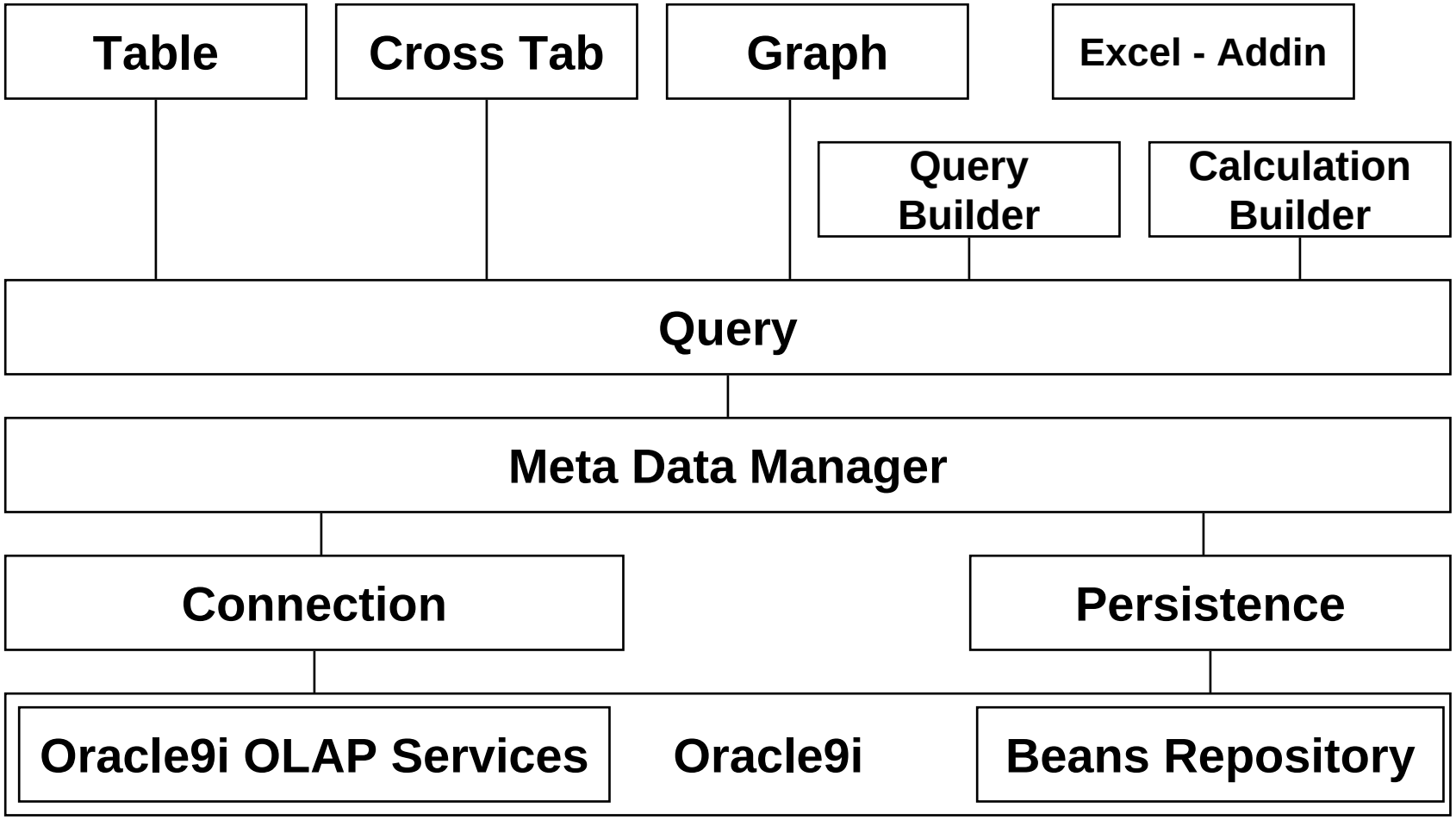
Business Intelligence Beans



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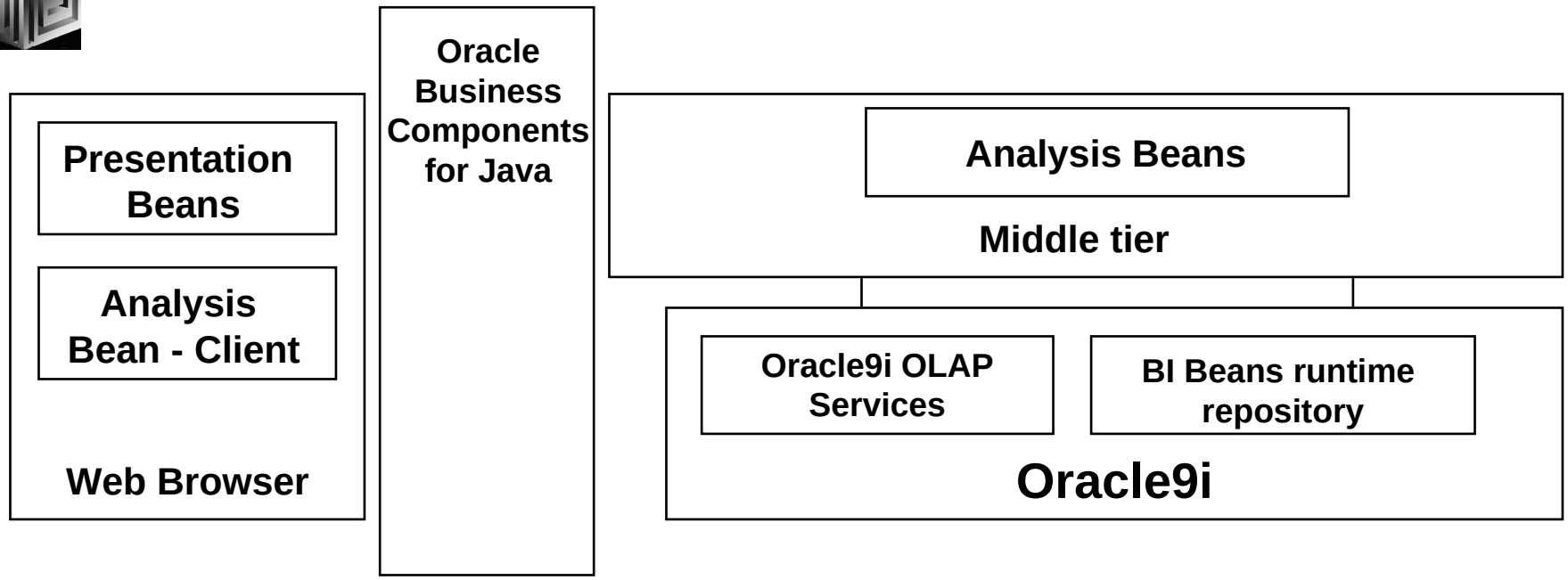
Architecture: Java clients



BI Beans use of Oracle Business Components for Java:

* **communications protocol across tiers**
* **deploying iBeans on the middle tier (EJB, 8i)**
* **insulates application developer from "application plumbing" related to deployment**

