

Upgrading to Oracle Business Intelligence 12c IOUG Collaborate 16

Session 4728

Dan Vlamis and Mike Caskey

Monday, April 11, 2016

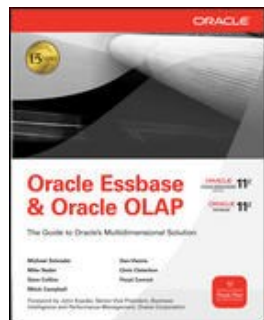
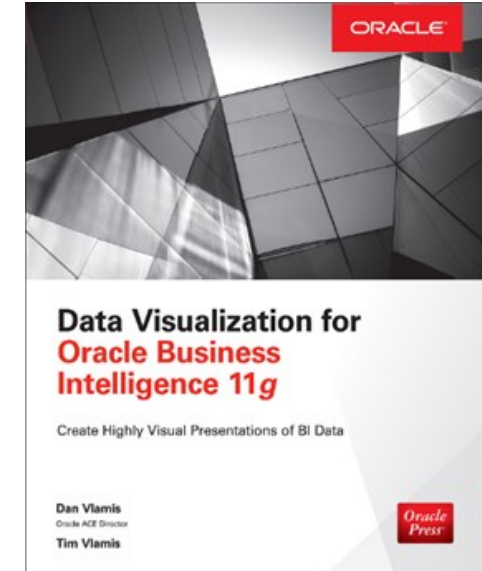
VlamiS Software Solutions

- 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
- www.vlamiS.com (blog, papers, newsletters, services)
- Co-authors of book “Data Visualization for OBI 11g”
- Co-author of book “Oracle Essbase & Oracle OLAP”
- Oracle University Partner
- Oracle Gold Partner

ORACLE EDUCATION RESELLER

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Oracle Business Intelligence
Foundation Suite 11g






Vlami Involvement in Presentations

Presenter	Time	Location	Title
Dan Vlami & Mike Caskey	Mon 12:00 PM	Banyan C	Analytic Views Simplify Complex Business Intelligence Queries
Dan Vlami & Mike Caskey	Mon 2:00 PM	Banyan C	Upgrading to Oracle Business Intelligence 12c
Jeff McBride & Mike Caskey	Tues 9:15 AM	Breakers I	Case Study of Improving BI Apps and OBIEE Performance
Dan Vlami & Tim Vlami	Tues 3:30 PM	Banyan C	Oracle Big Data Science
Dan Vlami & Tim Vlami	Wed 9:15 AM	Banyan D	Data Analysis with Various Oracle Business Intelligence and Analytics Tools
Tim Vlami	Thurs 12:15 PM	Jasmine F	BI Movie Magic: Maps, Graphs, and BI Dashboards at AMC Theatres



Dan Vlami and Mike Caskey

■ Dan

- Founded Vlami Software Solutions in 1993
- 25+ years in business intelligence, dimensional modeling
- Oracle ACE Director  
ACE Director
- Developer for IRI (expert in Oracle OLAP and related)
- BA Computer Science Brown University

■ Mike

- Senior Consultant with Vlami
- 20+ years in data warehousing, software engineer and OLAP
- 10+ years in Healthcare BI as co-founder and lead architect of a software company, developing 6 product solutions
- Expert in multiple Enterprise Data Warehouse design and implementations across industries



Presentation Agenda

- What's new in OBIEE 12c?
- Overview of OBIEE Migration Steps
- Pre-Migration Activities
- Migration Workflow (OBIEE 12c installation)
- Post Migration Steps (OBIEE / BI Publisher)
- Administration Differences
- Baseline Validation Tool (BVT) Overview
 - BVT Example
 - BVT Automation for repeatable regression testing



