

Preparing for an Upgrade to OBIEE 12c

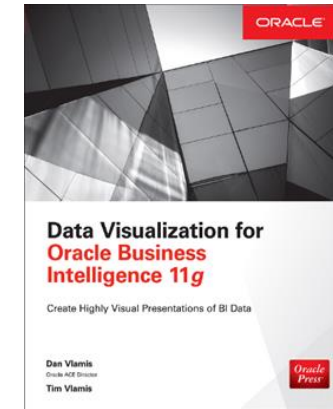
RMOUG 2016

Tim VlamiS and Dan VlamiS

February 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


ORACLE Gold Partner

Specialized
Oracle Business Intelligence
Foundation Suite 11g




Dan and Tim VlamiS

■ Dan

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

■ Tim

- 25+ years in business modeling, valuation, and scenario analysis
- Oracle ACE 
- Adjunct Professor of Business, Benedictine College
- MBA Kellogg School of Management (Northwestern University)
- BA Economics, Yale University



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



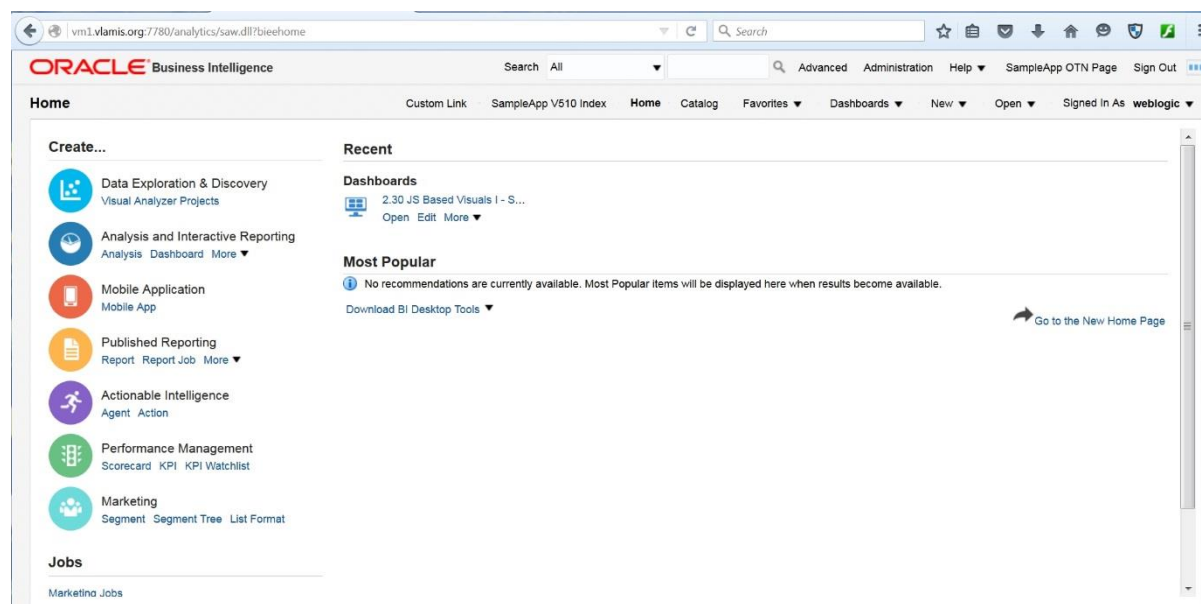
OBIEE 12c (12.2.1.0.0)

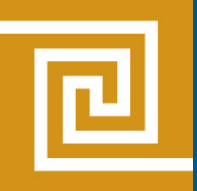
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 - Visual analyzer and Mashups empower users to explore their data
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- Additional Analytic tools integrated (e.g. R)
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 - Out of Place Migration (no 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)



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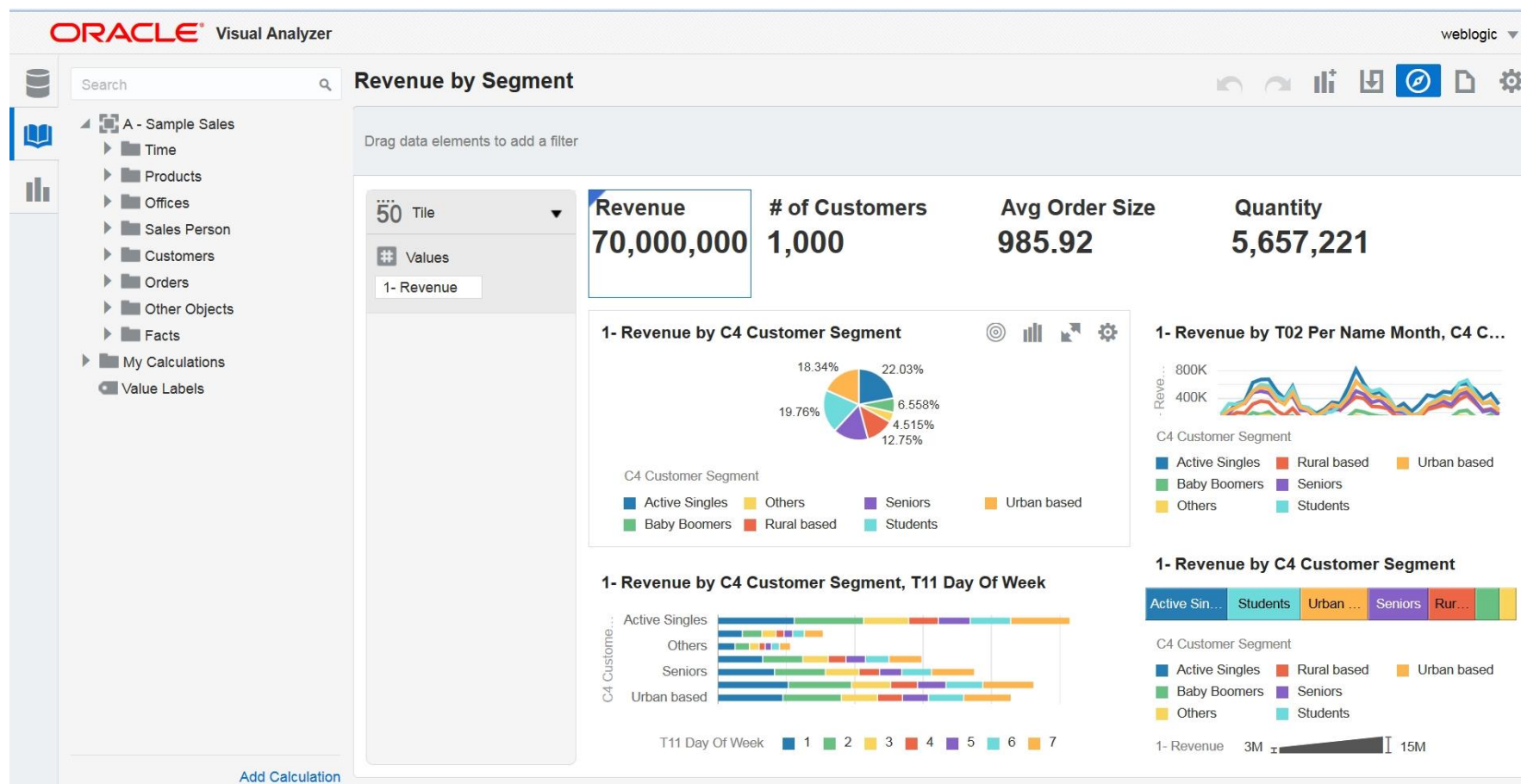