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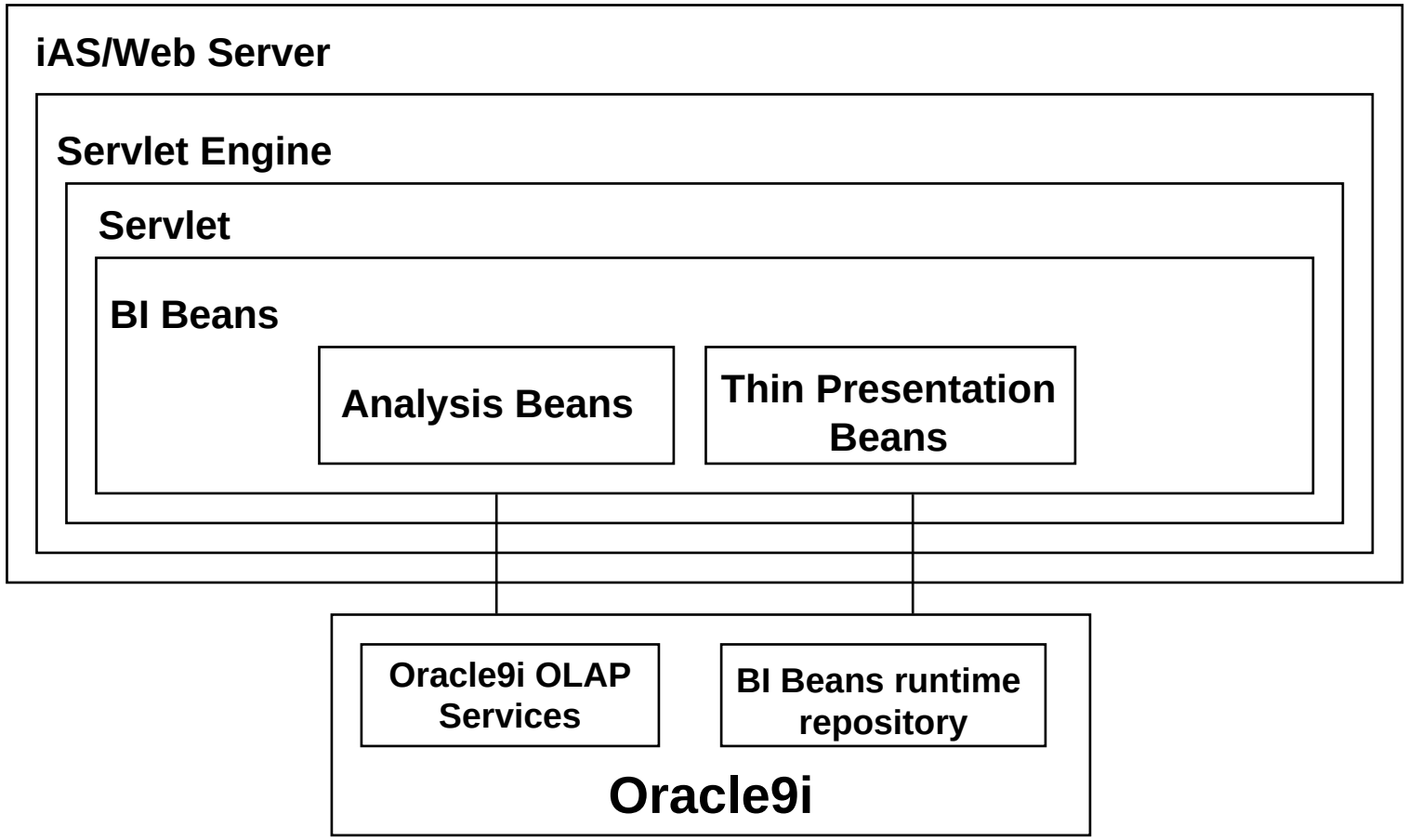
Architecture: Thin client



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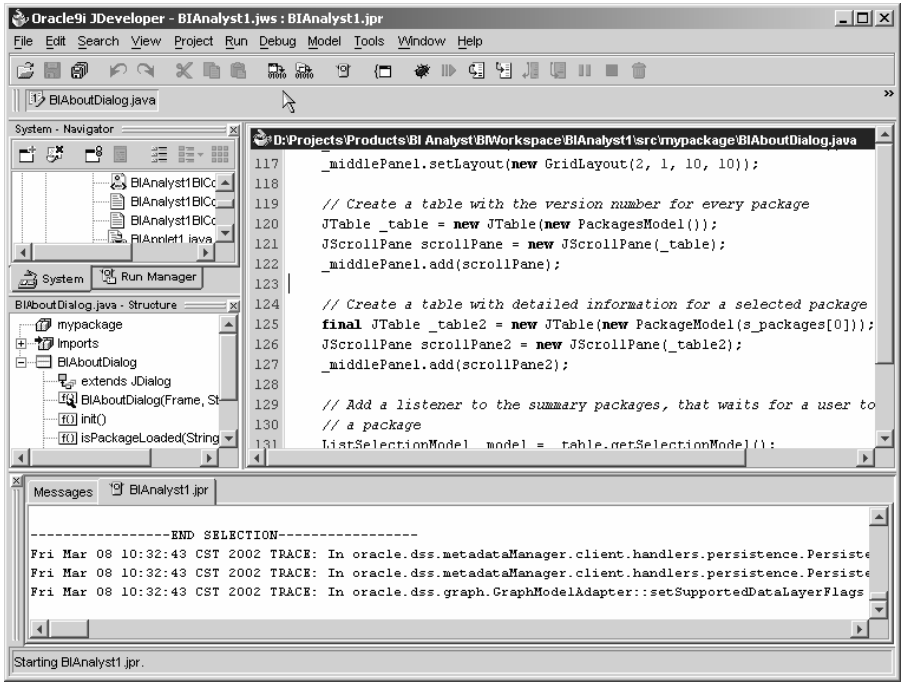
JDeveloper Integration

- **Single Development tool for Relational and OLAP development**
- **Key design-time integration objectives**
  - Use JDeveloper concepts; extend when necessary
  - Live data access
  - Run application objects
  - Extensive use of Wizards to support rapid development
  - Leverage BI Beans runtime repository to enable multiple deployment options