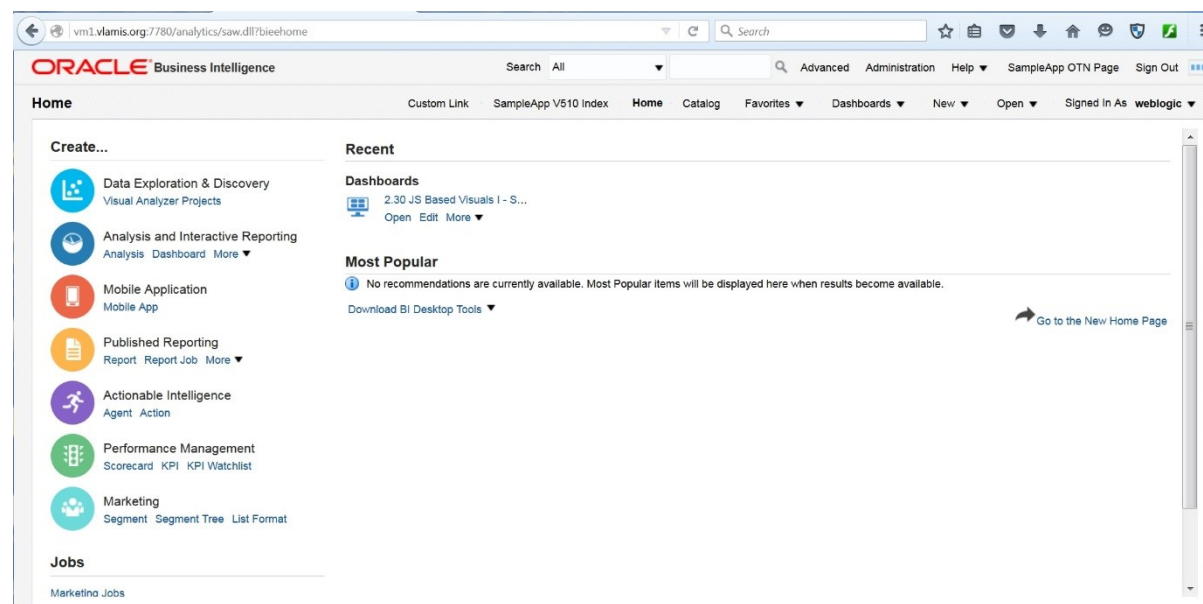
OBIEE 12c (12.2.1.0.0)

- Much Cleaner Interface for the users
 - Visual analyzer and Mashups empower users to explore their data
 - Trend Analysis and Clustering directly available for users
 - New Ask/Search capability in VA home screen
- Additional Analytic tools integrated (e.g. R)
 - Call R functions directly
- Simpler installation for the Administrator
 - Fast, simple installation
 - Out of Place Migration (no impact to 11g environments)
 - Migration utility easily migrates 11g Webcat, RPD, and security scheme to new environment
- Preparing for 12c
 - Baseline Validation Tool (works back to 11.1.1.7.1)



12.2.1 End-User Enhancements

- Alta UI skin focuses on content – clean page design
- Redesigned classic BI home page – consistent with other Oracle products



