Oracle BI 12.2.1 Migration Agenda

• IOUG, BIWA and Vlamis background
• OBIEE 12c migration
• Use Questions or Chat or Questions to communicate
Vlamis Software Solutions

- Vlamis Software founded in 1992 in Kansas City, Missouri
- Developed more than 200 Oracle BI systems
- Specializes in ORACLE-based:
  - Data Warehousing
  - Business Intelligence
  - Data Mining and Predictive Analytics
  - Data Visualization
- Expert presenter at major Oracle conferences
- Conference chair for BIWA Summit 2014 - 2016
- www.vlamis.com (blog, papers, newsletters, services)
- Co-author of book “Data Visualization for OBI 11g”
- Co-author of book “Oracle Essbase & Oracle OLAP”
- Oracle University and Gold Partner
- Beta tester for OBIEE 11g & 12c
## Month of IOUG BIWA Techcasts

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<tr>
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Session list is live now!

BIWA Summit 2016, Jan 26-28
Oracle HQ Conference Center

Business Intelligence, Warehousing and Analytics and Spatial
IOUG Special Interest Group
www.biwasummit.org
OBIEE 12c Migration

- Overview
- Pre Migration Steps and Considerations
- Migration Steps
- Post Migration Steps OBIEE
- Post Migration Steps for BI Publisher
- Post Migration Steps for Essbase
- OBIEE Administration differences
Migration Overview

• Analyze and prepare the existing 11g system in preparation for migration to 12c
• Understand what is migrated and how
• Define a test plan to validate the migration
• Test a sample migration on a representative subset of the existing 11g system
• Perform the migration
  • Can be part of an initial OBIEE 12c installation or can be performed in an existing 12c environment*
• Perform post migration steps

* This presentation will focus on migration as part of an OBIEE 12c install
Pre Migration Steps

• Analyze and Prepare the 11g System
  • Name and size of the repository
  • Name and size of the BI presentation catalog
  • Existing security model details
  • Data sources
  • Number of scheduled jobs
  • Links to external systems
Oracle BI Baseline Validation Tool

Validation Tool

- Data
- Visual
- Catalog
- Logical Query

Pre-Upgrade / Existing OBIEE Environment

Post-Upgrade / New OBIEE Environment
BVT enables the creation of a baseline set of data that is then able to be compared with data from another (or the same) system that may be the result of an upgrade, patch or migration, or any change.

- A way to perform automated regression testing on any two compatible Oracle BIEE environments
- Works within and across 11g and 12c versions
- Works on Linux and Windows
- A way to instill confidence when performing an upgrade, migration or significant change to an existing environment
Baseline Workflow (BVT)

1. Run Baseline Against 11g System
2. Run Baseline Against 12c System
3. Run Baseline To generate a report of differences
4. Deploy and (maybe) create new baseline

Make Necessary Adjustments
Baseline Validation Tool

• Determine regression test methodology
  • Select sample set of analyses, dashboards etc. to establish your baseline
  • Determine frequency to run regressions

• Use BVT to execute your regression test strategy
  • BVT is a command line tool
    (many modes based on command line parameters)
  • Run 3 Times:
    • First Run to establish base line against existing system (e.g. 11g)
    • Second Run against a patched or new version system (e.g. 12c)
    • Third Run to generate reports from the output of the first two runs
    • Iterate as necessary to correct anomalies or inconsistencies
Baseline Validation Tool