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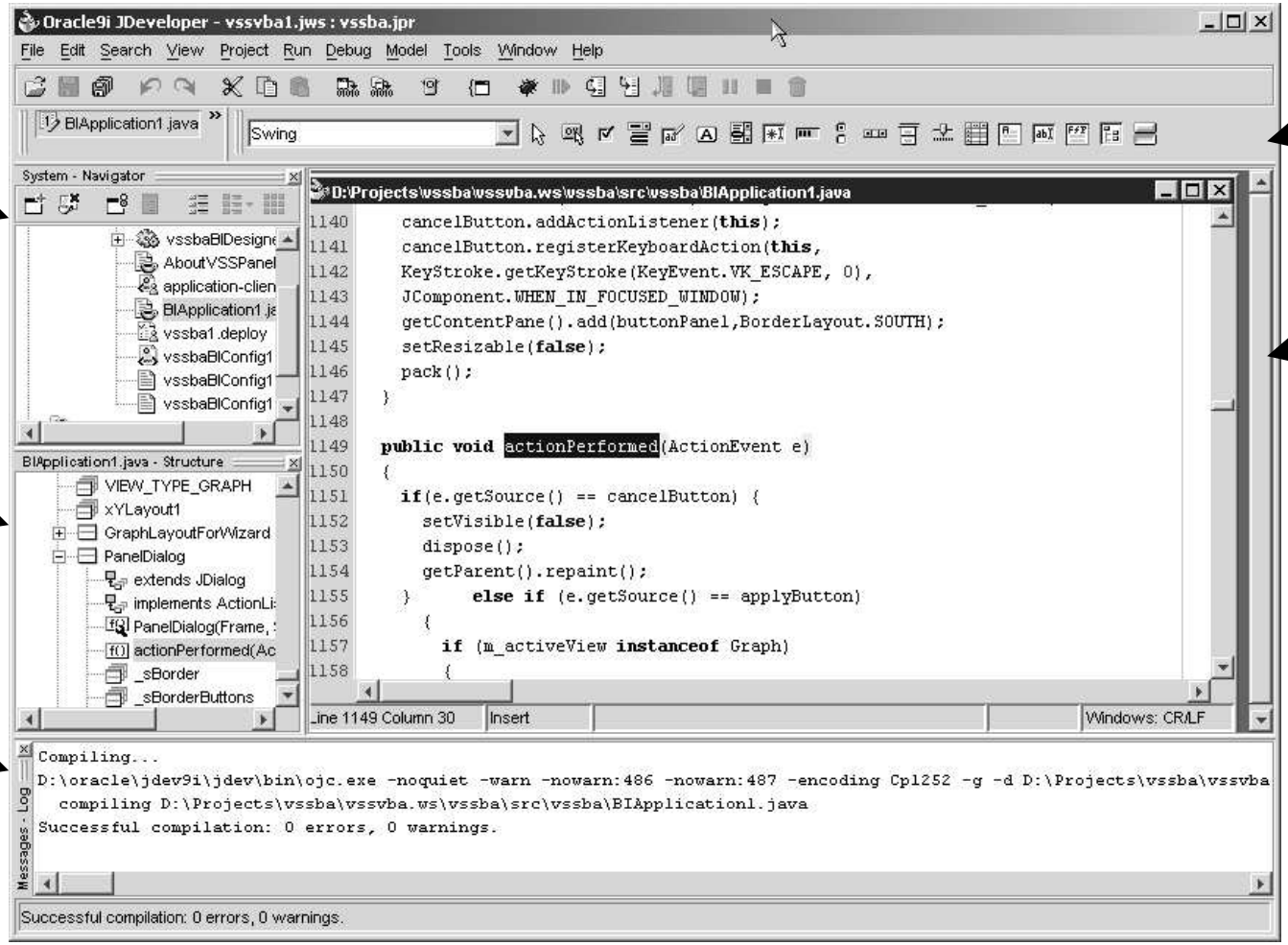
JDeveloper Environment



Component Toolbar

System Navigator

Code Window

Structure Window

Log Window

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New Version Coming!

- BI Beans 10g just Released!
- Increased capabilities, most significantly in Thin Client
- Thin Client can now do what Thick Client can
- New Wizards – wizard driven creation of JSP!
- New Thin Client Toolbars
- Formatted export to Excel

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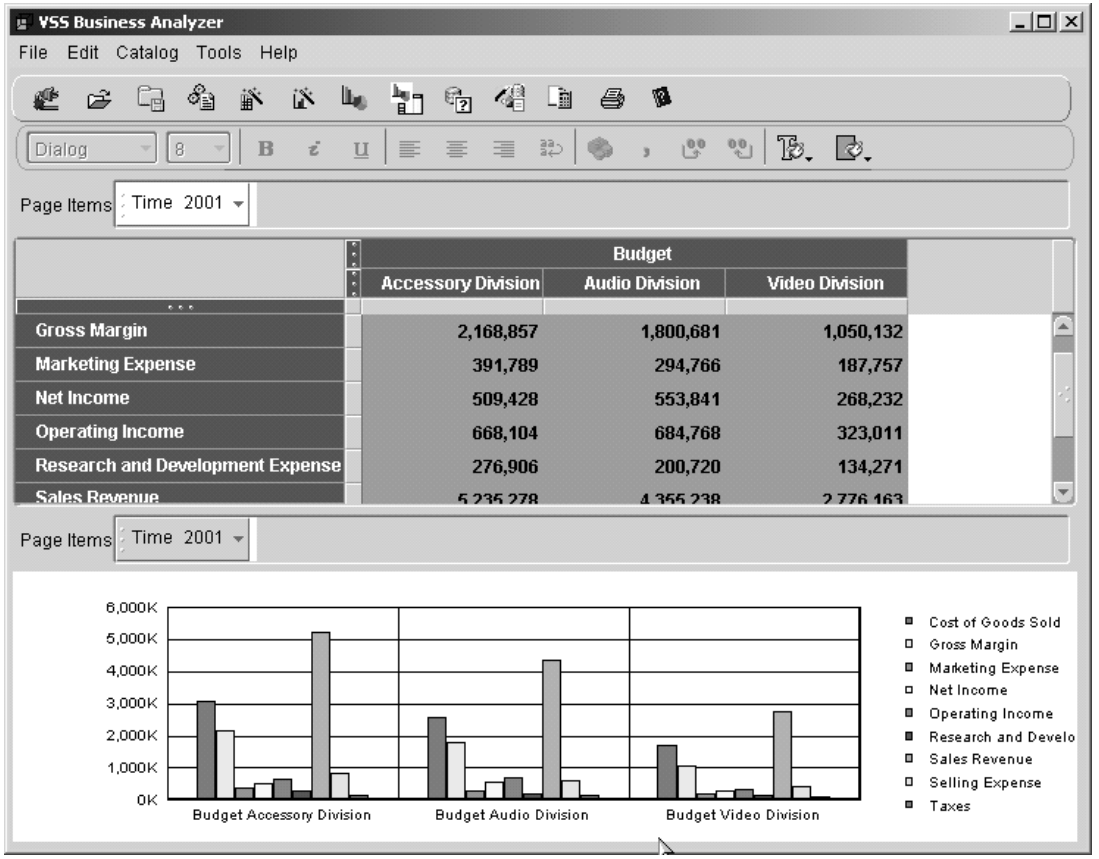
What Can We Really Do?

- VSS Business Analyzer is an example of what can be done
- Developed in less than 4 months!
- Comprehensive Application that provides Ad-Hoc Query capabilities in both Thick and thin clients
- Utilizes a central report catalog available to all client types
- Provides an extensible framework for more complex applications



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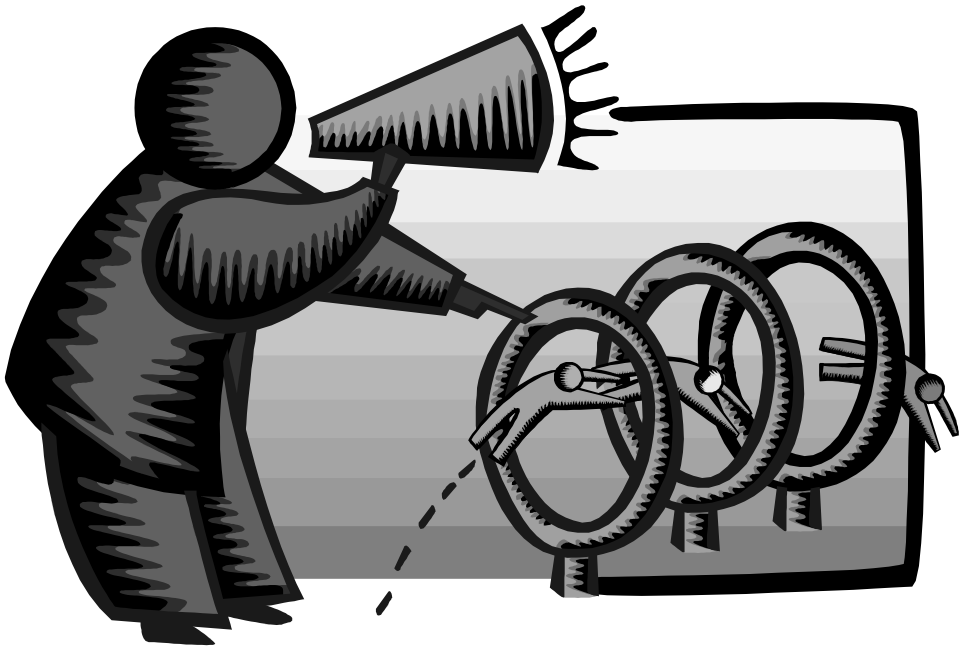
Demonstrations