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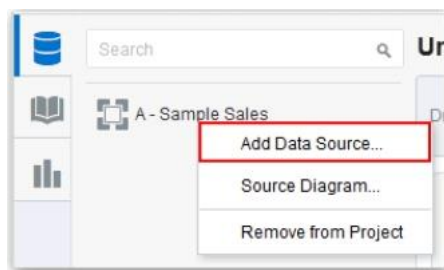




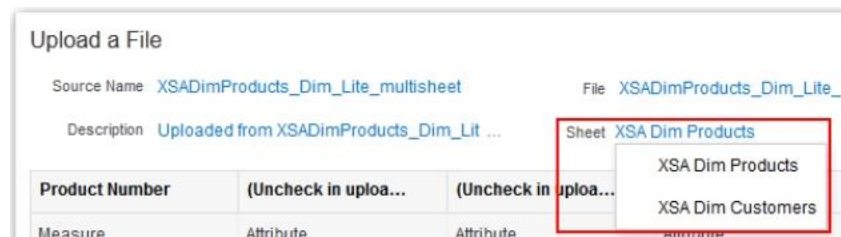
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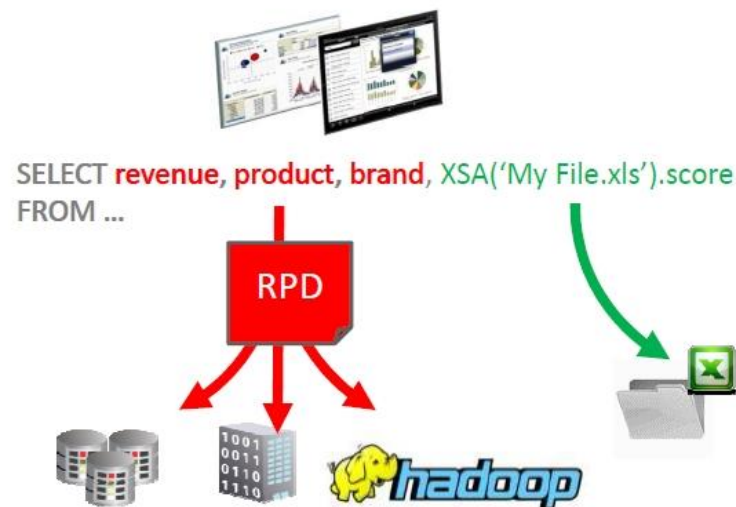
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Example: Upload a File



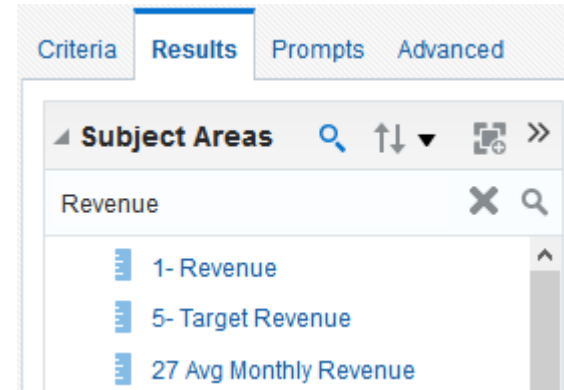
Access your data directly from an analysis w/o any RPD dependencies





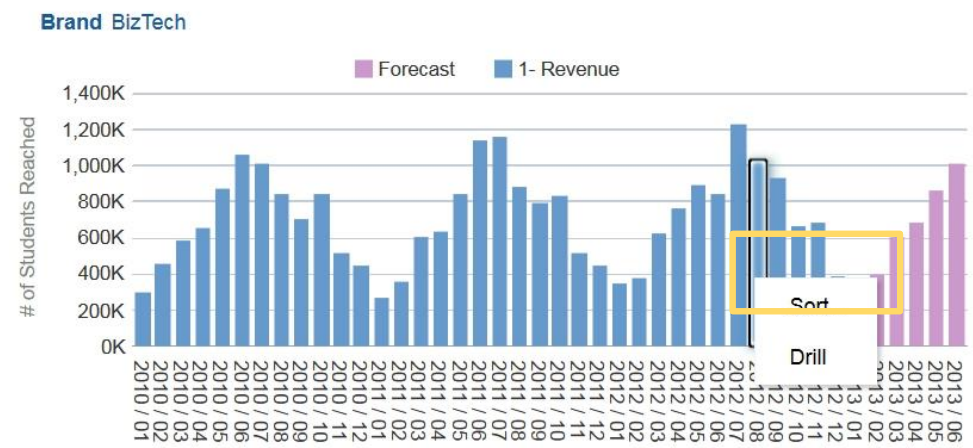
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Forecasting Revenue by Month

