







# R12 Applications Upgrade - Tips And Methodology To Help Deliver A Successful Upgrade

Art Dowd

Consulting Director
O2Works LLC
adowd@o2works.com
Session #7944









# Overview / Agenda

- Introductions and Audience survey
- Why upgrade?
- Upgrade types
- R12 Experience / Why it is different
- Upgrade process and planning
- Keys to Success Process Components
- Resources
- Methodology
- Other Information sources









# **R12** Upgrade Introduction

- Art Dowd, Consulting Director, O2Works
  - Former VP of IT for Hospitality Company
  - Extensive business background
  - Implemented / Upgraded Oracle eBus Suite
  - 12 years with Oracle Applications
  - Experience with Oracle Consulting and two well regarded Oracle Applications consulting firms









# **Audience survey**

#### Role

- Technical
- DBA
- Technical
- Developer
- Project Manager
- Business Process Owner
- Super user
- End user

#### **Apps Release level**

- -10.7
- -11.0.3
- $-11.5.1 \longrightarrow 11.5.7$
- -11.5.8 or 11.5.9
- -11.5.10
- -12.0
- -12.1









# Upgrade vs. re-implement

- Back in the dark ages (pre 11i) there were technical concerns about upgrading (tech. stack and apps.) and people opted to re-implement
- Due to the significant changes to the apps in going to R12 the question is surfacing again
- Recommendation = upgrade... unless there is a significant reason causing you to have to re-implement
  - Upgrade process, technology, tools, and scripts are significant improved
  - Re-implementation = much more extensive project
  - Data conversion / testing will be an issue









# Re-implementation considerations

You might need to re-implement if:

- You have changed your basic business / organization structure and your application configuration does not still fit your business
- You have tons of customizations that you would like to retire in order to use current features and functionalities and streamline your operations
- Your original implementation was really screwed up and it is basically unusable
- You have tons of really, really bad data









# Why Upgrade?

- Per Oracle, when there is compelling business reason to do so
  - New features and functionality to assist business
  - Change in business direction; keep IT aligned
  - Replace customizations and bolt-ons with standard features
- Take advantage of Tech. stack improvements
- Obtain better support when patched current
- Be "Fusion ready"
- Stay "in" support





# **Oracle Application support**

Release	GA Date	Premier Support Ends	Extended Support Ends	Sustaining Support Ends
11.0.3	May 1999	Feb 2007	Not Offered	Jan 2009
11.5.1 – 11.5.6		Jul 2006	Not Offered	Indefinite
11.5.7	May 2002	May 2007	Not Offered	Indefinite
11.5.8	Nov 2002	Nov 2007	Not Offered	Indefinite
11.5.9	Jun 2003	Jun 2008	Not Offered	Indefinite
11.5.10	Nov, 2004	Nov, 2010*	Nov, 2013	Indefinite
12	Jan, 2007	Jan, 2012	Jan, 2015	Indefinite
12.1	May, 2009	May, 2014	May, 2017	Indefinite

The previous numbering schema of 11i1, 11i2, etc. has been changed to 11.5.1, 11.5.2, etc. Oracle E-Business Suite Releases 11.5.10 and 12 will each have a direct path to the applications built on Oracle Fusion Middleware. For the third year of Sustaining Support for Oracle e-Business Suite 11.5.9 (July 1, 2010 – June 30, 2011), Oracle will continue to provide fixes for Severity 1 production bugs. No legislative updates will be provided, including U.S. Tax Form 1099 updates for the 2010 tax year.

Extended Support for Release 11.5.10 requires the minimum baseline patches defined in My Oracle Support <u>Document 883202.1</u>. Customers running Oracle Fusion Middleware 10gR2 and 10gR3 in the Oracle E-Business Suite version 12 internal technology stack will remain supported for the duration of the support period for Oracle E-Business Suite 12. For more-detailed information on EBS 12 and 12.1 bug fixing, please refer to the "<u>EBS Error Correction Support Policy</u>" on MyOracle Support.







# **Oracle Application support**

Release GA Date Support Ends Support Ends Support Ends

Extended Support for Release 11i10 requires the minimum baseline patches defined in **My Oracle Support Document 883202.1** 

In September 2010, Oracle released a patch to enhance the patch wizard's capability to analyze and identify which patches are necessary for customers to meet the required baseline level. The patch number is: 9803629. It was updated on 11/30/10. For more information on Patch Wizard Utility refer to ID: 976188.1.