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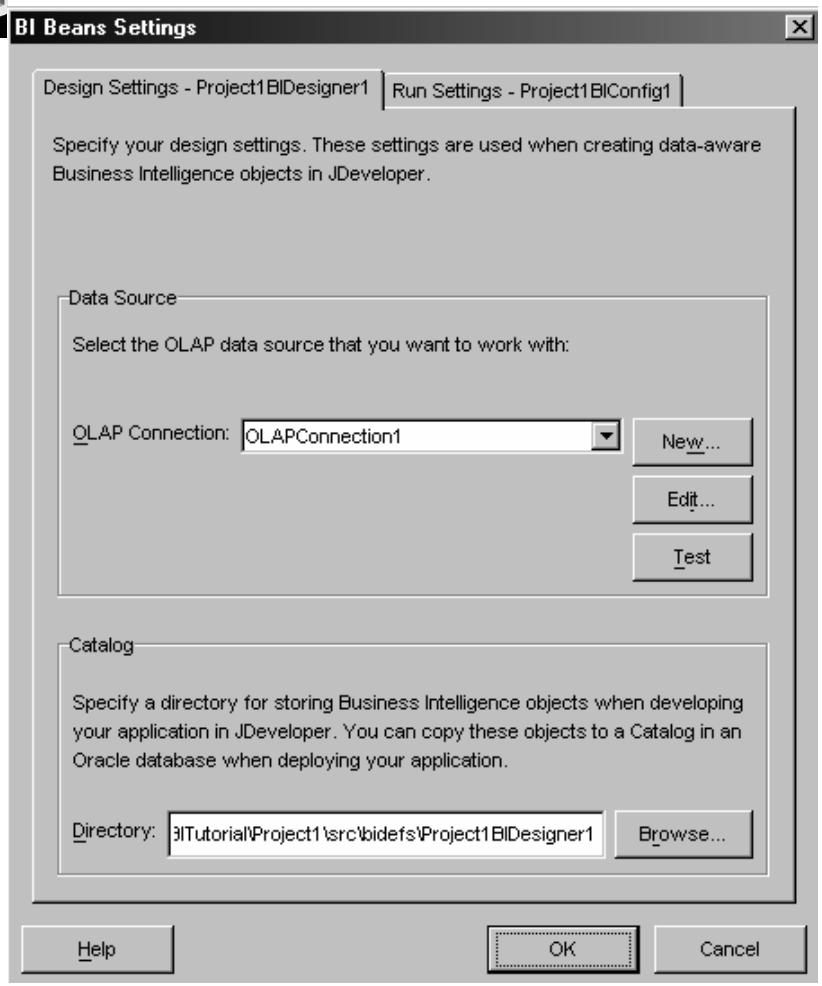
BI Beans Designer Settings



- **Container for Business Intelligence Objects**
- **References information needed to connect:**
  - ❑ **to Oracle 9i OLAP**
  - ❑ **and the BI Beans Catalog.**
- **<u>Design Settings</u> - Lets you view and edit settings in your BI Designer object**
- **<u>Run Settings</u> - Lets you view and edit settings in your BI Configuration file**

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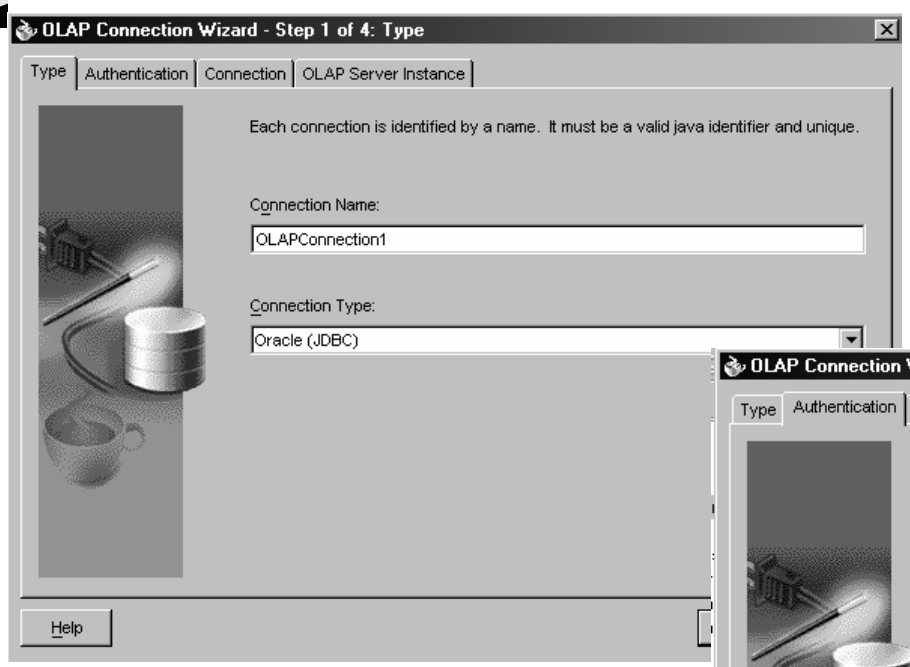
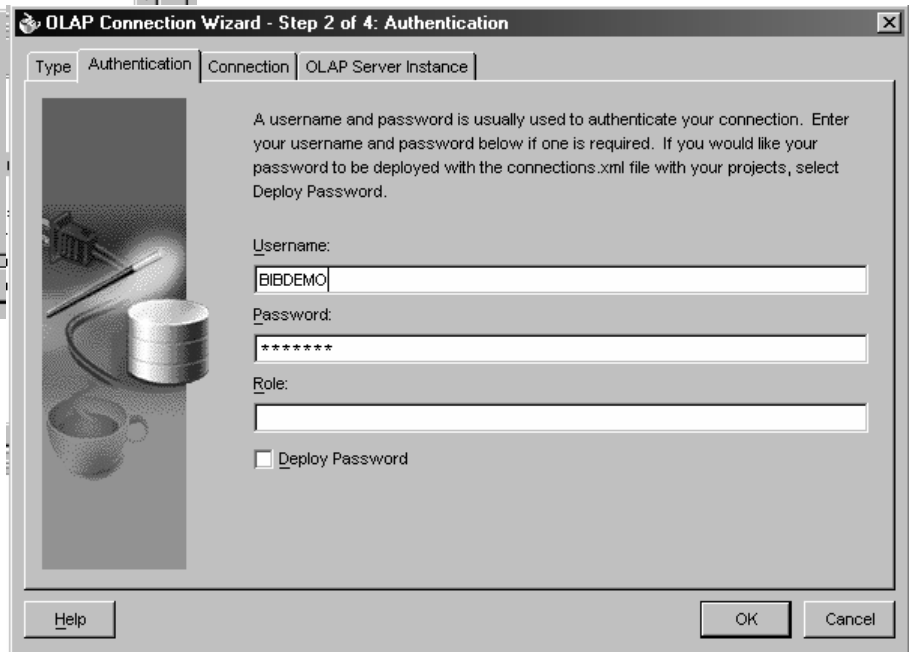
Connection Wizard