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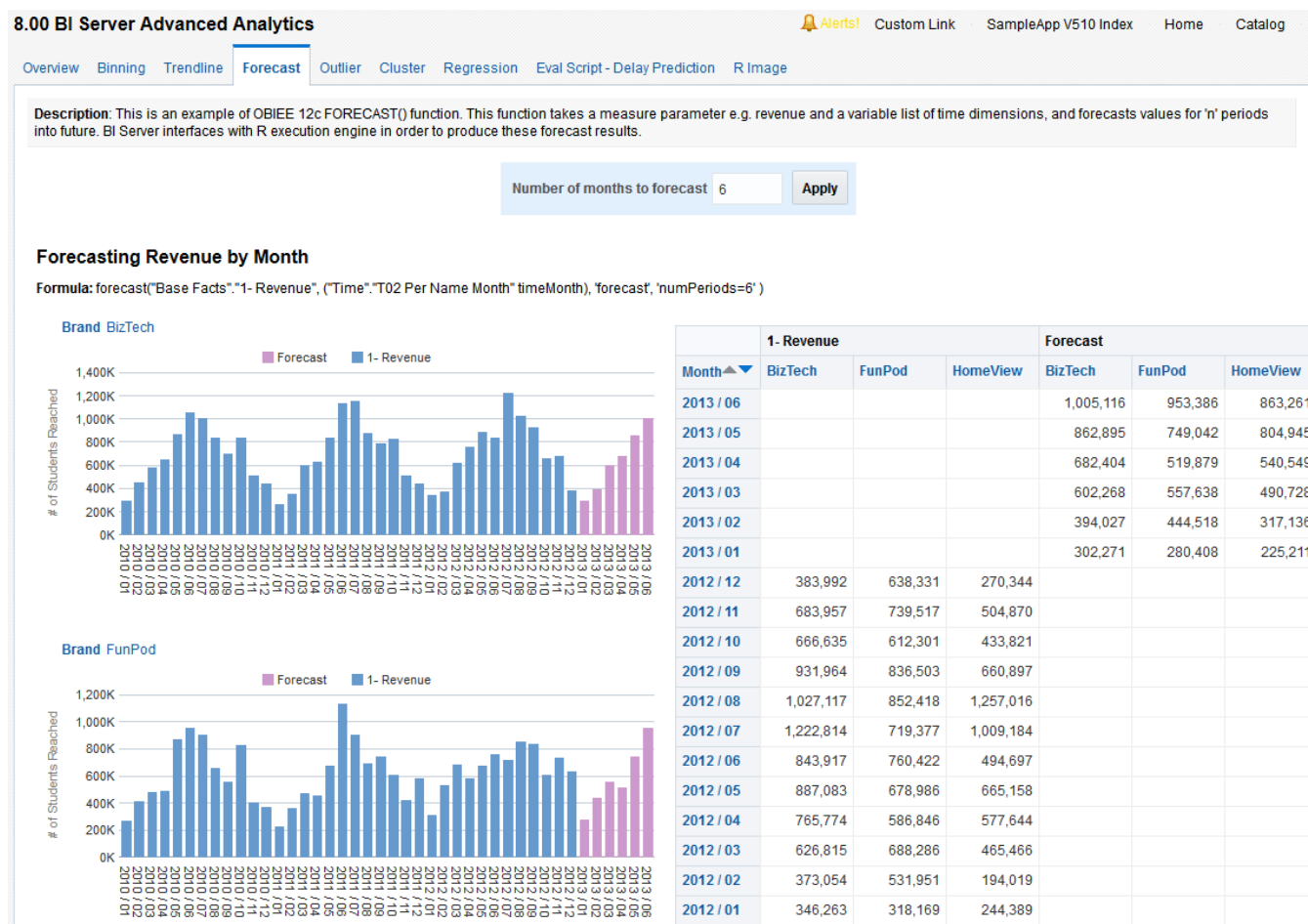
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4. rank@Met01(Base Facts.1-Reve... is less than 16	Value 123	Aa
5. rank@Met01(Base Facts.1-Reve... is less than 11	Value 123	Aa
6. rank@Met01(Base Facts.1-Reve... is less than 6	Value 123	Aa
7. rank@Met01(Base Facts.1-Reve... is equal to / is in 1	Value 123	Aa



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

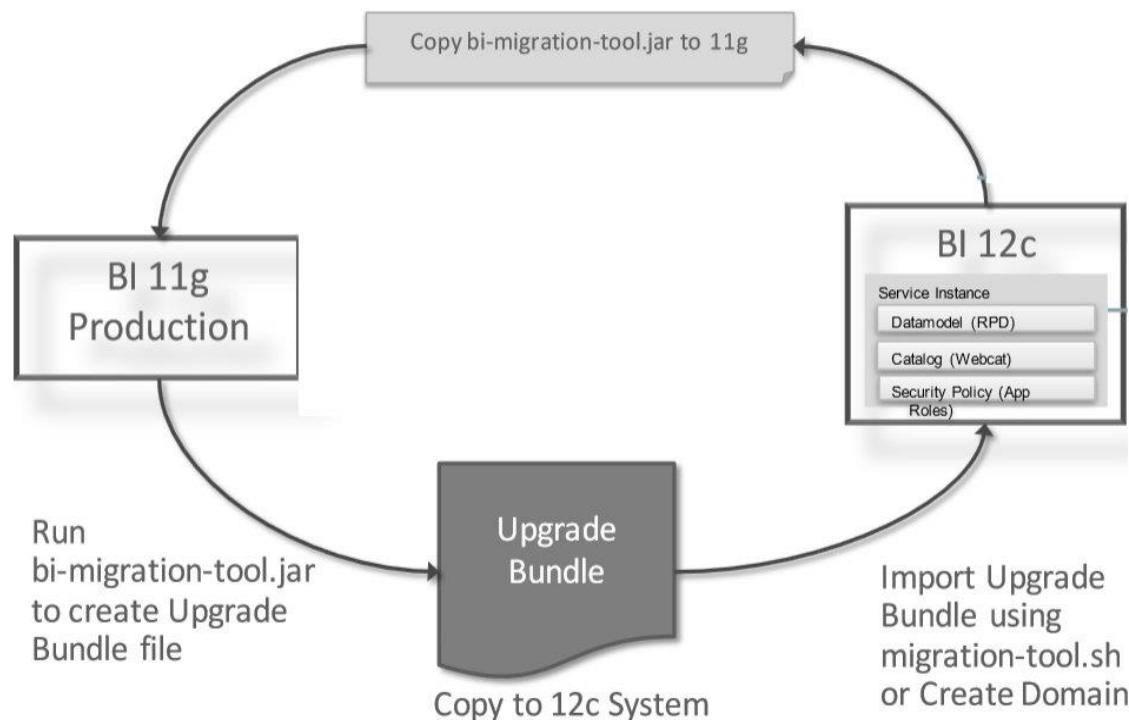


Migration Workflow (phase 1)

