

Oracle BI 12.2.1 Migration

IOUG BIWA SIG TechCast

December 2, 2015

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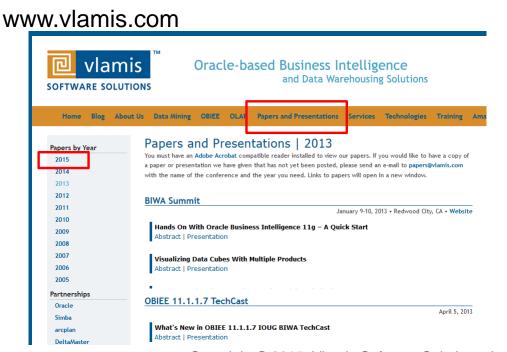
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Oracle BI 12.2.1 Migration Agenda

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







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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







Data Visualization for Oracle Business

Intelligence 11g

Create Highly Visual Presentations of BI Data





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More information and sign up at www.vlamis.com/papers2015/#novdec









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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

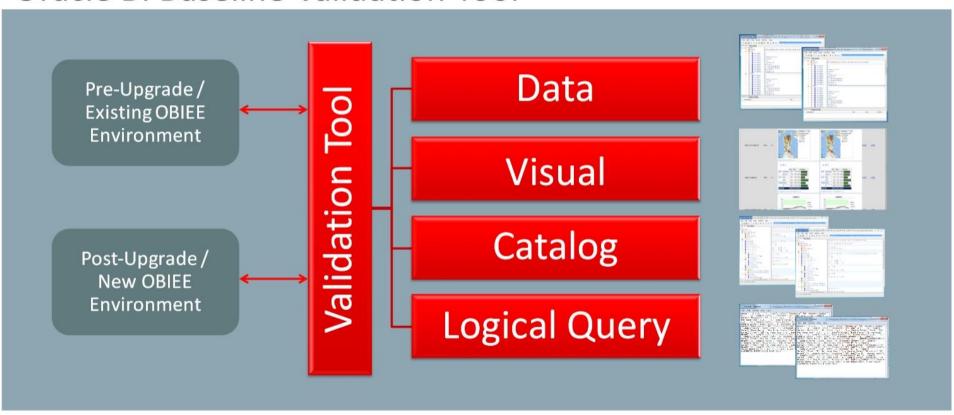
- Analyze and Prepare the 11g System
 - Name and size of the repository
 - Name and size of the BI presentation catalog
 - Existing security model details
 - Data sources
 - Number of scheduled jobs
 - Links to external systems





Baseline Validation Tool (BVT)

Oracle BI Baseline Validation Tool





BVT Characteristics

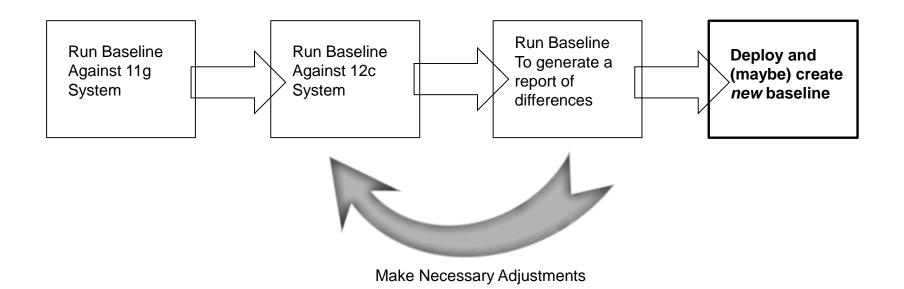
BVT enables the creation of a baseline set of data that is then able to be compared with data from another (or the same) system that may be the result of an upgrade, patch or migration, or any change.