Walks you through creating an Catalog Connection



- **Define Connection Name and Type**
- **Login and Password**

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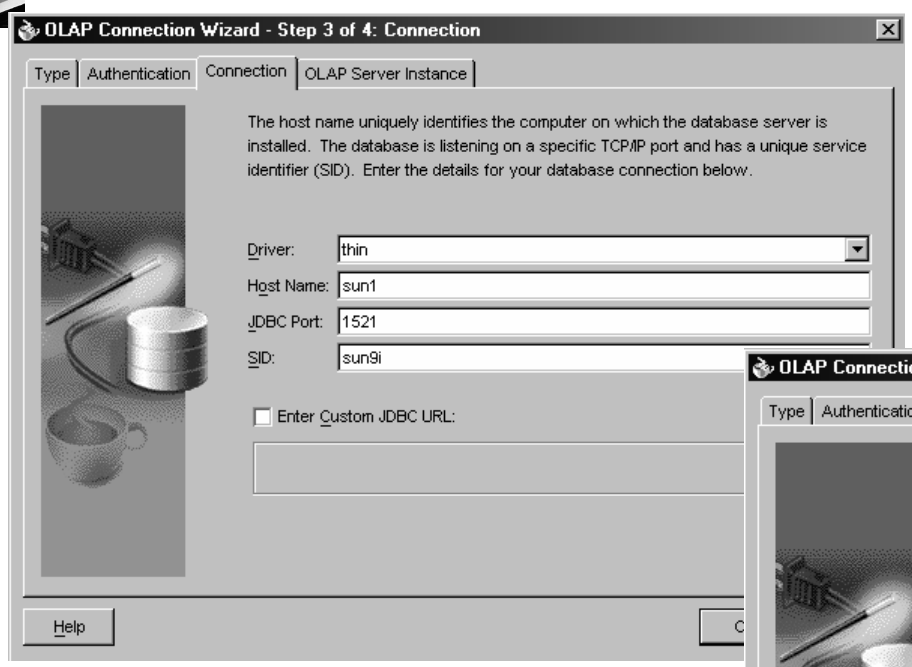
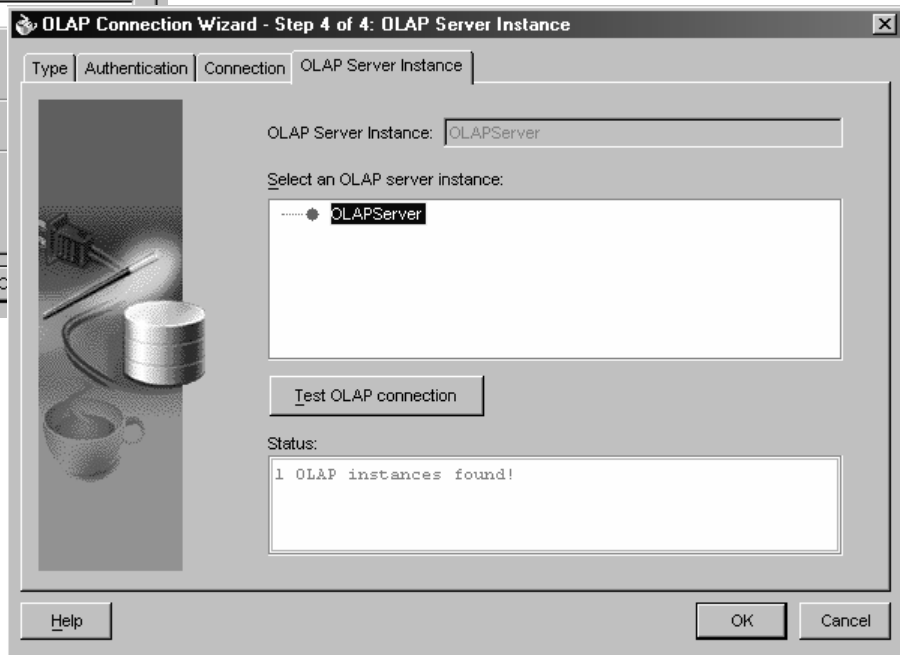
Connection Wizard



- **Specify data source.**



- **Select and Test OLAP Connection**

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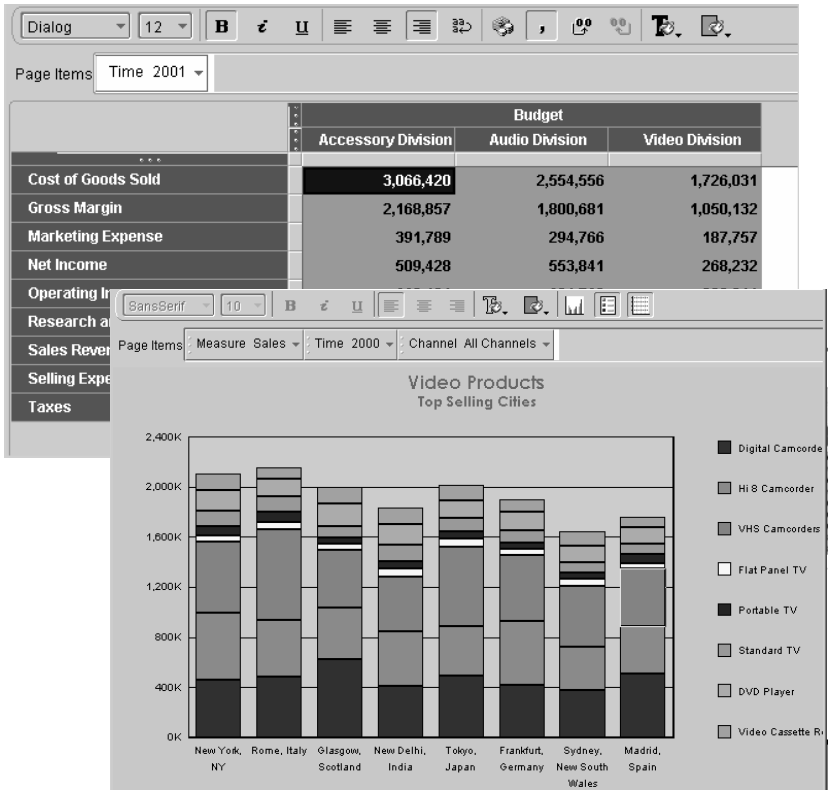
Presentation Beans

- Provides common user interface across Oracle BI products
- Translate UI gestures into OLAP events
- Graph
  - Over 50 graph types supported
  - Customizers for modifying appearance
- Crosstab/Table
  - Cell level formatting
- View toolbar enables simple access to formatting capabilities
- Customers: Discoverer, Reports, Portal, CRM, Enterprise Planning and Budgeting, Balanced Scorecard ...



