Migrating Discoverer to OBIEE – Lessons Learned

Presented By
Naren Thota
Infosemantics, Inc.
Professional Background

• Partner/OBIEE Architect at Infosemantics, Inc.
• Experience with BI solutions for Oracle EBS including R12 since 1997
• Experience with Packaged Solutions
  — Oracle Business Intelligence Enterprise Edition
  — Oracle BI Applications (OBIA)
  — Oracle Discoverer
  — Several others including Oracle Daily Business Intelligence and Noetix Views
Agenda

• Differences in Oracle Discoverer and Oracle BIEE
  — Overview of Discoverer
  — Overview of Oracle BIEE
  — Key differences between Discoverer and Oracle BIEE
• Why Oracle BIEE?
• OBIEE Roadmap for Discoverer Users
• Migration challenges and lessons learned
• Q&A
Discoverer 10g/11g
Discoverer Overview

• Primarily for Operational Adhoc Reporting
• Pre-packaged solution integrated with Oracle E-Business Suite
• Can be used on custom Data Warehouse solutions as well (requires custom End-User Layer build out)
• Leverages calculations and analytics in Oracle RDBMS
• Security integrated with Oracle E-Business Suite
Discoverer Overview Component Puzzle

- Discoverer Administrator
- EUL – End User Layer
- End User Tools
  - Desktop, Plus & Viewer
- Portlets & Portlet Provider
  - Oracle Application Server
    (now a Weblogic Server component)

- Oracle Database at center
  - Internal Data
  - External Data
    - DB links, Gateways
Discoverer Overview
Portlet & Portlet Provider

• Quasi-Dashboard Functionality
• Multiple Reports in Single View
• Combine Multiple Sources
Discoverer Overview

Discoverer Weaknesses

- **Oracle Dependency**
  - Difficult to connect to RDBMSs other than Oracle
  - End-User Layer and security must reside in one single Oracle database instance
  - No data warehouse type analytics, difficulty with cross-reporting needs across multiple data sources (multiple EULs)
  - Database links to connect to other data sources

- **Performance**
  - End-User Layer is built on Views and SQL
  - Difficult to tune SQL generated from the EUL

- **No alerting mechanism**

- **Discoverer Portlets provide limited Dashboard functionality**
## Oracle Fusion Middleware Releases

<table>
<thead>
<tr>
<th>Release</th>
<th>GA Date</th>
<th>Premier Support Ends</th>
<th>Extended Support Ends</th>
<th>Sustaining Support Ends</th>
</tr>
</thead>
<tbody>
<tr>
<td>10g 9.0.4</td>
<td>Dec 2003</td>
<td>Dec 2006</td>
<td>Dec 2008</td>
<td>Dec 2009</td>
</tr>
<tr>
<td>10gR2 10.1.2 x</td>
<td>Jan - Oct 2005</td>
<td>Dec 2011</td>
<td>Not Available</td>
<td>Indefinite</td>
</tr>
<tr>
<td>Content Management SDK 10gR2</td>
<td>Jan - Oct 2005</td>
<td>Dec 2013</td>
<td>Not Available</td>
<td>Indefinite</td>
</tr>
<tr>
<td>Content Database 10gR2</td>
<td>Jan - Oct 2005</td>
<td>Dec 2013</td>
<td>Not Available</td>
<td>Indefinite</td>
</tr>
<tr>
<td>10gR3 10.1.3x</td>
<td>See below</td>
<td>See below</td>
<td>See below</td>
<td>See below</td>
</tr>
<tr>
<td>11gR1 (11.1.1.x) ***</td>
<td>See below</td>
<td>See below</td>
<td>See below</td>
<td>See below</td>
</tr>
<tr>
<td>Portal 11gR1, Forms 11gR1, Reports 11gR1 and Discoverer</td>
<td>Jun 2009</td>
<td>Jun 2014</td>
<td>Jun 2017</td>
<td>Indefinite</td>
</tr>
<tr>
<td>11gR1 (11.1.1.x) ****</td>
<td>Oct 2011</td>
<td>Oct 2016</td>
<td>Oct 2017</td>
<td>Indefinite</td>
</tr>
<tr>
<td>Forms and Reports 11gR2 (11.1.2.x)</td>
<td>Oct 2011</td>
<td>Oct 2016</td>
<td>Oct 2017</td>
<td>Indefinite</td>
</tr>
</tbody>
</table>