- 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)







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:9704/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
```





Baseline Validation Tool Report

Data Verification

REPORT BASELINE VERIFICATION SUMMARY

SUMMARY PIVOT	SUMMARY DATA
Name	ExportReportsToCSV
Run start time	2015-07-28-17.00.39
Run end time	2015-07-28-17.00.39

BASELINE VERIFICATION PIVOT	BASELINE VERIFICATION DATA
Totalcount	22
Fail Count	0
Pass Count	22
Missing Count	0
New Item Count	0

BASELINE VERIFICATION PIVOT	BASELINE VERIFICATION DATA
Deployment Name	PreUpgrade
Server Name	http://gbr10396.uk.oracle.com:9704/analytics
Deployment Name	PostUpgrade
Server Name	http://slck24011.us.oracle.com/9502/analytics

Overall Summary...

...Link to each report for direct comparison

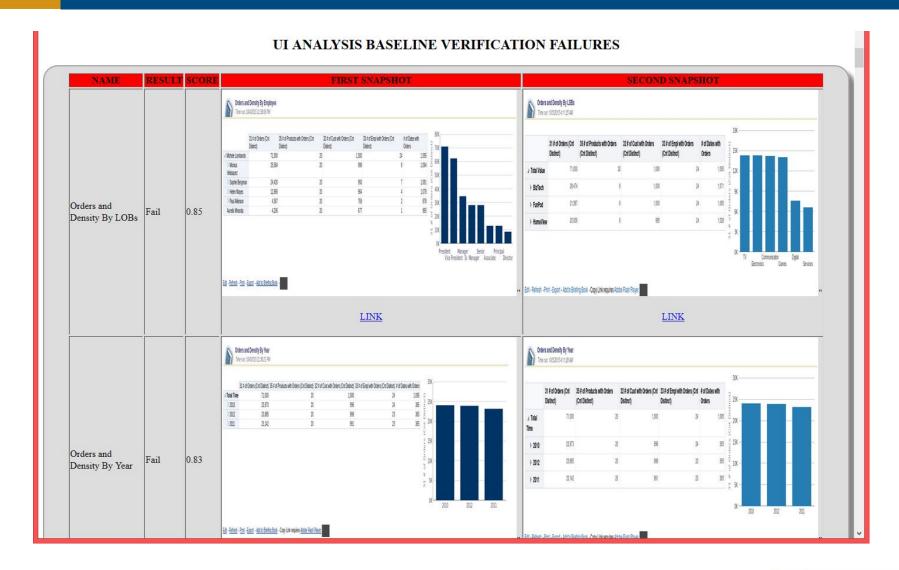
REPORT BASELINE VERIFICATION PASSED

NAME	LINK	RESULT	FIRST DEPLOYMENT	SECOND DEPLOYMEN
Quarterly Revenue	SERVER LINK	Pass	FILE LINK	FILE LINK
Sales by Brand	SERVER LINK	Pass	FILE LINK	FILE LINK
Contribution Waterfall	SERVER LINK	Pass	FILE LINK	FILE LINK
Custom Group	SERVER LINK	Pass	FILE LINK	FILE LINK
Custom Group - Scorecar	d SERVER LINK	Pass	FILE LINK	FILE LINK
Filters	SERVER LINK	Pass	FILE LINK	FILE LINK
Gauges	SERVER LINK	Pass	FILE LINK	FILE LINK
Help1	SERVER LINK	Pass	FILE LINK	FILE LINK
Help2	SERVER LINK	Pass	FILE LINK	FILE LINK
History Overview	SERVER LINK	Pass	FILE LINK	FILE LINK
Monthly Revenue Trend	SERVER LINK	Pass	FILE LINK	FILE LINK
Monthly Trending	SERVER LINK	Pass	FILE LINK	FILE LINK
Order Details	SERVER LINK	Pass	FILE LINK	FILE LINK
Performance Indicators	SERVER LINK	Pass	FILE LINK	FILE LINK
Product Revenue	SERVER LINK	Pass	FILE LINK	FILE LINK
Target Completion	SERVER LINK	Pass	FILE LINK	FILE LINK
Timeline	SERVER LINK	Pass	FILE LINK	FILE LINK
Top Offices	SERVER LINK	Pass	FILE LINK	FILE LINK
Trellis l	SERVER LINK	Pass	FILE LINK	FILE LINK
Trellis2	SERVER LINK	Pass	FILE LINK	FILE LINK
Trellis3	SERVER LINK	Pass	FILE LINK	FILE LINK
Trellis4	SERVER LINK	Pass	FILE LINK	FILE LINK





Baseline Validation Tool Report

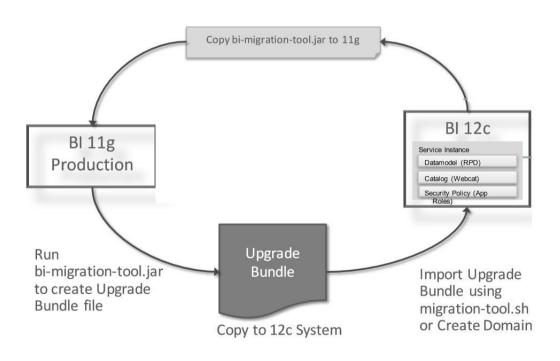






Migration Workflow (phase 1)

Oracle BI 11g -> 12c Upgrade Flow



Overall Steps

- Install FMW Binaries
- 2. Install OBIEE 12c Binaries
- 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

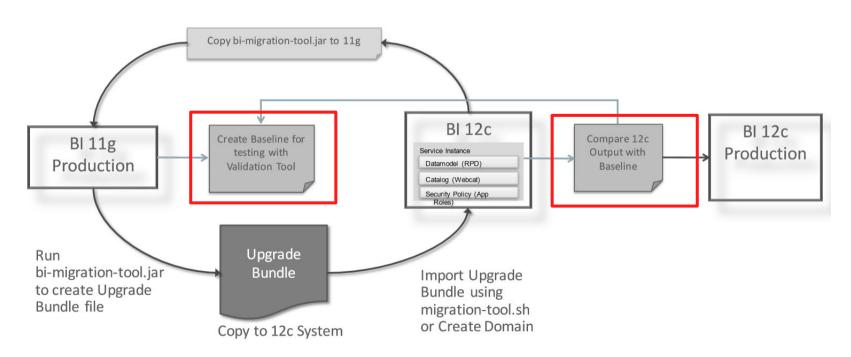


^{*} You can use configuration tool if new domain, or use migration tool if existing domain



Migration Workflow (phase 2)

Oracle BI 11g -> 12c Upgrade Flow





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





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

Start up application scripts for components

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

*System components are now managed by Weblogic Management Framework





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
```