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Business Intelligence Wizards

- **Specialized Wizards Built into JDeveloper 9i**
  - **Connection Wizard**
  - **Calculation Wizard**
  - **Query Wizard**
  - **Presentation Wizard**
  - **Java Client Application Wizard**
  - **Servlet (JSP) Application Wizard**

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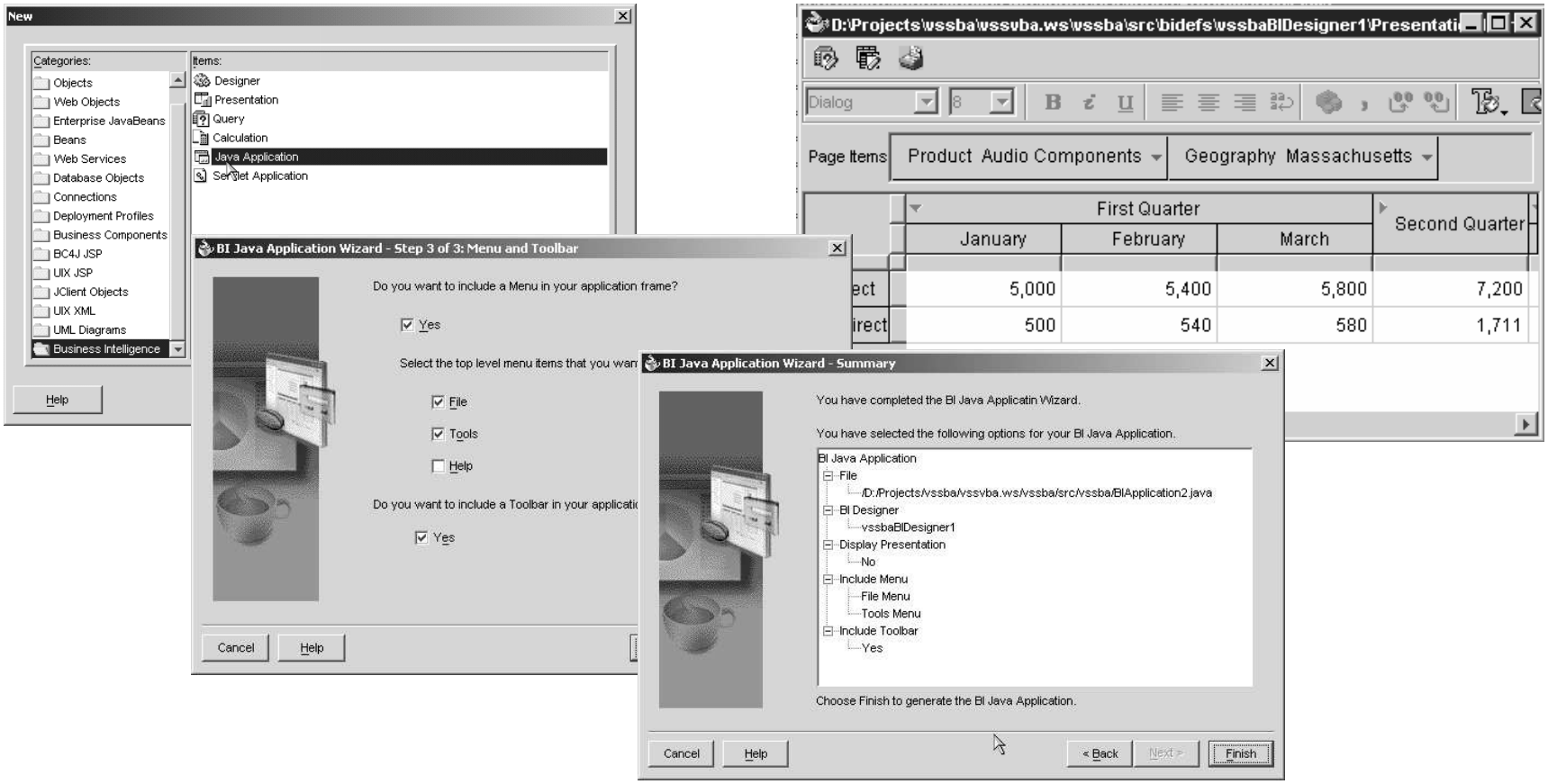
JDeveloper BI Wizards



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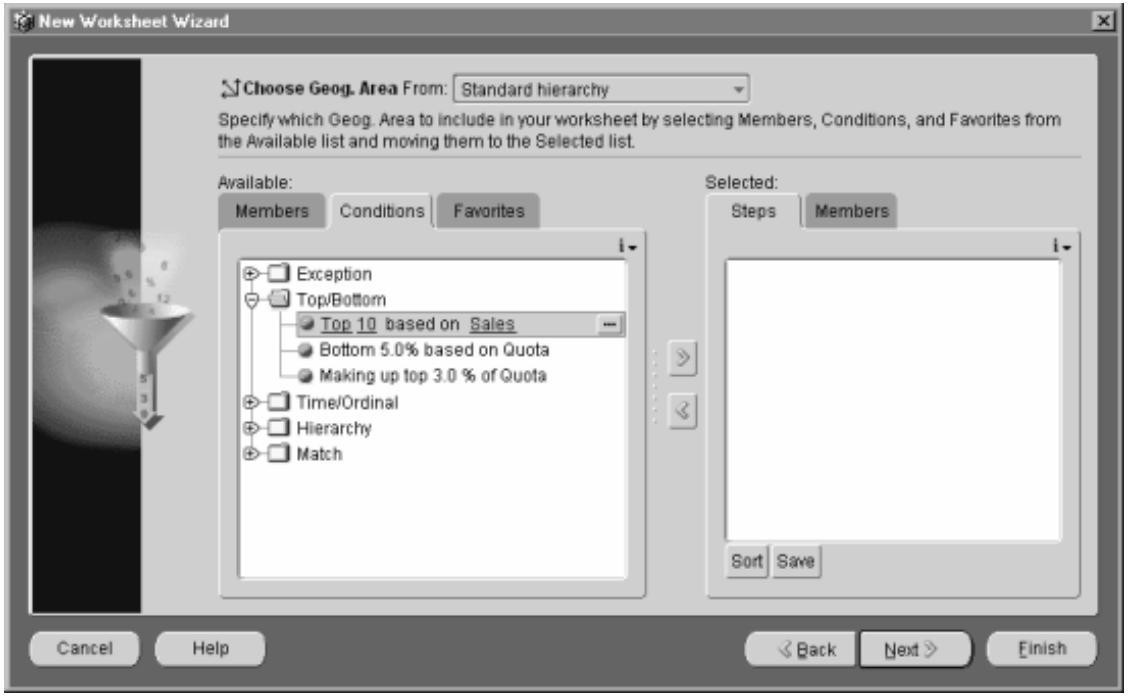
Query Builder



- **"Brains" behind the presentation beans**
  - **Data provider**
  - **Data navigation**
  - **Data selection**
- **QueryBuilder customizer**
  - **Enables end user to specify advanced queries using business terms - not SQL**
  - **Save favorite selections**
- **CalcBuilder**
  - **Wizard enables creation of new calculations, including: variances, ratios, time comparisons, and more**