11.5.10	Nov, 2004	Nov, 2010*	Nov, 2013	Indefinite
R 12	Jan, 2007	Jan, 2012	Jan, 2015	Indefinite
R12.1	May, 2009	May, 2014	May, 2017	Indefinite

The previous numbering schema of 11i1, 11i2, etc. has been changed to 11.5.1, 11.5.2, etc. Oracle E-Business Suite Releases 11.5.10 and 12 will each have a direct path to the applications built on Oracle Fusion Middleware. For the third year of Sustaining Support for Oracle e-Business Suite 11.5.9 (July 1, 2010 – June 30, 2011), Oracle will continue to provide fixes for Severity 1 production bugs. No legislative updates will be provided, including U.S. Tax Form 1099 updates for the 2010 tax year.

Extended Support for Release 11.5.10 requires the minimum baseline patches defined in My Oracle Support <u>Document 883202.1</u>. Customers running Oracle Fusion Middleware 10gR2 and 10gR3 in the Oracle E-Business Suite version 12 internal technology stack will remain supported for the duration of the support period for Oracle E-Business Suite 12. For more-detailed information on EBS 12 and 12.1 bug fixing, please refer to the "<u>EBS Error Correction Support Policy</u>" on MyOracle Support.









# **Application support**

**Premier Support** – covers five years from the general availability date

- Provides maintenance and support of your Oracle Database, Oracle Fusion Middleware, and Oracle Applications covering:
  - Major product and technology releases
  - Technical support
  - Updates, fixes, security alerts, data fixes, and critical patch updates
  - Tax, legal, and regulatory updates
  - Upgrade scripts
  - Certification with most new third-party products/versions
  - Certification with most new Oracle products

**Extended Support** - an extra three years of support for specific Oracle releases for an additional fee.

**Sustaining Support** – With sustaining Support, you receive technical support, including access to online support tools, knowledge bases, and technical support experts. (My Oracle Support web site and phone support)









# **Support Information**

Oracle Lifetime Support Policy

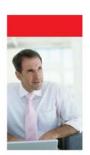
**Oracle Applications** 

Go to: www.Oracle.com

**Query:** "lifetime support applications"

ORACLE INFORMATION-DRIVEN SUPPORT

Oracle Lifetime Support Policy
Oracle Applications



ORACLE'









# **Upgrade Types**

#### Technical upgrade only

- Focus on the tech stack / less expensive option
- Led by DBA / Tech team with little functional support
- Functional impact = testing and possibly training
- Common with dot release upgrades (i.e. 11.5.9 to 11.5.10)

Management / Executive Sponsor							
Project Manager							
DBA / Sys. Admin	s. Technical Developer / Super Users						
B/A Fin	B/A SC & Other	Business Process Owners	Trainer				
Help Desk / Network Support							
End Users / Testers							

Success = NO CHANGE on go-live Monday









# **Upgrade Types**

#### Full Business-Aligned Upgrade

- Aligned with Business objectives / ROI expectation
- Inclusive, wide-ranging project across IT and Business
- Requires more Executive Sponsorship
- Change Management Project; not just technical

Management / Executive Sponsor						
	Project Manager					
DBA / Sys. Admin	Technical Developer / Lead Analyst Super Us					
B/A Fin	B/A SC & Other	Business Process Owners	Trainer			
Help Desk / Network Support						
End Users / Testers						

Application changes must be addressed; there is no option





#### Why R12 is not your standard upgrade

- User Interface overhaul will <u>change</u> the look and feel of the applications <u>for everyone</u>
- Certain modules had significant modifications and enhancements to features and functionality
  - General Ledger
  - Accounts Payable / Payables
  - Accounts Receivable
  - Procurement services
  - ... generally the modules with the most users
- Reporting tools have been impacted











#### **R12 Lessons learned**

#### • Finance / GL

- Sub ledger Accounting (SLA) for Operating Unit flexibility
- E-Business tax setups for each financial module have been removed and are now centralized.
- Multi-Org Access Control (MOAC) Provides role based access to Operating Units. Can be confusing & dangerous to set up due to access to multiple operating units
- Check out the critical reports early Trial balances, sub ledger accounting, etc. are different with the XML /PDF output. Many reports no longer exist. New setups are needed in Sub Ledger Accounting (Open balance definitions) and some new templates.