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

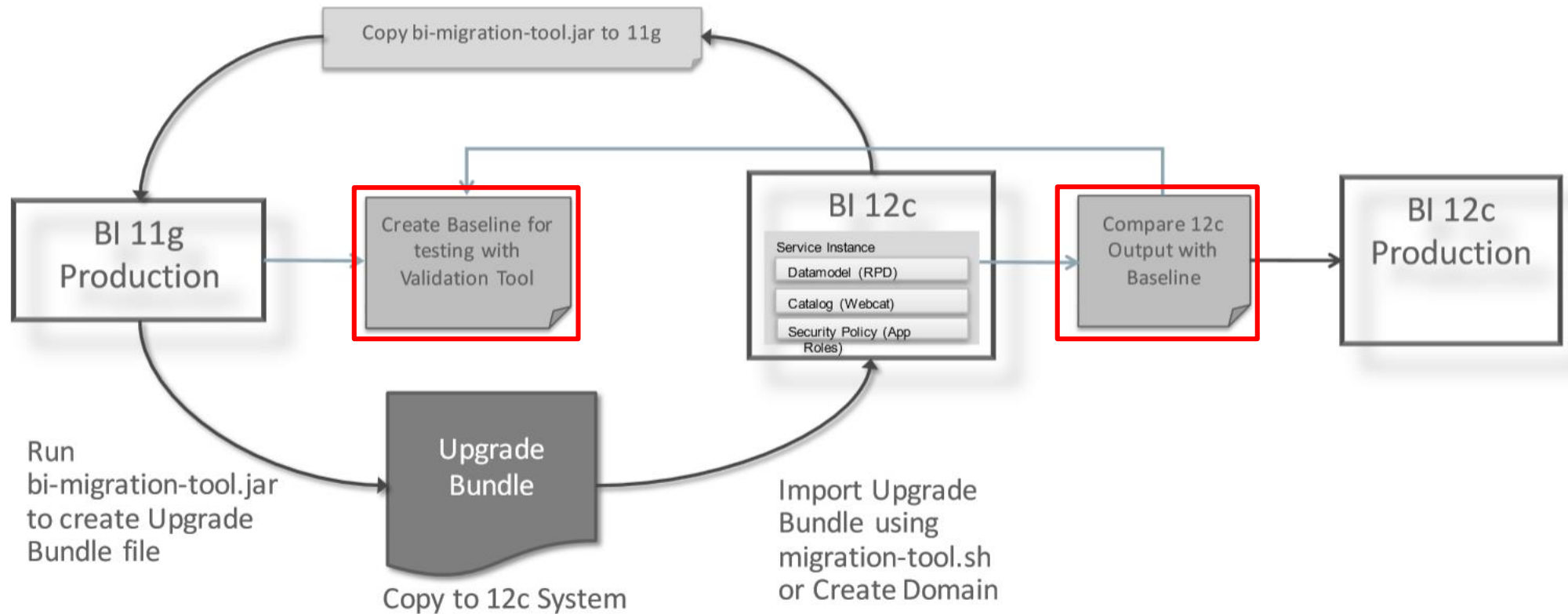


* You can use configuration tool if new domain, or use migration tool if existing domain



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

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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](#)

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[Oracle BI Enterprise Edition](#)
[Oracle BI Publisher](#)

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[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)