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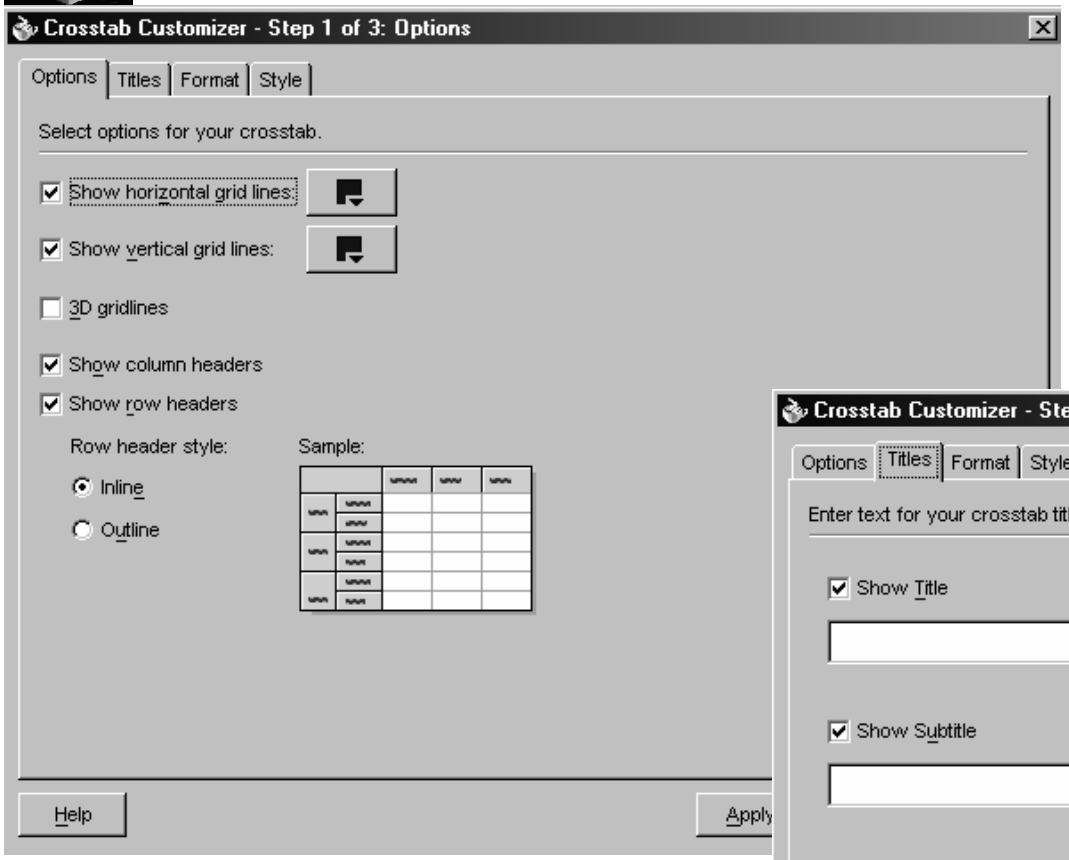
Customizer



- **Alter the look of your presentation.**
- **Add titles and footnotes.**

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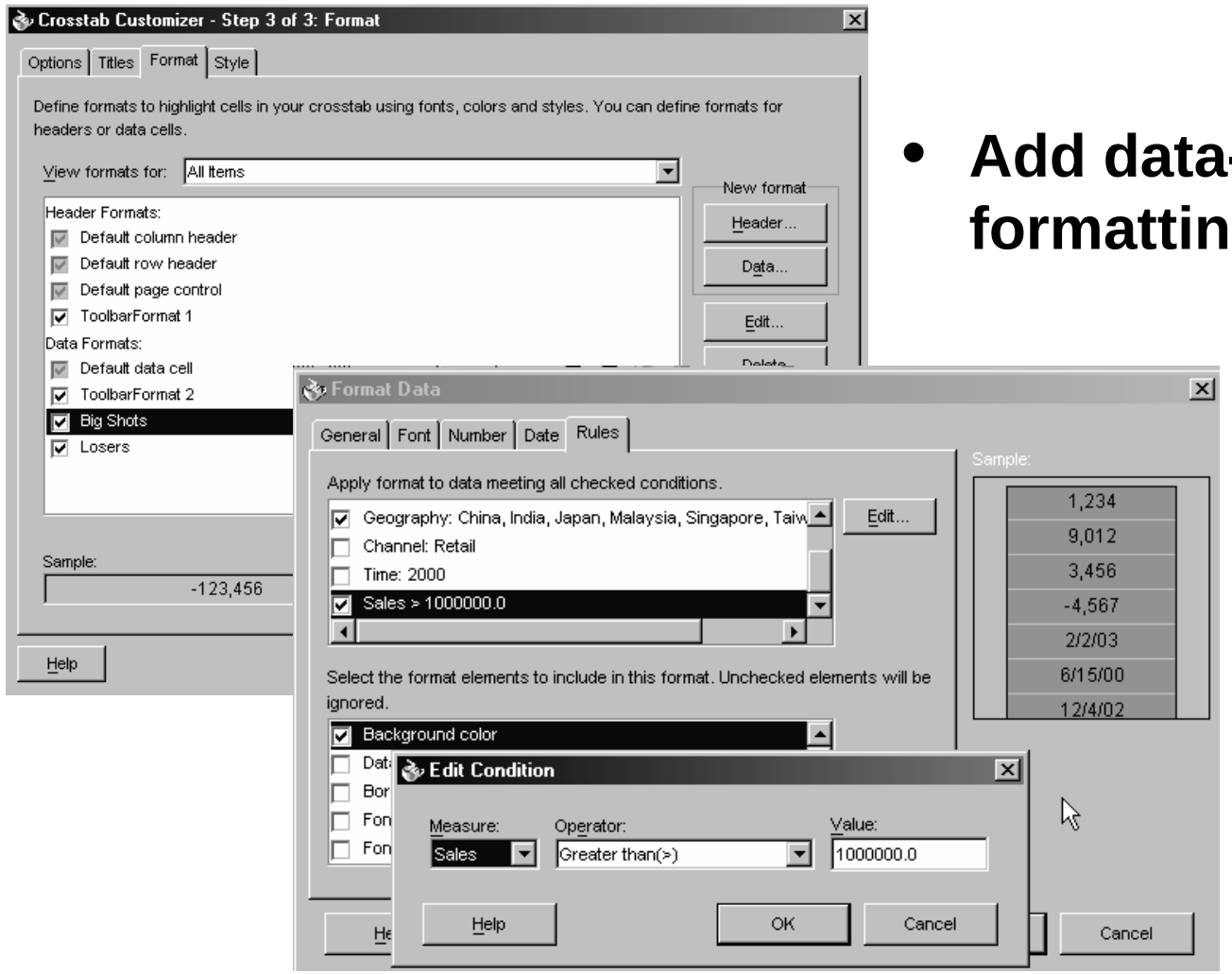
Customizer