Overview of OBIEE

• Next generation BI solution from Oracle
• Best in class solution for query and analysis, enterprise reporting, dashboards, and scorecards, built on an open, highly scalable, architecturally unified technology foundation

• OracleBIEE11g (11.1.1.7.1) – Latest Release
  – AKA Oracle Fusion Middleware Oracle Business Intelligence
  – Comes with Weblogic Server; Support for IBM WebSphere
  – Tighter integration with Hyperion, Essbase, supports ragged hierarchies and much more
    – Hadoop Integration via Hive ODBC interface
  – Pre-built DataWarehouse solution available (licensed separately); AKA BI Apps for Oracle EBS (11i/R12), PeopleSoft, JDEdwards, SAP etc
Integrated Solution Model

Interactive Dashboards
Ad hoc Analysis
Proactive Detection and Alerts
Microsoft Office

Reporting & Publishing
- BI Publisher
- Financial Reporting
- Interactive Reporting
- SQR Production Reporting
- Web Analysis

Common Enterprise Information Model
Oracle BI Server

OLTP & ODS Systems
Data Warehouse Data Mart
SAP, Oracle PeopleSoft, Siebel, Custom Apps
Files Excel XML
Business Process
Financial Performance Management Applications
Hyperion Essbase

Oracle Fusion Applications
Oracle E-Business Suite
United States of America
Canada
Australia
Oracle Business Intelligence
Chicago
Enterprise Performance Management
San Diego
New York

Atlanta
SoCal
Orlando
Austin
Seattle

Oracle Applications users group
Connection Point
SEMINARS
Components of OBIEE 11g

- BI Analysis (Answers)
- Interactive Dashboards
- Delivers or iBots (BI Scheduler)
- BI Publisher Server integrated into OBIEE
- Analysis and Interactive Reporting – New from Hyperion
- Performance Management Scorecard - New
- Windows Client Tools
  - OBIEE Administrator
  - BI Publisher Desktop for Template Creation
- Oracle BI Mobility and Mobile Security
Overview of Pre-Built Apps (OBIA)

• AKA Business Intelligence Applications/Analytics – Latest release 7.9.6.4 (Informatica as ETL) for OBIEE11g 11.1.1.7.0
  – Release 11.1.1.7.1 (ODI as ELT) available for limited modules
• Star-Schema Data Warehouse Adaptors for Oracle E-Business, PeopleSoft, Siebel, SAP etc.
• Metadata Repository (semantic layer) for above, to access from OBIEE Presentation side (end-users)
• Includes Presentation Services catalog (pre-built Dashboards, Answers and KPIs)
• BI Apps is available to license by module
  – Financial Analytics
  – Procurement & Spend Analytics
  – Order Management & Supply Chain Analytics
  – HR Analytics etc.
OBIEE Advantages over Discoverer

- OBIEE is the next generation solution from Oracle.
- OBIEE is designed to connect to a wide variety of data sources simultaneously (Oracle, SQLServer, Teradata, XML, spreadsheets, etc).
  - Integrate via the BI Server Common Enterprise Information Tier for cross-reporting and drill-across.
- OBIEE has a single thin client (web) interface for dashboards and ad hoc queries (Discoverer requires installation of a JRE client and separate tools for dashboards and ad hoc queries).
- More visualizations options in OBIEE – Charts, Gauges, Controls etc.
- Interactive dashboards and drill-downs.
- OBIEE has extensive alert and delivery options.
- SOA and Web Services integration.
- Hyperion Essbase integration.
- Highly Scalable.
OBIEE Roadmap for Discoverer Users

• BI Apps/Analytics discussed earlier are available – Prebuilt Data Warehouse, Catalog etc.
• Consider Migration of Discoverer over to OBIEE as an interim step
  – Keeps license costs low
  – De-Commission Discoverer
  – End-User adoption and experience with the new platform with known content
• License Pre-built BI Applications later
  – Earlier work of Discoverer migrated EUL can continue to co-exist for operational reporting needs
• Scale-up to include other data sources Enterprise-Wide
Customer Scenario – Final State w/OBIEE Foundation