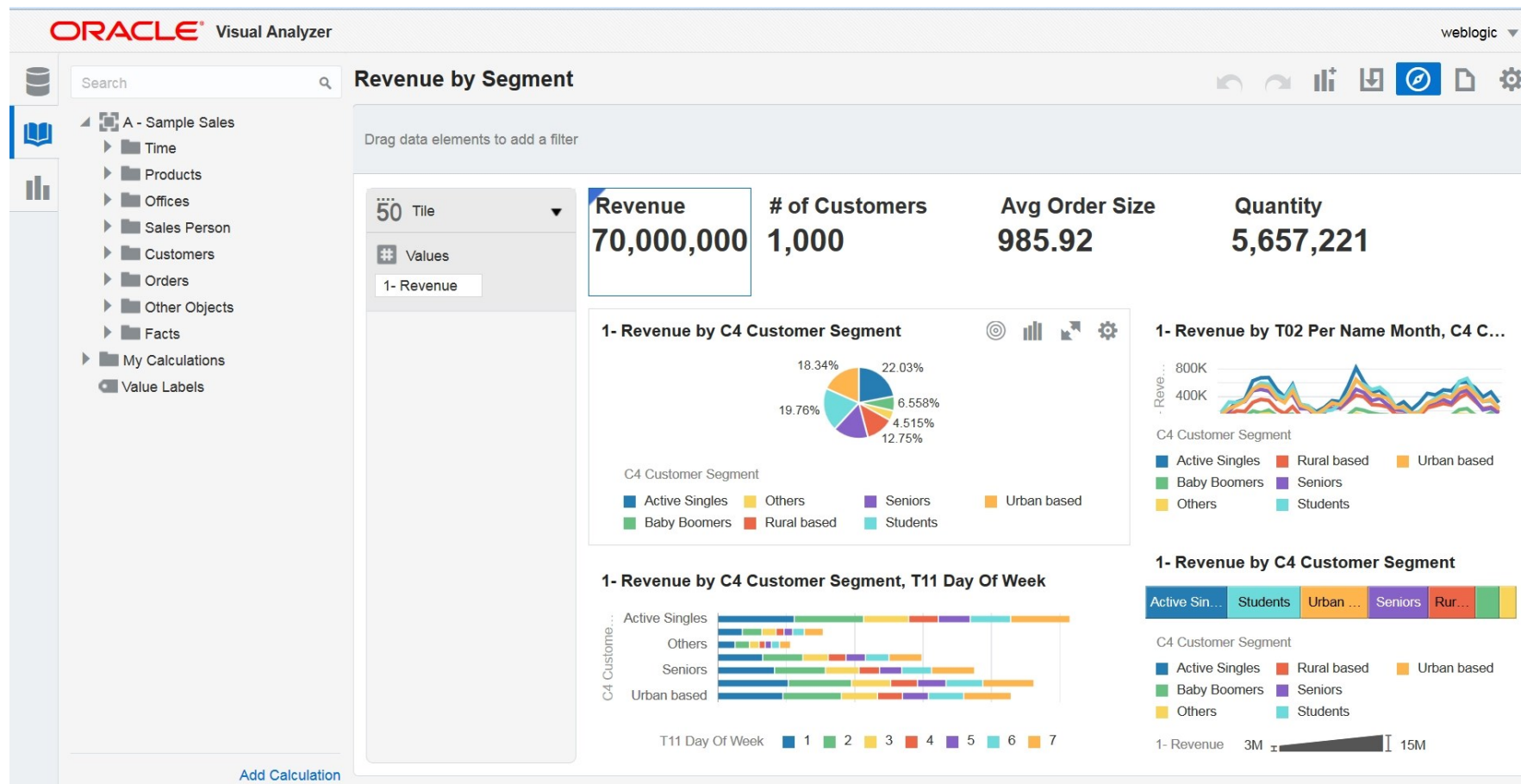


OBIEE 12c Intro Demo



12.2.1 End-User Enhancements

- New Visual Analyzer data visualizations ease data exploration – new interface. Does cost extra.

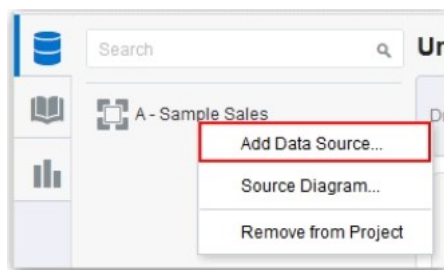




12.2.1 End-User Enhancements

- Data mashup capabilities – no RPD modifications

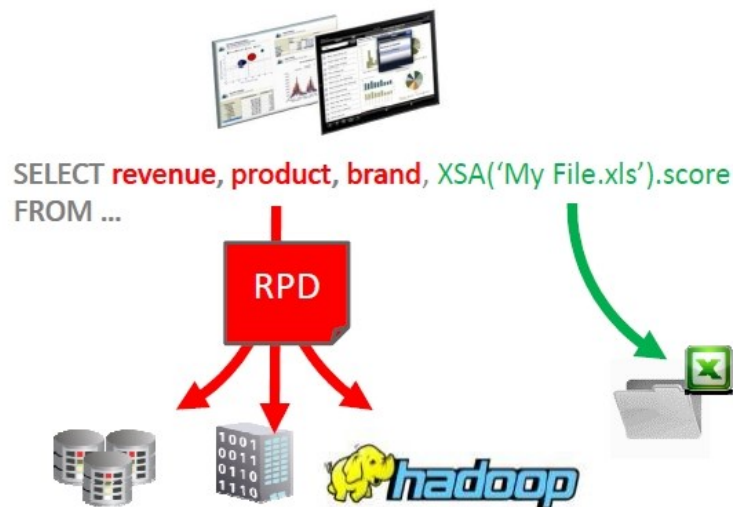
Add your own data files



Example: Upload a File



Access your data directly
from an analysis w/o any
RPD dependencies



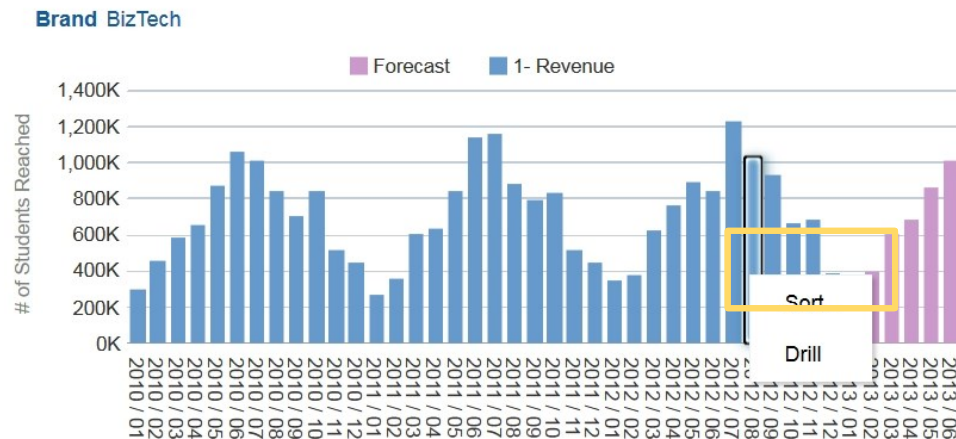


12.2.1 End-User Enhancements

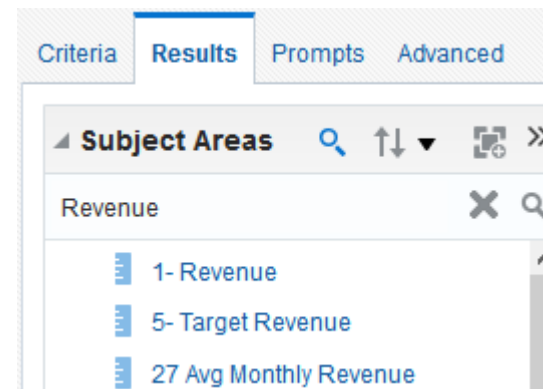
- Enhanced subject area pane – including search through metadata
- Right-click all graphs and cells