- 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

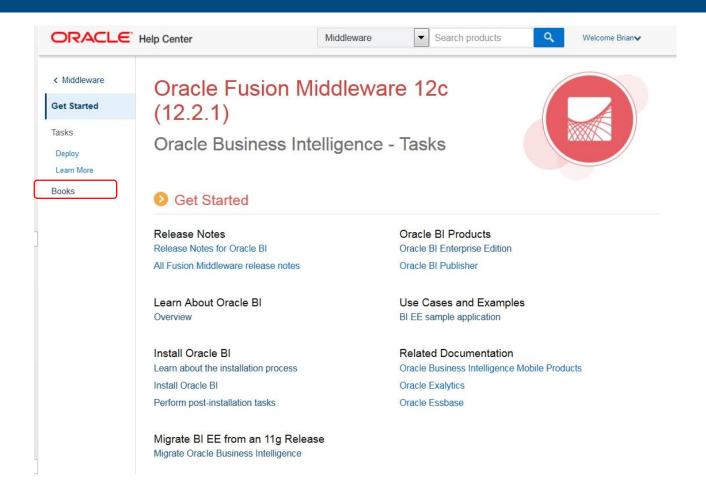
```
exportServiceInstance
('/u01/Oracle/Middleware/Oracle_Home/user_projects/domains/bi',
'ssi', '/u01/workDir', '/u01/exportDir', applicationName=None,
applicationDesc=None,
applicationVersion=None, includeCatalogRuntimeInfo=false,
includeCredentials=None)

importServiceInstance
('/u01/Oracle/Middleware/Oracle_Home/
user_projects/domains/bi','ssi','/u01/exportDir/ssi.bar')
```





Reorganized Documentation



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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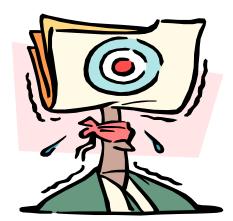


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More information on:

Vlamis Software: www.vlamis.com, dvlamis@vlamis.com

IOUG BIWA: www.ioug.org, www.oraclebiwa.org

BIWA Summit 2016: www.biwasummit.org

SampleApp: http://www.oracle.com/technetwork/middleware/bi-foundation/obiee-

samples-167534.html

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