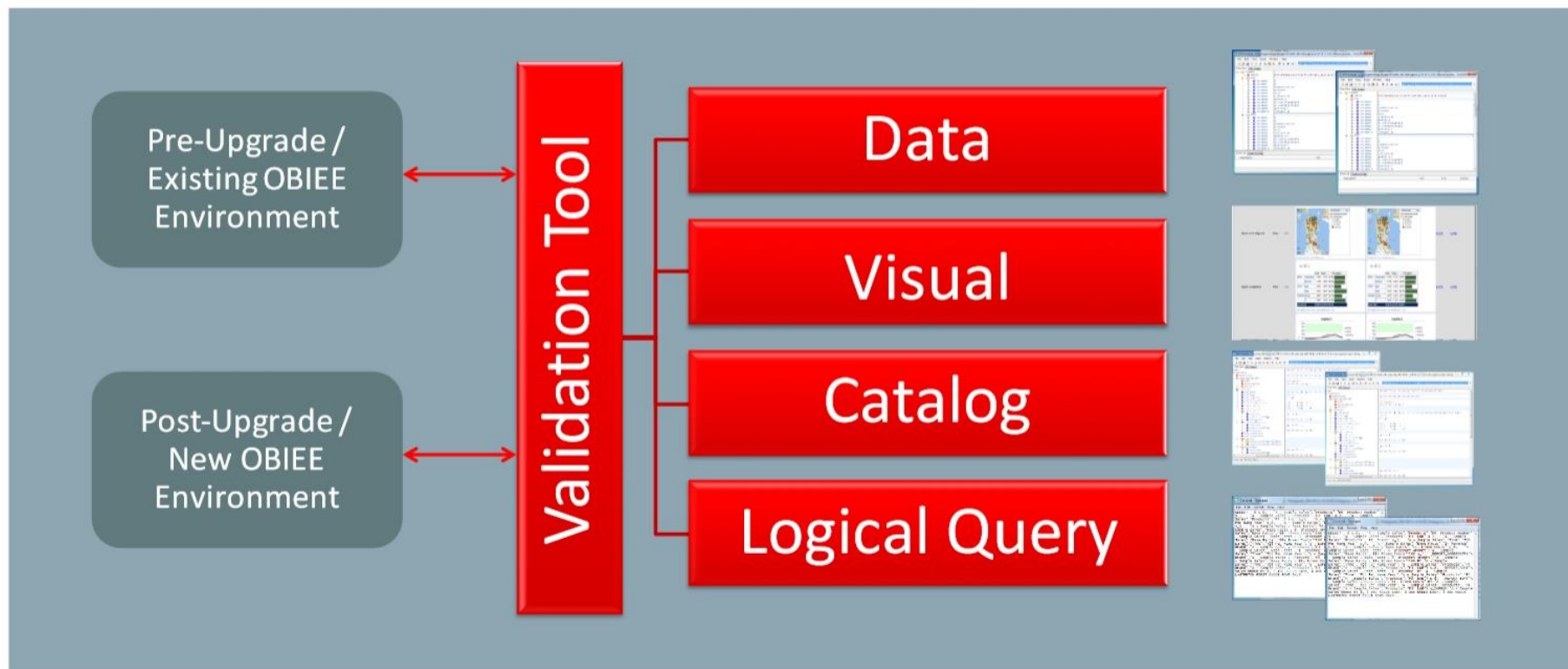
Summary of Differences

- 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

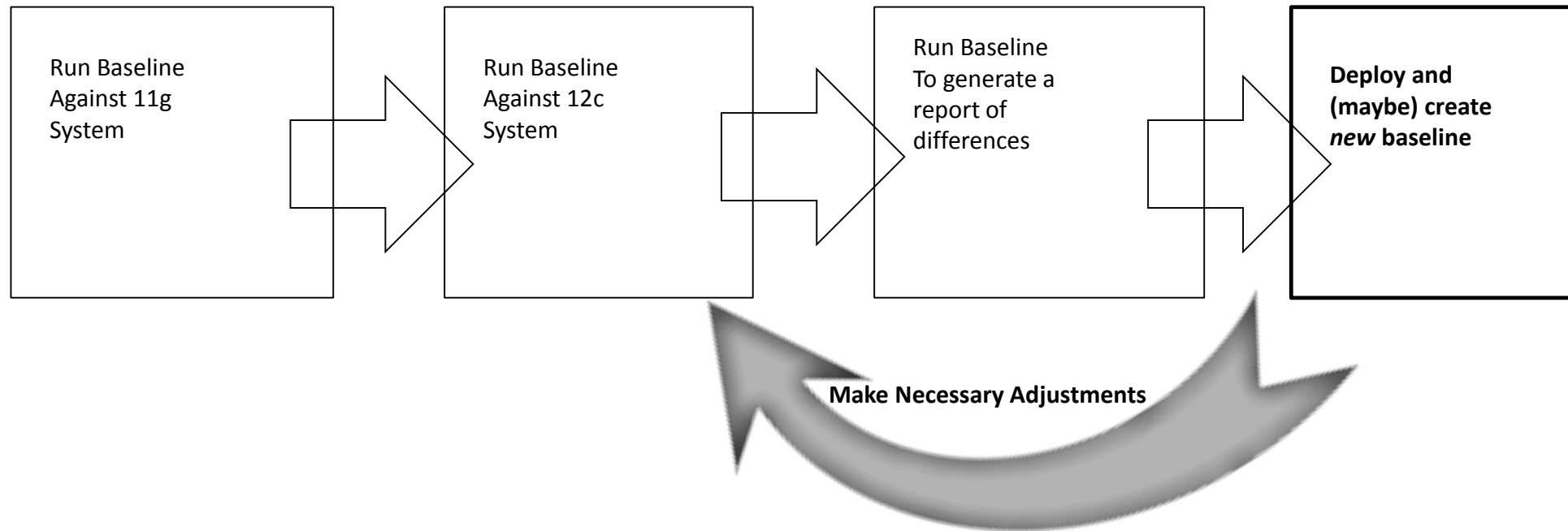


Baseline Validation Tool

- 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)





Thank You!