F:\obieeclient12c\bi\components\oracle.bi.bvt\OracleBI-BVT>bin\obibvt.bat -config TestConfig.xml -deployment BI11117base
INFO: Result folder: Results\BI11117base
INFO: CatalogPlugin: Initialized
INFO: CatalogPlugin: Set Up for Test Run
INFO: Starting [com.oracle.biee.bvt.plugin.catalog.CatalogPlugin]:[GetCatalogTest]
INFO: CatalogPlugin: GetCatalogTest()
Catalog Items Found: 467
INFO: CatalogPlugin: Found 467 items in 11 seconds
Analyzing Reports: [==================================] 100%
INFO: CatalogPlugin: Found 36 reports in 0 seconds
INFO: [com.oracle.biee.bvt.plugin.catalog.CatalogPlugin]:[GetCatalogTest] returned in 11 seconds
INFO: DashboardPlugin: Initialized
INFO: SamplePlugin: Set Up for Test Run
INFO: Starting [com.oracle.biee.bvt.plugin.dashboard.DashboardPlugin]:[ExportDashboardsToXML]
INFO: Starting test: ExportDashboardsToXML
INFO: Getting dashboard items for path:
INFO: Ending test: ExportDashboardsToXML.
INFO: [com.oracle.biee.bvt.plugin.dashboard.DashboardPlugin]:[ExportDashboardsToXML] returned in 7 seconds
INFO: SamplePlugin: Initialized
INFO: SamplePlugin: Set Up for Test Run
INFO: Starting [com.oracle.biee.bvt.plugin.logicalquery.LogicalQueryPlugin]:[GetLogicalQueries]
INFO: LogicalQueryPlugin: GetLogicalQueries()
Catalog Items Found: 467
INFO: Found 36 reports
Saving Logical-SQLs[==================================] 100%
INFO: getLogicalQueriesAsync returned
INFO: [com.oracle.biee.bvt.plugin.logicalquery.LogicalQueryPlugin]:[GetLogicalQueries] returned in 8 seconds
INFO: ReportPlugin: Initialized
INFO: ReportPlugin: Set Up for Test Run
INFO: Starting [com.oracle.biee.bvt.plugin.report.ReportPlugin]:[ExportReportsToCSV]
INFO: Getting report items from server: http://opisvmA:9784/analytics
Catalog Items Found: 467 INFO: Total of 36 reports found, exporting CSV for reports
INFO: Timeout to download single report is set to 15000 MSecs
Processing report[==================================] 100%
Baseline Validation Tool Report

Data Verification

REPORT BASELINE VERIFICATION SUMMARY

<table>
<thead>
<tr>
<th>SUMMARY PIVOT</th>
<th>SUMMARY DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
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<tr>
<td>Run end time</td>
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</table>

Baseline Verification Pivot

<table>
<thead>
<tr>
<th>BASELINE VERIFICATION PIVOT</th>
<th>BASELINE VERIFICATION DATA</th>
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</thead>
<tbody>
<tr>
<td>Total Count</td>
<td>22</td>
</tr>
<tr>
<td>Fail Count</td>
<td>0</td>
</tr>
<tr>
<td>Pass Count</td>
<td>22</td>
</tr>
<tr>
<td>Missing Count</td>
<td>0</td>
</tr>
<tr>
<td>New Item Count</td>
<td>0</td>
</tr>
</tbody>
</table>

Deployment Name: PreUpgrade
Server Name: http://docker10396.us.oracle.com:9704/analytics
Deployment Name: PostUpgrade
Server Name: http://docker24011.us.oracle.com:9502/analytics

REPORT BASELINE VERIFICATION PASSED

<table>
<thead>
<tr>
<th>NAME</th>
<th>LINK</th>
<th>RESULT</th>
<th>FIRST DEPLOYMENT</th>
<th>SECOND DEPLOYMENT</th>
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<tr>
<td>Quarterly Revenue</td>
<td>SERVER LINK</td>
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<td>FILE LINK</td>
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<td>Sales by Brand</td>
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<td>Contribution Waterfall</td>
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<td>Custom Group - Scorecard</td>
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<td>Filters</td>
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<td>Help1</td>
<td>SERVER LINK</td>
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<td>FILE LINK</td>
<td>FILE LINK</td>
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<td>Help2</td>
<td>SERVER LINK</td>
<td>Pass</td>
<td>FILE LINK</td>
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<td>History Overview</td>
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<td>Pass</td>
<td>FILE LINK</td>
<td>FILE LINK</td>
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<td>Monthly Revenue Trend</td>
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<td>Performance Indicators</td>
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<td>FILE LINK</td>
<td>FILE LINK</td>
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<tr>
<td>Product Revenue</td>
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<td>Pass</td>
<td>FILE LINK</td>
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<td>Target Completion</td>
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<td>Timeline</td>
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<td>FILE LINK</td>
<td>FILE LINK</td>
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<td>Top Offices</td>
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<td>FILE LINK</td>
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<td>Trellis1</td>
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<td>Trellis2</td>
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<td>Trellis3</td>
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<td>Pass</td>
<td>FILE LINK</td>
<td>FILE LINK</td>
</tr>
<tr>
<td>Trellis4</td>
<td>SERVER LINK</td>
<td>Pass</td>
<td>FILE LINK</td>
<td>FILE LINK</td>
</tr>
</tbody>
</table>