Forecasting Revenue by Month

Formula: forecast("Base Facts"."1- Revenue", ("Time"."T02 Per Name Month" timeMonth), 'forecast', 'n')



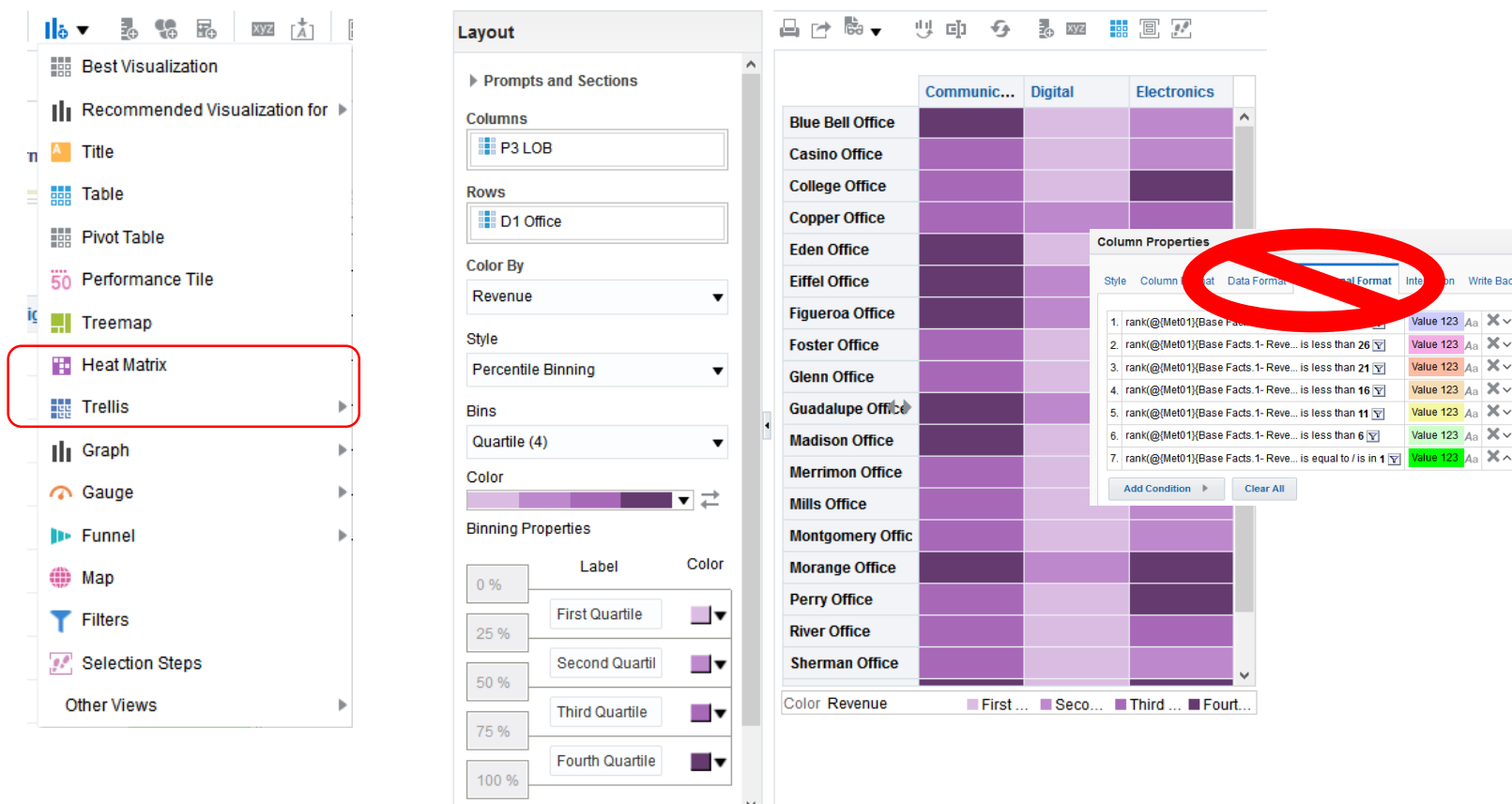
Brand FunPod





12.2.1 End-User Enhancements

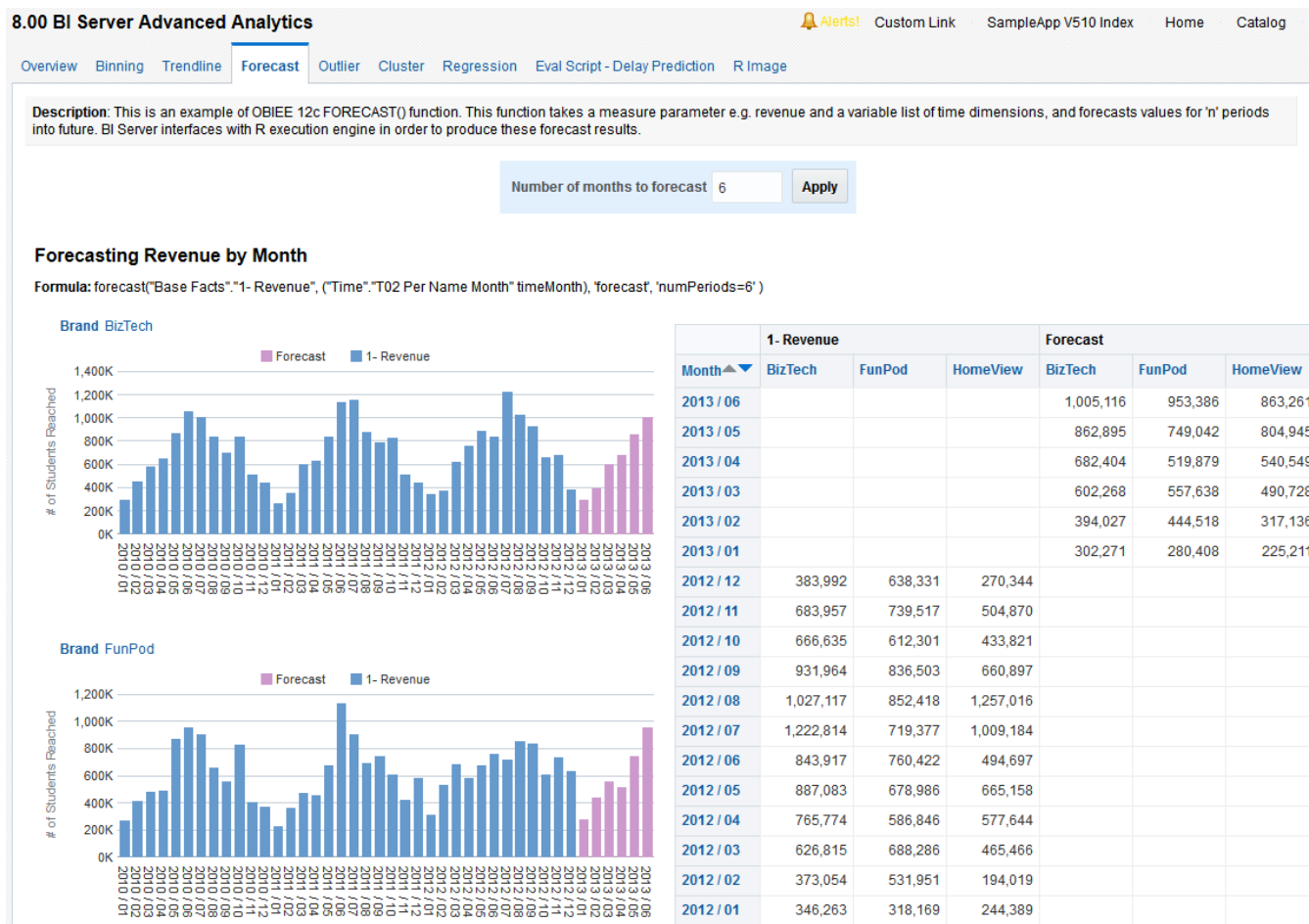
- Improved view rendering using HTML 5 – including new Heat Matrix view type





12.2.1 End-User Enhancements

- Improved analytic capabilities – new pre-built functions and add custom R scripts





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



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
 - Scheduled jobs
 - Links to external systems