Oracle BIEE11g Foundation Suite
On Fusion Middleware

Answers, Dashboards, BI Publisher
Presentation Services

BI Server Semantic layer (Metadata)

Oracle EBS

DW

Source3

Source4

Federated Data Sources
Migration Challenges and Lessons Learned

- Design Challenges
- EUL Migration issues
- Handling Security in OBIEE
- Performance optimizations in OBIEE
- End-User training and acceptance
Design Challenges

EULs, Custom EULs and approach

- Lots of redundancy and obsolete objects
- Performed an assessment and worked with Business Owners to eliminate objects and folders that are now obsolete
- Simultaneously narrowed down reports that are commonly in use and key must-haves
- Security is all over – each EUL has its own Database User accounts, most can see anything and everything
EUL Migration Challenges

EULs, Custom EULs and approach

- Oracle delivered EUL for EBS – no OBIEE equivalent rpd (see Doc ID #1066087.1 regarding converting Oracle’s EUL to rpd)
- Migration Assistant – Tool to migrate EULs over to OBIEE rpd
  - Significant limitations
- Expect custom development and re-engineering
- Plan for a detailed Discovery and Assessment phase to understand effort, and design approach, considering security, performance, report migrations, and End-User adaptability
Security Challenges

- Discoverer EUL is integrated with EBS Roles and Responsibilities
- Custom EULs have their own
- Consider implementing Active Directory, SSO authentications
- Maintain central repository for Roles and manage security via Weblogic administration
- Combination of EBS Roles and Responsibilities and Roles from custom EULs can be leveraged for Subject Area and Data level security
Performance Optimizations

- Consider Table level optimizations
- Consider Aggregates and their usage if possible within OBIEE
- Consider Dashboard scheduling & delivery mechanism for users that don’t need to be running ad-hoc reports
End User Acceptance

- Plan training early on
- As a first release, try to mimic Subject Areas, similar to Business Areas in Discoverer
- Same with folder structures and naming conventions
- Engage user community to take on report development
- Develop Catalog and sample reports, set standards and naming conventions
- Plan for mini workshops
- Follow Train-the-Trainer approach
- Develop tool-tips describing the objects
Discoverer Metadata Conversion Assistant – More Info

- **Purpose:**
  - Convert a Discoverer EUL into an OBIEE repository file(s)

- **Limitations of the tool**
  - Best when used against an existing data warehouse (star schema)
  - Certain joins such as 1:1 joins, reciprocal joins, joins that have a calculation in the condition and duplicate joins will not be migrated
  - Optional conditions are not migrated
  - Item hierarchies based on complex folders will not be migrated
  - Discoverer Date Hierarchy templates will not be migrated
  - Item Classes are not migrated
  - Discoverer Summary Folders are not migrated
In summary, the Migration Tool should be considered as an accelerant and/or assistant – there will likely need to be quite a bit of manual work on the repository before it is ready to be used for queries.


References

• Oracle Fusion Middleware Documentation Library
  • http://download.oracle.com/docs/cd/E14571_01/bi.htm
• Hardware/Software certifications
• Product Lifetime Support Policy

• http://www.rittmanmead.com/blog/
• http://www.infosemantics.com/infosemantics-blog.html
• Siebel.ittoolbox.com
• Forums.oracle.com
• http://oraclebizint.wordpress.com
• http://blogs.oracle.com/xmlpublisher/
Tools at Infosemantics

http://www.infosemantics.com -> Tools

Oracle E-Business R12.1.3 Public Vision instance

Oracle BIEE 11g sandbox environment, with BI Applications for all major modules (access available upon request)

- Fully configured with data extracted from Oracle R12 Vision
About Infosemantics

Established in 2001
Commercial, Higher Education, and Federal Government client base
Matured presence Internationally
Senior resources averaging 15 years of experience
Q & A

Thank You!

Naren Thota
naren.thota@infosemantics.com

www.infosemantics.com

People First. Driving Solutions Together®