Overall Summary...
# Baseline Validation Tool Report

## UI Analysis Baseline Verification Failures

<table>
<thead>
<tr>
<th>Name</th>
<th>Result</th>
<th>Score</th>
<th>First Snapshot</th>
<th>Second Snapshot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orders and Density By LOBs</td>
<td>Fail</td>
<td>0.85</td>
<td><img src="image1" alt="First Snapshot" /></td>
<td><img src="image2" alt="Second Snapshot" /></td>
</tr>
<tr>
<td>Orders and Density By Year</td>
<td>Fail</td>
<td>0.83</td>
<td><img src="image3" alt="First Snapshot" /></td>
<td><img src="image4" alt="Second Snapshot" /></td>
</tr>
</tbody>
</table>

[LINK](#)
Migration Workflow (phase 1)

Oracle BI 11g -> 12c Upgrade Flow

Overall Steps

1. Install FMW Binaries
2. Install OBIEE 12c Binaries
3. Copy Migration Tool to Existing 11g system and Run against it
4. Copy upgrade bundle (.jar) back to 12c system and run config.sh* or migration tool to integrated the migrated objects

* You can use configuration tool if new domain, or use migration tool if existing domain
Migration Workflow (phase 2)

Oracle BI 11g -> 12c Upgrade Flow

1. **Bl 11g Production**
   - Run bi-migration-tool.jar to create Upgrade Bundle file

2. **Create Baseline for testing with Validation Tool**

3. **Bl 11g Production**
   - Copy bi-migration-tool.jar to 11g

4. **BI 12c**
   - Import Upgrade Bundle using migration-tool.sh or Create Domain
   - Compare 12c Output with Baseline

5. **Copy to 12c System**

6. **BI 12c Production**

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Migration Steps: Install 12c Software

• 12c Installation Steps:
  • Ensure system certification and platform prerequisites are met
  • Ensure latest supported JDK is available
  • Install Fusion Middleware Infrastructure (java –jar command –not traditional OUI)
  • BI Installer is an executable program
    • Install OBIEE 12c in Same Home as FMW infrastructure
    • Run the OBIEE installation program – this will lay down the OBIEE binaries
Migration Steps: Run Migration Tool

- 12c Migration is an out of place migration (i.e. fresh install, not an overlay of existing environments)
  - Copy the migration tool from the OBIEE 12c installation tree to the existing 11g system (this is a command line tool)
    Located in:
    
    `[ORACLE_HOME]/user_projects/domains/bi/bitools/bin/migration-tool.sh`

- Run the migration tool against the 11g system – this will produce a BI Archive File (jar) that includes the RPD, Webcat, Security and other information packaged up.
- Copy the jar file to a location on the new OBIEE 12c system (it will be used during the configuration of the OBIEE 12c environment)
Migration Steps: Configure OBIEE 12c

• The OBIEE 12c configuration is accomplished with the config tool (config.sh – Linux / config.bat – MS Windows)
  • As OBIEE is configured into a new Weblogic domain, the following information is required
    • Domain Dir
    • Domain Name
    • Admin Credentials
    • Database connect info
      (RCU is run here and requires account with DBA privs to run)
    • Choice of Initial Application
      • Sample App (new from built-in templates)
      • The JAR file you created from the migration tool from 11g

At this point the configuration wizard will run and produce a working new (or migrated) OBIEE 12c instance

Note: if you have already configured a 12c system (i.e. you already have your domain built) you can use a migration script against your jar instead of the config tool
OBIEE 12c Migration

- Overview
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- Post Migration Steps OBIEE
- Post Migration Steps for BI Publisher
- Post Migration Steps for Essbase
- OBIEE Administration differences
Post Migration steps for OBIEE

• Manual Operations (optional depending on environment)
  • Migrate Catalog Groups
  • Migrate WLS Security Config Settings / Log configurations etc. from your 11g system
  • Migrate your database connect information
  • Configure Usage tracking
  • Add BI Roles
Post Migration steps for BI Pub

- Migrate BI Publisher Configuration
- Migrate scheduler jobs and history
- Configure passwords for BI Publisher data sources
- BI Publisher Upgrade Tool

Location:

```
ORACLE_HOME\bi\modules\oracle.bi.publisher\BIP12CUpgrade.zip
```

Syntax:

```
sh BIP12CUpgrade.sh PATH_TO_ORACLE_HOME
  -export_configuration <Source_BIPDomain_Path>
  <Export_BIP_Directory_Path>

sh BIP12CUpgrade.sh PATH_TO_ORACLE_HOME
  -import_configuration <Export_BIP_Directory_Path>
  /export_bip <Target_BIPData_Repository_Path>
```
Post Migration steps for Essbase