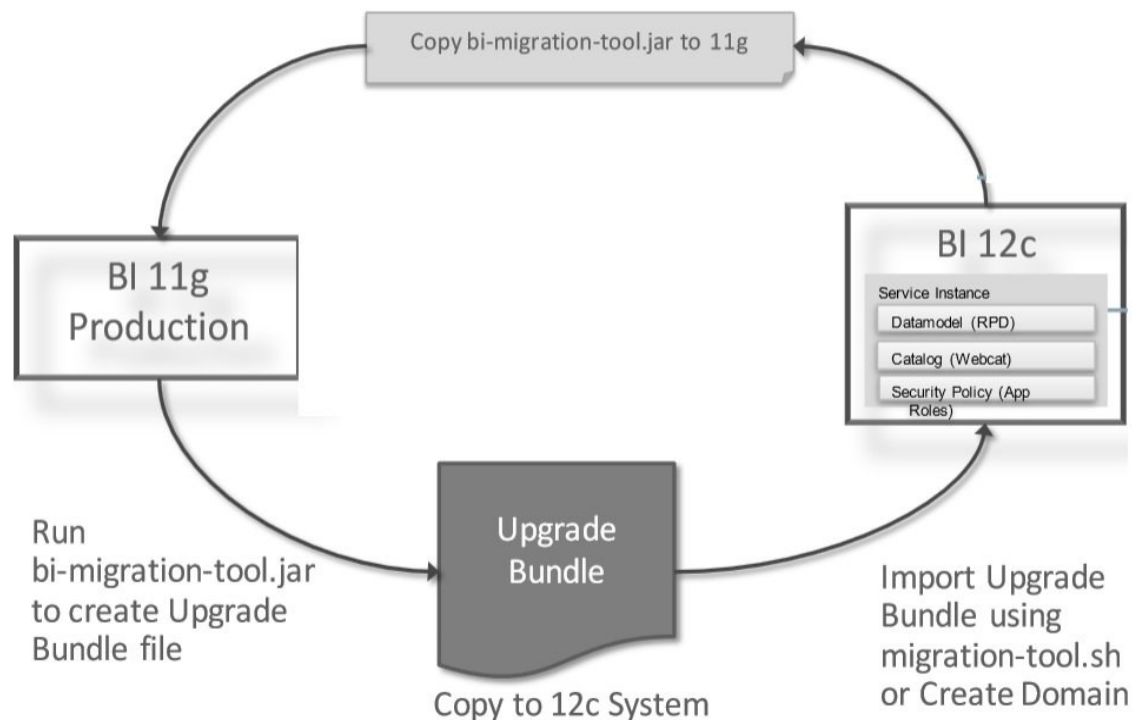


Migration Workflow (phase 1)

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 integrate the migrated objects

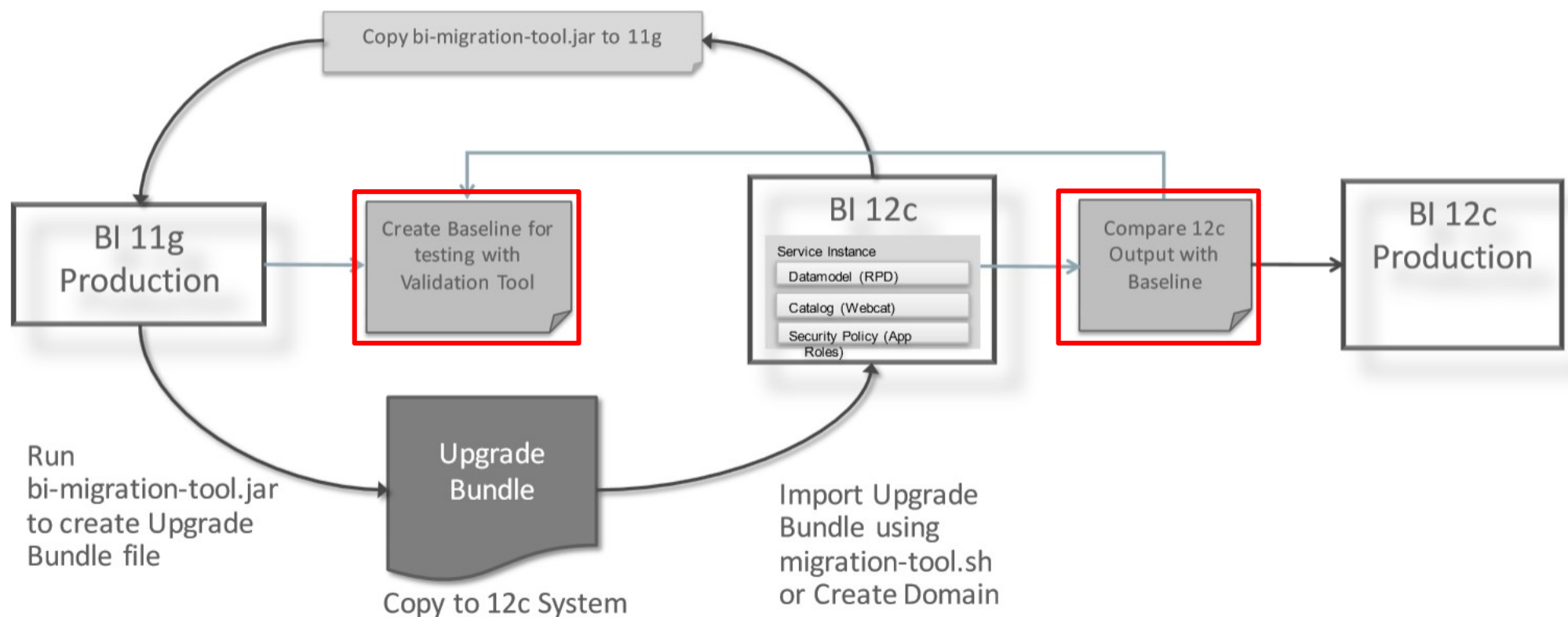


* You can use configuration tool if new domain, or use migration tool if existing domain