- **Add data-driven formatting.**

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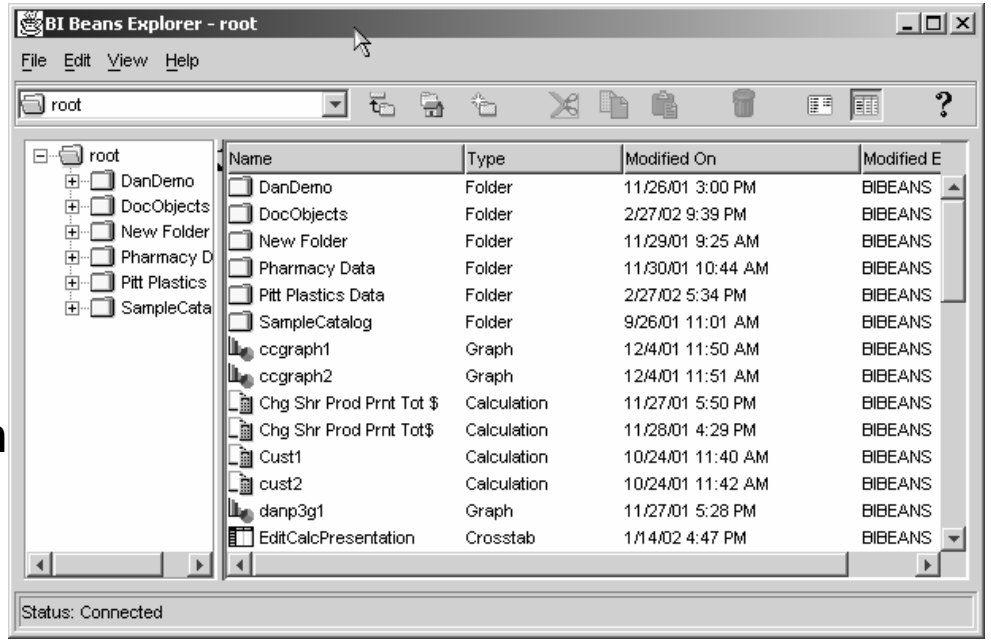
Persistence Services – BI Catalog

- Enables end users to save personal analyses or share analyses with other users.
- Organizes information in folders
- Persisted objects include:
  - Crosstab, table and graph formatting
  - Entire queries or individual selections
  - Calculations
- Objects persisted in XML format
- Searchable



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Summary

- Analysis ready relational database
  - Analytical functions
  - Scaleable, manageable
- Internet application deployment
  - Java OLAP API
  - Business Intelligence Beans and JDeveloper
- Open
  - Java and CWM-compliant meta data
  - OLAP API and SQL access

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Thick or Thin Client?

- Difference Between Thick and Thin Client
- Thick Client full featured Gui application (windows-like)
- Thin Client HTML based (still full featured)
- No Drag & Drop in Thin Client

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Wizards Get You Started

- Wizards provided by JDev and BI Beans provide a good start
- Choice of JSP or UIX Applications
- Build a fully functioning application
- Samples provide additional Features that can be added
- Simple to change look and feel
- Can integrate with existing JSPs

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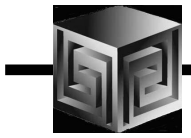
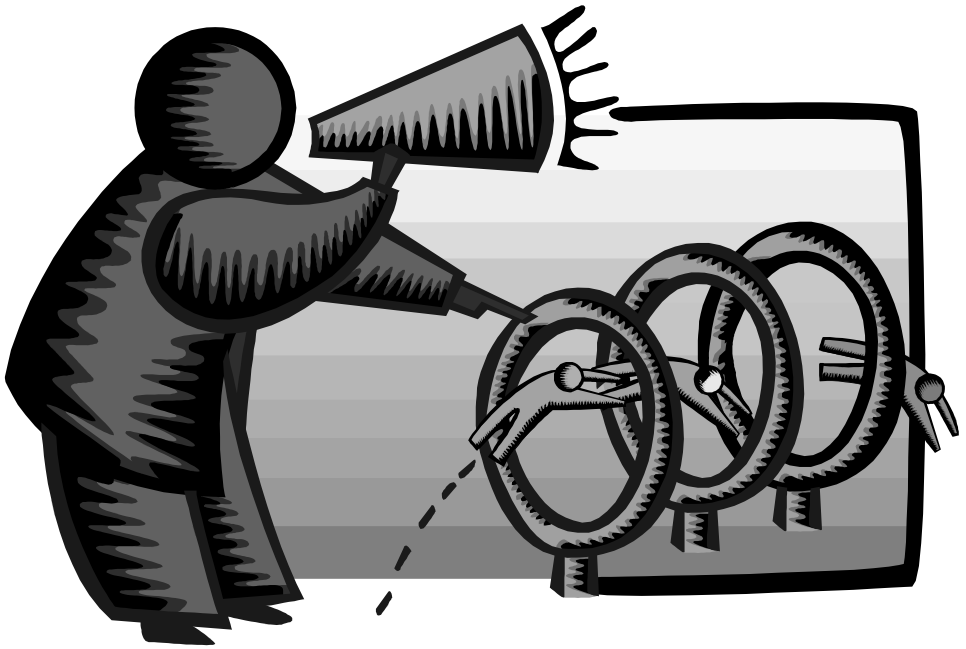


Building A Thin Client Application



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What Did We Learn?

- JDeveloper Wizards are a great start
- Samples also helped a lot
- Neither provided total solution -- Just a start
- Need to be able to understand Java Doc
- Not all JDev functions are available to developed app without custom coding.
- No Need to have a Java Guru on staff if you are doing heavy development!
- BI Beans is not a 100% solution – Getting Better with each release
- Don’t be afraid to rollup your sleeves and learn something new!

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How Get Started? / More Information

- Java programming
  - Start with JDeveloper 9i (download from OTN)
- BI Beans
  - Tutorials (In JDeveloper)
  - Samples (on OTN)
  - Training (Web and Instructor Led)
- Oracle Technology Network
  - http://otn.oracle.com/products/bib/content.html
- Discussion Forums
  - http://www.oracle.com/forums/forum.jsp?id=828024
- VSS Business Analyzer
  - www.vlamis.com

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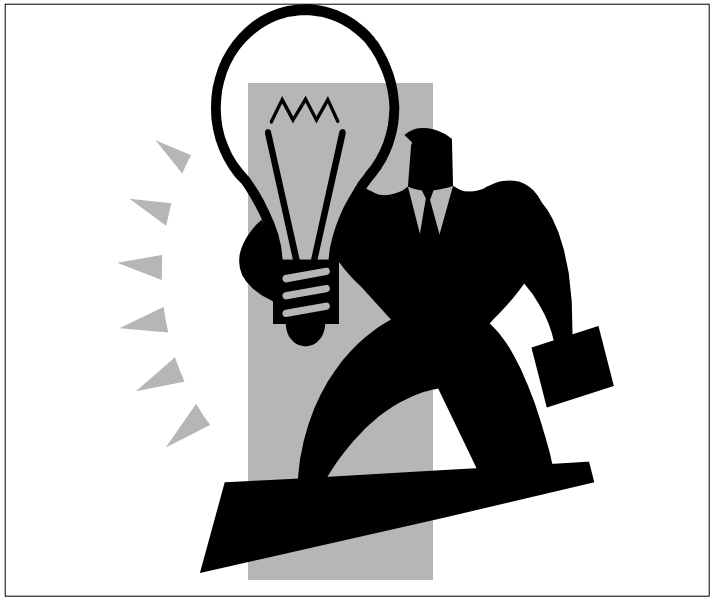
Q & A



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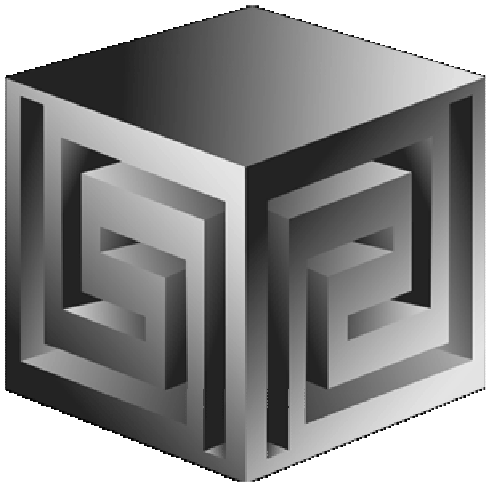

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