Title: Preparing for an Upgrade to OBIEE 12c

Presenter: Tim Vlami tvlamis@vlamis.com

Date: February 11, 2016

Slides available at www.vlami.com/papers/



END OF PRESENTATION

- SPARE PARTS BELOW
- Addl slides of Whats New



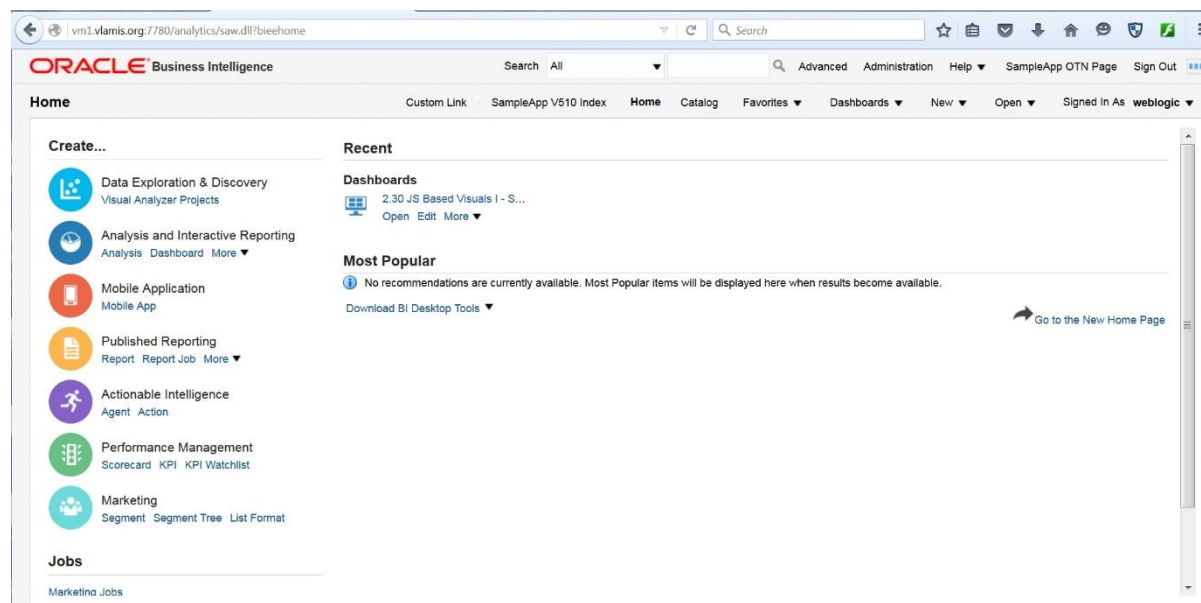
OBIEE Major Releases

- 11.1.1.3 (August 2010)
 - Huge release with major new functionality
- 11.1.1.5 (May 2011)
 - BIWA TechCast May 25: [Oracle BI 11.1.1.5 Released - Changes and New Features](#)
 - Platform for BI Apps 7.9.6.3 to migrate to OBIEE 11g
 - Introduction of BI Mobile (iPad only)
 - OLAP integration
 - 64-bit Admin Tool, separate install
- 11.1.1.6 (February 2012)
 - BIWA TechCast Feb 29: [Oracle BI 11.1.1.6 New Features](#)
 - Platform for Exalytics (announced Oct 2011)
 - TimesTen integration
 - New features mostly for Exalytics
- 11.1.1.6.2 and 11.1.1.6.2 BP1 (May 2012 and June 2012)
 - BIWA TechCast Aug 1: [Oracle BI 11.1.1.6.2 BP1 New Features](#)
 - BI Mobile rewrite
 - Trellis Views
- 11.1.1.7 (April 2013)
 - BIWA TechCast Apr 5 [Oracle BI 11.1.1.7 New Features](#)
 - Freeze headers/scroll bars for tables and pivot tables
 - View and manipulate BI content in SmartView in Excel and enhanced export
 - New Oracle R Enterprise (ORE) integration and capabilities
- 11.1.1.9 (May 2015)
 - BIWA TechCast Jun 4, 2015 [Oracle BI 11.1.1.9 New Features IOUG BIWA SIG TechCast](#)
 - Control # decimal places on scores in OSSM
 - Search in Subject Areas pane
 - New Treemap view
 - Global variables and Save Column As choice in Criteria tab
- 12.2.1 (October 2015) **Prior release presentations at www.vlamiS.com**



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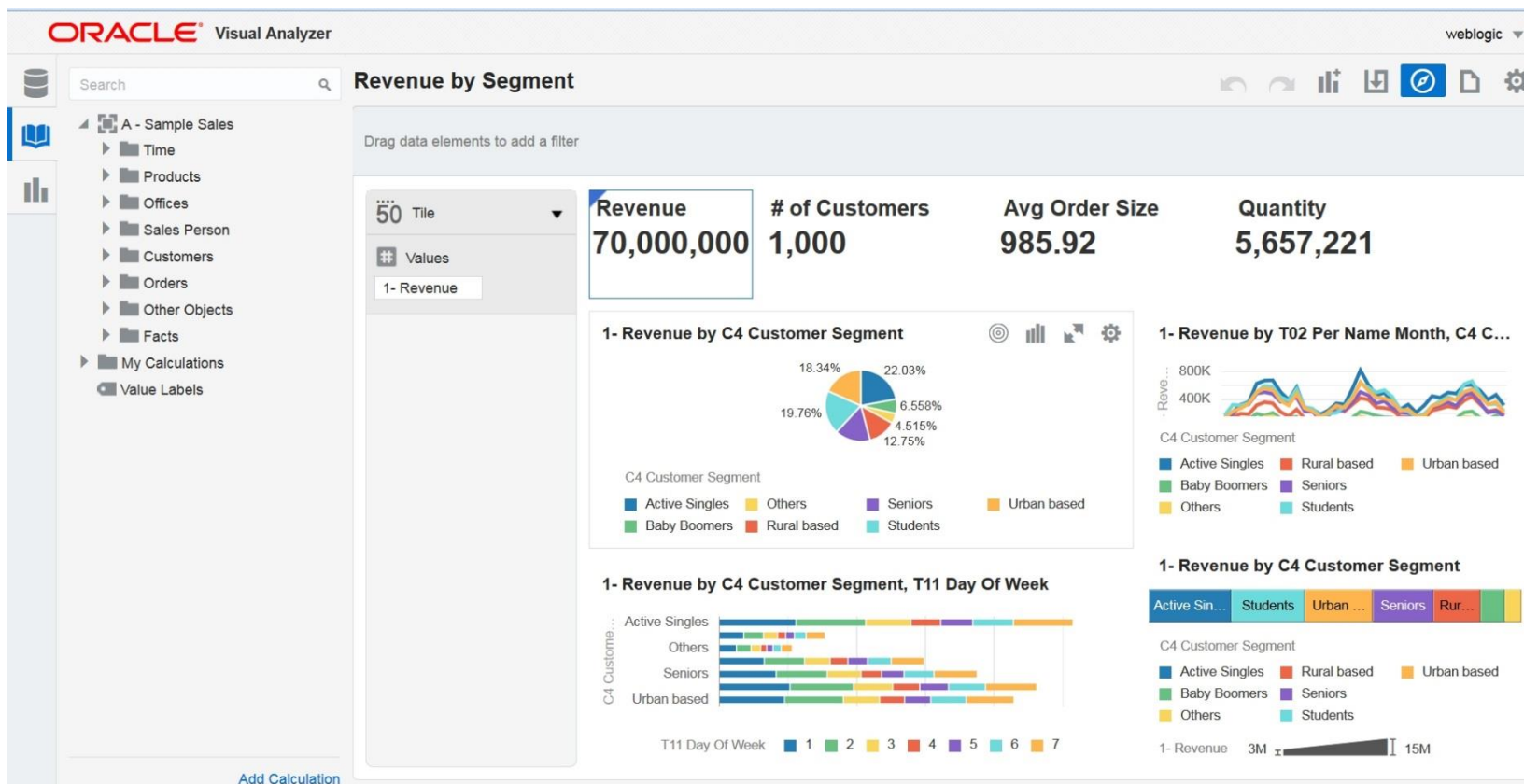
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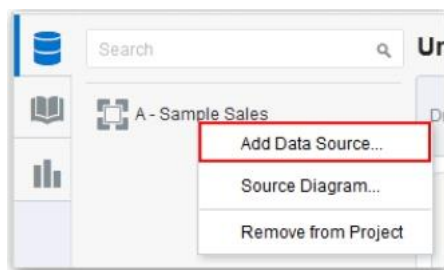