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

- 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



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 Publisher

- 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>
```



OBI 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



OBI 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
```




OBI 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



OBI 12c Administration Differences

- 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



OBI 12c Administration Differences

- 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



Reorganized Documentation

ORACLE Help Center

Middleware Search products Welcome Brian

< Middleware

Get Started

Tasks

Deploy

Learn More

Books

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](#)

Oracle BI Products

[Oracle BI Enterprise Edition](#)

[Oracle BI Publisher](#)

Learn About Oracle BI

[Overview](#)

Use Cases and Examples

[BI EE sample application](#)

Install Oracle BI

[Learn about the installation process](#)

[Install Oracle BI](#)

[Perform post-installation tasks](#)

Related Documentation

[Oracle Business Intelligence Mobile Products](#)

[Oracle Exalytics](#)

[Oracle Essbase](#)

Migrate BI EE from an 11g Release

[Migrate Oracle Business Intelligence](#)

<http://docs.oracle.com/middleware/1221/bisuite/index.html>

(click Books link to get New Features in Version 12.2.1 section)



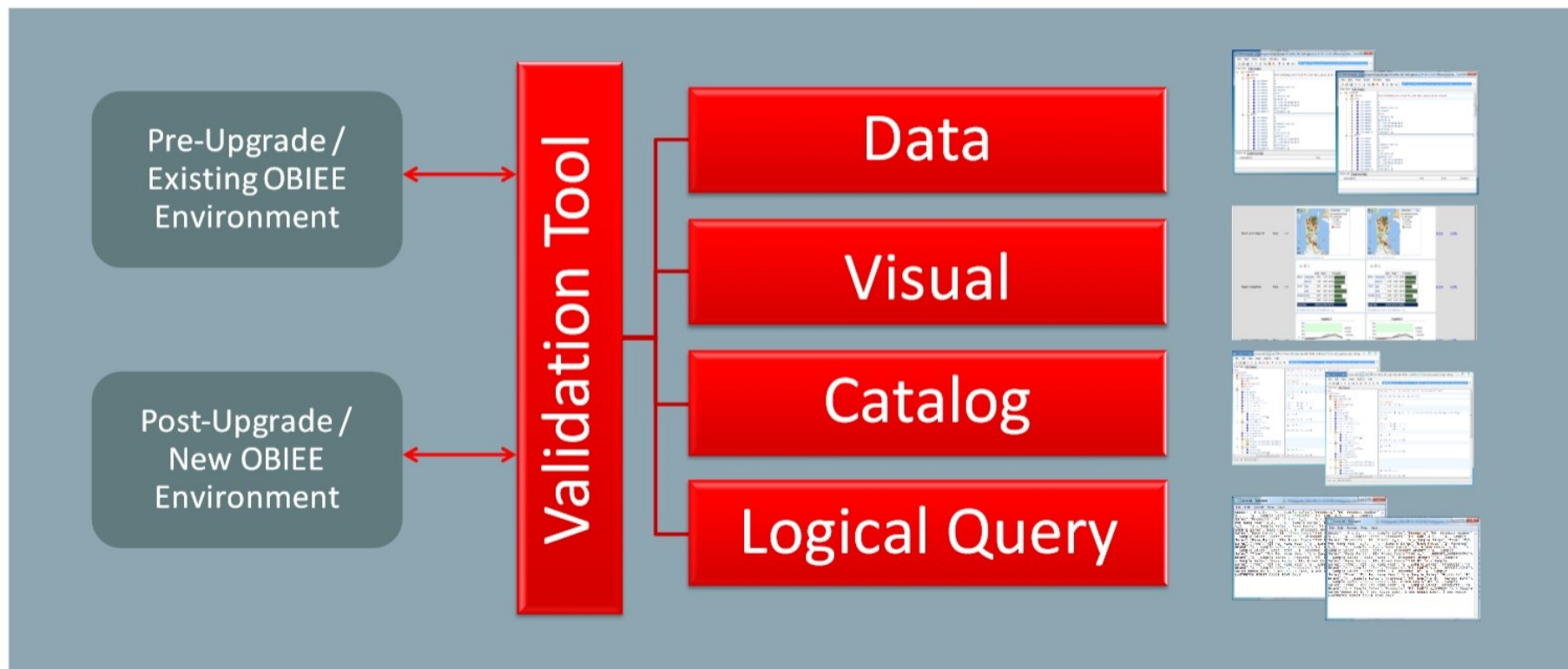
Summary of Differences

- 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)



Baseline Validation Tool (BVT)

BVT is a command line utility to perform regression testing against any two Presentation catalogs