- Configure thread pool for Essbase
- Configure ESSLANG setting for Essbase server
- Configure modes, ports and cipher suites
- Configure wallets for root, Essbase Server and Essbase Clients
- Import certificates into the key store

For details, refer to:

*Oracle® Essbase Database Administrator's Guide 12.2.1.*
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BI 12c Administration Differences

• Startup / Shutdown are different (no more opmnctl*)
  • Different Locations for scripts

(UNIX)  
```
DOMAIN_HOME/bin/startManagedWebLogic.sh
    managed_server_name admin_url
```

(Windows)  
```
DOMAIN_HOME\bin\startManagedWebLogic.cmd
    managed_server_name admin_url
```

• Start up application scripts for components

```
startApplication(appName, [options])
stopApplication(appName, [options])
```

*System components are now managed by Weblogic Management Framework*
BI 12c Administration Differences

• Single location for WLST

In previous releases, you invoked WLST from different locations, depending on whether you were using the commands for Oracle WebLogic Server, system components, or Java components such as Oracle SOA Suite. In this release, you invoke WLST from:

(UNIX) `ORACLE_HOME/oracle_common/common/bin/wlst.sh`

(Windows) `ORACLE_HOME/oracle_common/common/bin/wlst.cmd`
BI 12c Administration Differences

- Oracle Home redefined (no middleware home)
- Oracle Web Cache is not a part of Fusion Middleware
- Moving from test to production carried out in a different way
- New commands for process control
- Single enterprise install (provides both Admin Server and Managed Server)
- Changes to scaling out (simplified clustering)
- New reorganized documentation format
• Moving Between Environments dev-test-prod (metadata (content, data model and authorization))
  • Requires file system privileges
  • Commands run in offline only
  • Read-only for export (source system unchanged)
  • Uses WLST Scripting
  • BI deployments exist in different domains

May be used for:
  • Move system to different hardware
  • Move to a different operating system
  • Move to a different physical location
• To move from a Test to a Production Environment
  • Options:
    • export all (all users / datasources same between systems)
    • export without folder content (user acceptance testing)
    • export without connection pool credentials (test to prod)

exportServiceInstance(domainHome, serviceInstanceKey, workDir, exportDir, applicationName=None, applicationDesc=None, applicationVersion=None, includeCatalogRuntimeInfo=false, includeCredentials=None)

Creates a BI Archive (.bar) file
Example move from a Test to a Production environment

```python
exportServiceInstance
('/u01/Oracle/Middleware/Oracle_Home/user_projects/domains/bi',
 'ssi', '/u01/workDir', '/u01/exportDir',
 applicationName=None,
 applicationDesc=None,
 applicationVersion=None,
 includeCatalogRuntimeInfo=false,
 includeCredentials=None)
```

```python
importServiceInstance
('/u01/Oracle/Middleware/Oracle_Home/user_projects/domains/bi','ssi','/u01/exportDir/ssi.bar')
```
Oracle Fusion Middleware 12c (12.2.1)
Oracle Business Intelligence - Tasks

Get Started

Release Notes
Release Notes for Oracle BI
All Fusion Middleware release notes

Learn About Oracle BI
Overview

Install Oracle BI
Learn about the installation process
Install Oracle BI
Perform post-installation tasks

Migrate BI EE from an 11g Release
Migrate Oracle Business Intelligence

Oracle BI Products
Oracle BI Enterprise Edition
Oracle BI Publisher

Use Cases and Examples
BI EE sample application

Related Documentation
Oracle Business Intelligence Mobile Products
Oracle Exalytics
Oracle Essbase

http://docs.oracle.com/middleware/1221/bisuite/index.html
(click Books link to get New Features in Version 12.2.1 section)
Summary of Differences

• OBIEE 12c technical architecture and administration has evolved to:
  • Simplify Installation
  • Align with Oracle Fusion Middleware architecture in general
  • Simplify Migration from earlier releases
  • Establish baselines and support regression testing strategies
  • Simplify daily operations (e.g. startup / shutdown)
  • Simplify movement of environments (lifecycle support)
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More information on:

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BIWA Summit 2016: www.biwasummit.org
OBIEE Doc Getting Started (also see Books link)
http://docs.oracle.com/middleware/1221/bisuite/index.html
OBIEE Doc Complete Library:
http://docs.oracle.com/middleware/1221/bisuite/docs.htm
BI Tech Demos by SampleApp team on YouTube
https://www.youtube.com/user/OracleBITechDemos