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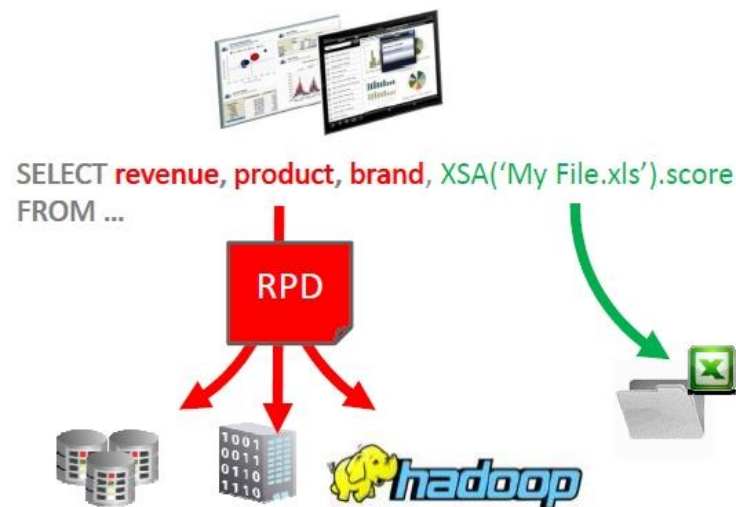
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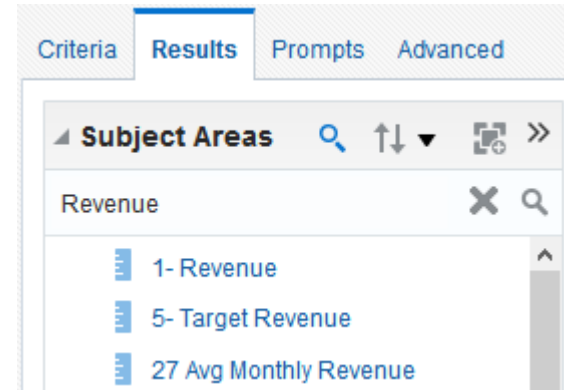
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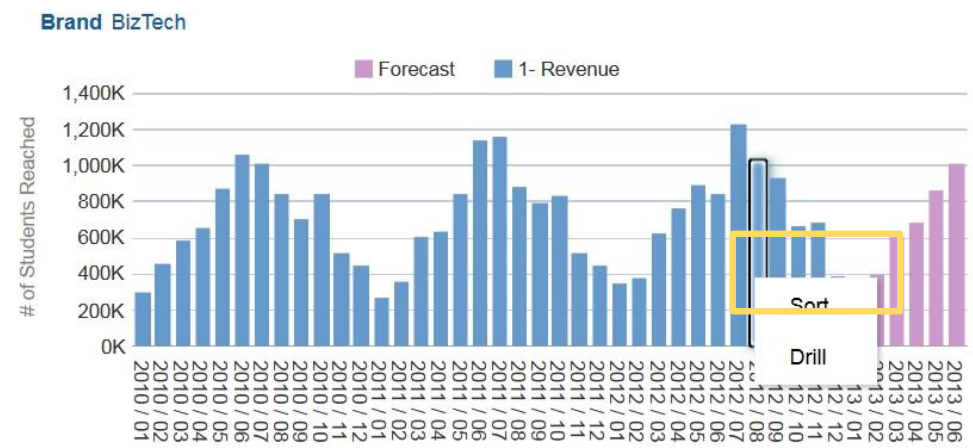
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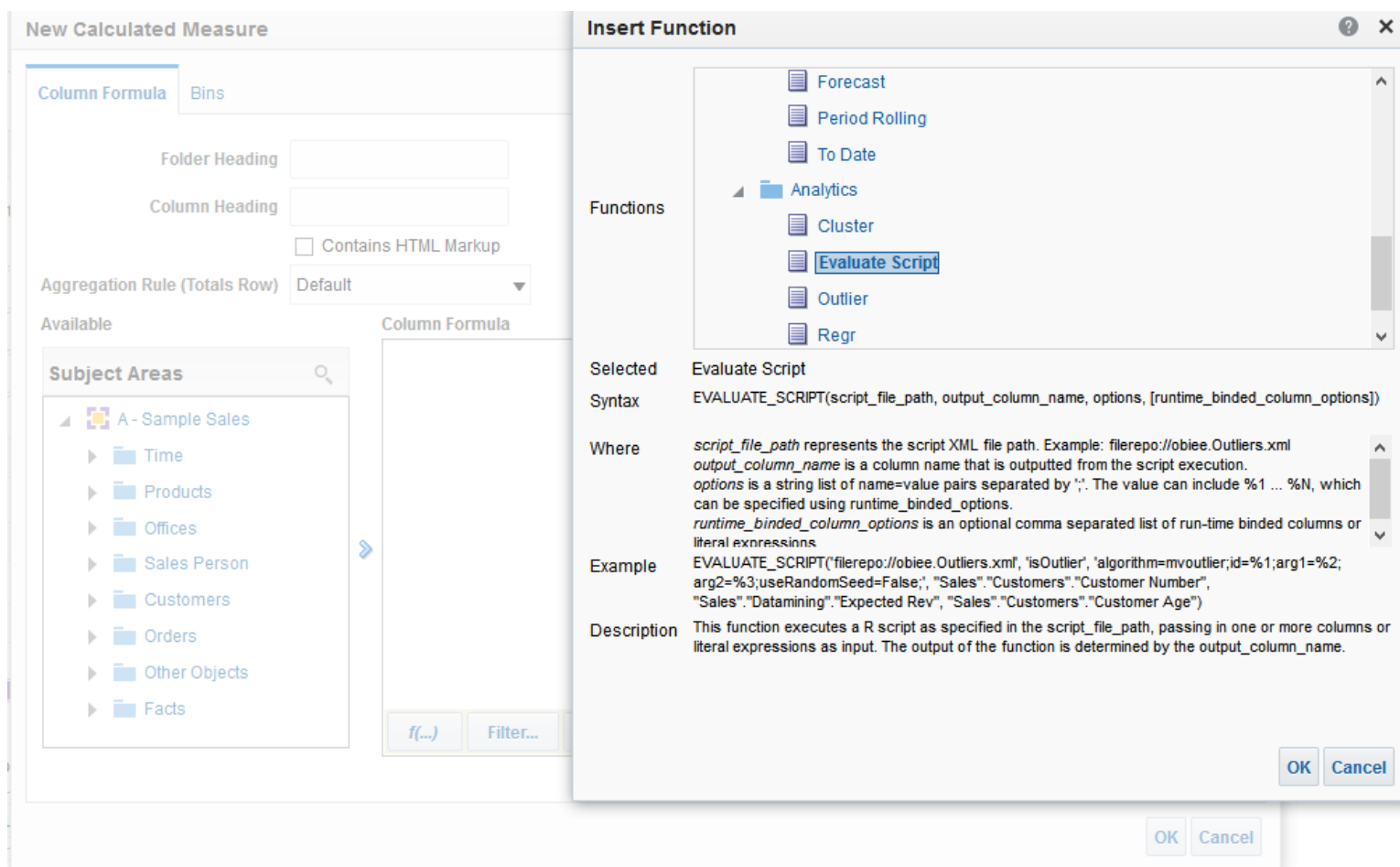
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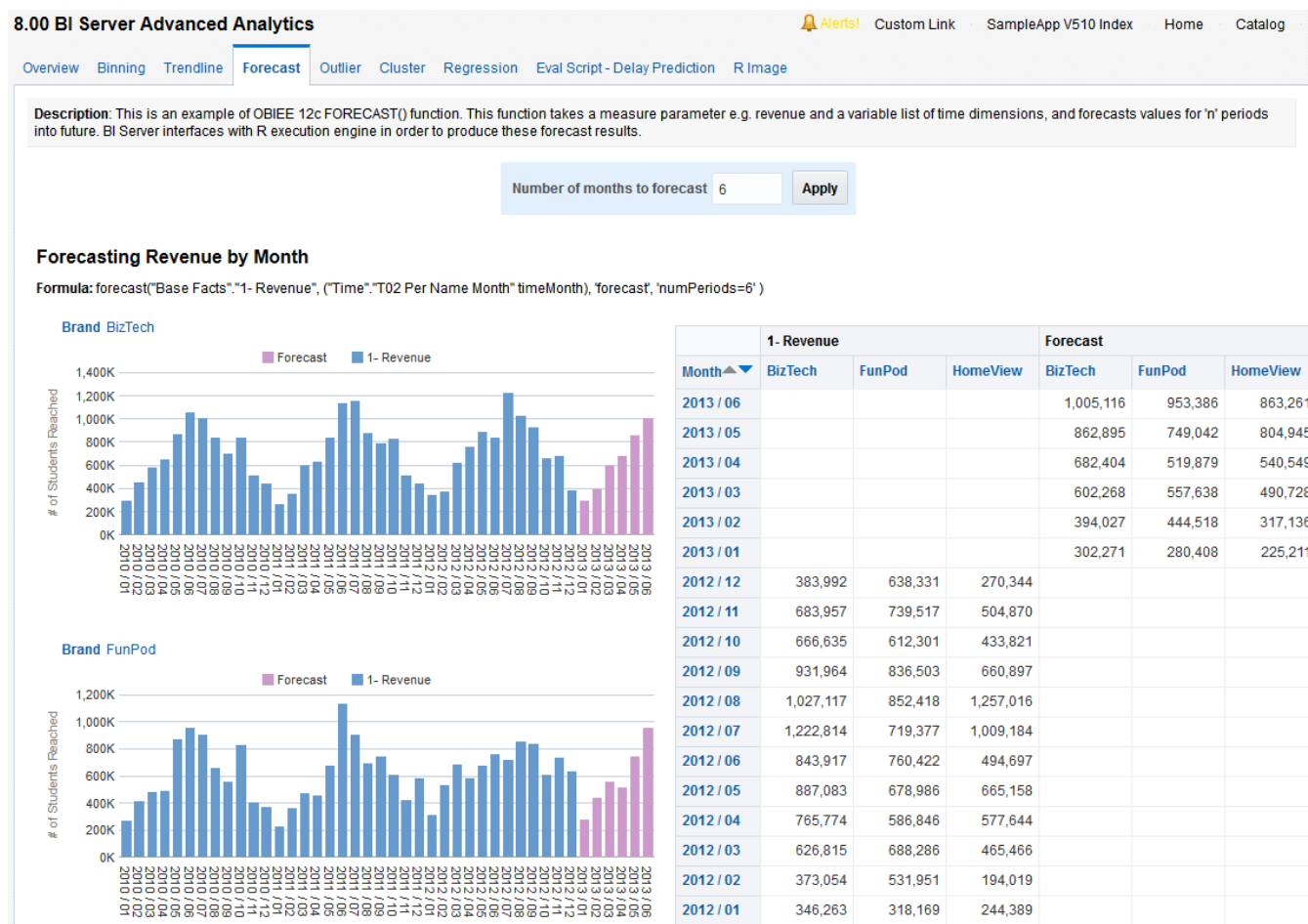
- Improved methods of creating groups, calculated items and measures





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12.2.1 Admin and Development

- Baseline Validation Tool eases migration and migration worry-free migration from 11g
- Migration: BAR files simplify application content backup and migration

- **Creating the BAR File from Current Environment:**

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



- **Importing the BAR file in Target environment:**

***importServiceInstance**(domainHome, serviceInstanceKey, barfile)*

- No More GUIDs
- No more OPMN (startup / shutdown – much cleaner)