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

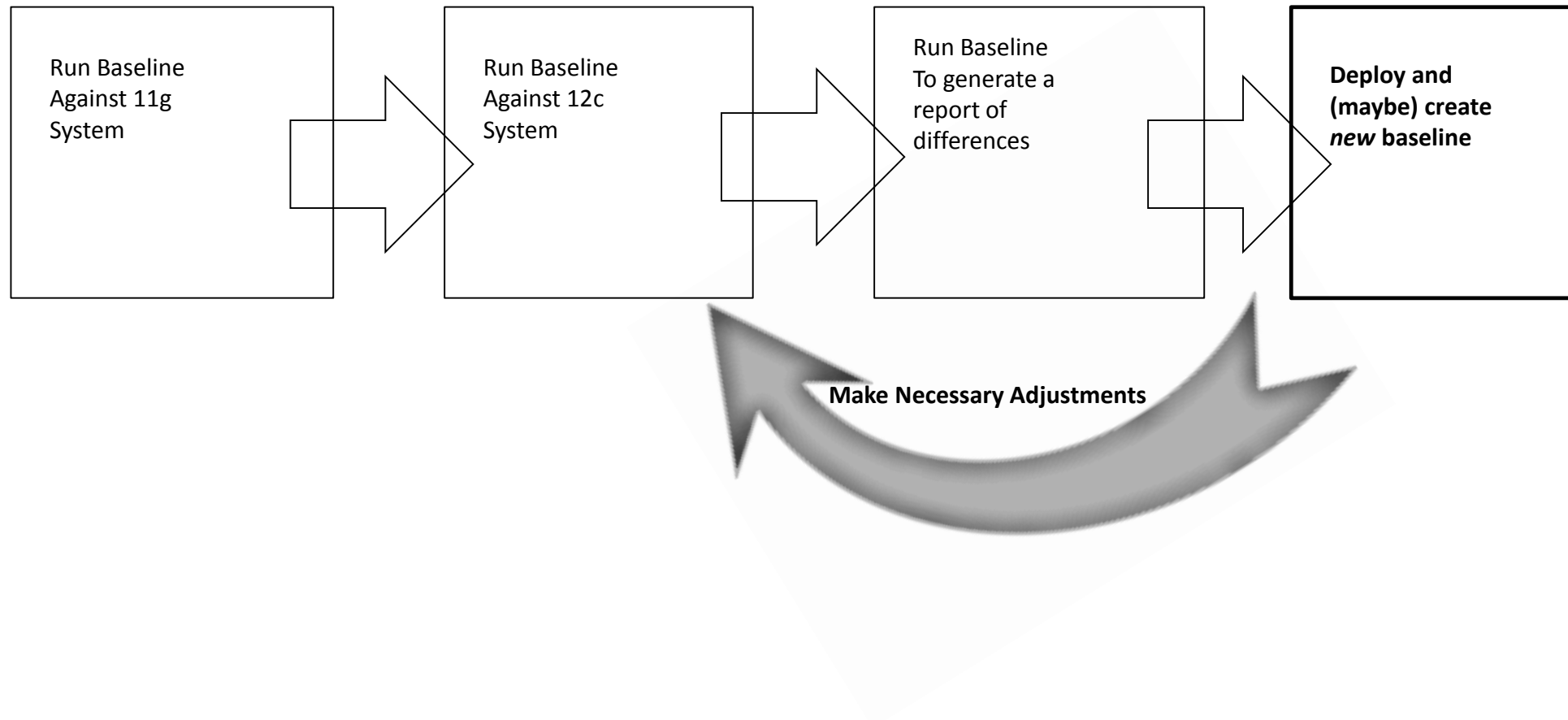


Baseline Validation Tool

- 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 Workflow (BVT)



Upgrading is like moving





General Advice

- Begin with an objective evaluation of current system
 - Move everything as is or clean up first?
 - Two competing philosophies
 - “If it’s worth doing, it’s worth doing right”
 - “The perfect is the enemy of the good”
- Hire movers or rent a van and do-it-yourself?
- We recommend a phased approach
 - Evaluation phase
 - Planning phase
 - Stand up new environment and transfer
 - Testing phase
 - Training and mentoring



Quickstart Method to Upgrade

- Upgrade with Roadmap in 2 weeks
- Evaluate issues may run into in upgrade
- Include some training up front
- Develop plan for handling any issues with reports
- Use BVT to detect differences 11g vs 12c
- See data with new Visual Analyzer front end and develop plan to capitalize in adhoc
- Develop plan for cleaning up old reports



Key Takeaways

- 11g->12c much better than 10g->11g
- Discuss problems up front – inventory of system
- Use BVT to detect differences – eases upgrades
- BVT can be used for DEV -> TEST -> PROD as well
- Can use Data Visualization (\$) for better adhoc experience and data mashup
- A little bit of help can save a lot of time



Thank You!

Title: Preparing for an Upgrade to OBIEE 12c

Session: 4728

Presenter: Dan Vlami dvlamis@vlamis.com

Date: April 11, 2016

Slides available at www.vlami.com/papers/