Developing Applications with Business Intelligence Beans and Oracle9i
JDeveloper: Our Experience

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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.
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, 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, Discover, Express, Express Objects, Web Objects, OWB, Designer and Oracle Applications (since version 7).
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
Special purpose engines for differing tasks
- Metadata migration tools ease replication
- User interfaces generally different for different tools
BI the New Way: Oracle 9iDB

- Single business intelligence platform
  - Reduce administration, implementation costs
  - Faster deployment & Improved scalability and reliability
Oracle 9i and OLAP – What Is It?

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

Oracle 9i Supports

- Ranking family
- Window Aggregate
- Reporting Aggregate family LAG/LEAD
- Linear Regression family
- Inverse Percentile family
- Hypothetical Rank and Distribution family
- FIRST/LAST Aggregates family
Oracle 9i OLAP Architecture

- Business Intelligence Beans
- OLAP Services
- Query Processor
- Data
- Oracle Relational Database
- Java OLAP API
- Metadata Provider
- Metadata

- Rapid application development
  - Analysis ready

- Java OLAP API
  - Predictive analysis functions

- Scaleable data store
- Integrated meta data
- Summary management
- SQL analytic functions
Java OLAP API

• Designed for OLAP on the internet
  □ Java, object-oriented
  □ Supports OLAP calculations
  □ Schema independent

• The API for analytical tools and applications
  □ Oracle Business Intelligence Beans
  □ Oracle Applications
Java OLAP API

- Complete OLAP query API
  - Multidimensional object model
  - Statistical, mathematical, financial, and time series functions
  - Asymmetric queries
  - Calculated dimension members
  - Incremental query construction
  - Multidimensional cursors
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
Architecture: Thin client

- iAS/Web Server
  - Servlet Engine
    - Servlet
    - BI Beans
      - Analysis Beans
      - Thin Presentation Beans
  - Oracle9i OLAP Services
  - BI Beans runtime repository

Oracle9i
**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
Demonstration
BI Beans Designer Settings

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

Walks you through creating an Catalog Connection

• Define Connection Name and Type
• Login and Password
Connection Wizard

- Specify data source.

- Select and Test OLAP Connection
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...
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
JDeveloper BI Wizards
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
Customizer

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

- Add data-driven formatting.
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
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
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.

See www.vlamis.com for more info...
Demonstration
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.
- BI Beans directly tied to 9i OLAP release!
- Need to have a Java Guru on staff!
- BI Beans is not a 100% solution – they are still evolving
- Don’t be afraid to rollup your sleeves and learn something new!
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

• VSS Business Analyzer
  - www.vlamis.com