## **R12 Lessons learned**

#### Accounts Payable

- Invoice workbench and Invoice Processing. New look and feel for the workbench.
- iPayment functionality now included and affects vendor consolidation for AP, CE, & Advanced AR
- iSupplier portal integration had been rough when product was first released. Has been cleaned up, but test thoroughly.
- Significant patching requirements early in release
- Information expansion (TCA arch.) led to long upgrade steps and blown table extensions





#### **R12 Lessons learned**

#### Web ADI

- Lost functionality/issues: Desk Top ADI > WEB ADI
- When moving from Desktop ADI to Web ADI, you lose the ability to create financial statements in ADI

#### Oracle Business Intelligence Enterprise Edition

- Confirm OBIEE environment technical requirements for Web Server, Portal, Oracle Internet Directory (OID), Operating System
- Confirm OBIEE hardware requirements. Requires single installation on a high-performance server

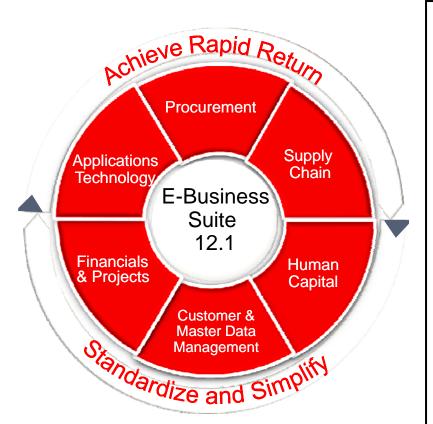








# Functionality to consider...R12.1



- Released May, 2009
- Significant functionality improvements to SC, PO, and HCM
- Good info in MOS:
  - 806593.1 **R12.1 Info Center**
  - 398877.1 R12.1 Live Advisor
     Webcasts
  - 804373.1 R12.1 Value
     Proposition documents









# **Upgrade Type**

#### Technical upgrade only

- Focus on the tech stack / less expensive option
- Led by DBA / Tech team with little functional support
- Functional impact = testing and possibly training
- Common with dot release upgrades (i.e. 11.5.9 to 11.5.10)

Management / Executive Sponsor							
Project Manager							
DBA / Sys. Admin							
B/A Fin	B/A SC & Other	Business Process Owners	Trainer				
Help Desk / Network Support							
End Users / Testers							

Success = NO CHANGE on go-live Monday

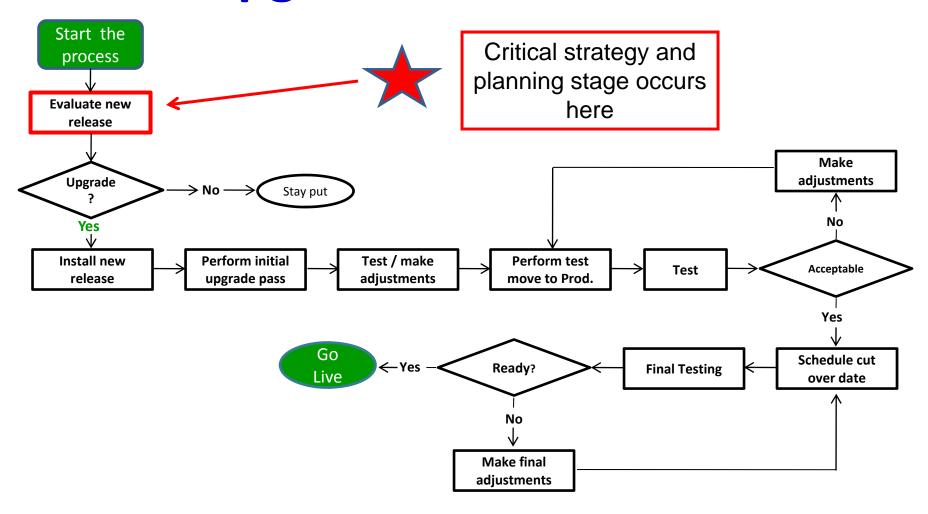








# **Upgrade Process Flow**









# **Upgrade Planning**

Planning process needs to be comprehensive and inclusive of Business alignment and technical aspects

- Areas to evaluate include:
  - Upgrade extent
  - Business alignment
  - Hardware / platform / network capacity
  - Human resource availability who and when
  - Training capacity and tools
  - Application support
  - Testing strategy and experience
  - Oracle product strategy
  - Project planning & management capacity

#### **Oracle Applications Upgrade Workshop**



Putting Oracle to Work

#### Key Facts—O2 Works: 100% reference-able client

- Strict Oracle E-Bus focus
   Consultants average more than 11 yrs. experience on
- Oracle products

   Wide ranging customer base of more than 130
- Heavily involved in Oracle Application User Groups and Oracle Communities

ORACLE PARTNER



#### Services Offered:

- ☐ Upgrades☐ New Implementations (full and modules)
- ☐ Remote Support (DBA / Sys. Admin. & Functional) ☐ Application optimization
- ☐ Training
  ☐ Client Advocate support
  ☐ Testing services

#### 02 Works LLC

703 McKinney, Suite 304 Dallas, TX 75202 Phone: 972-466-2660 e-mail: info@o2works.com www.o2works.com

Dallas Chicago Denver

If your Organization runs the Oracle E-Business Suite, you have an upgrade in your future.

Upgrades can be intimidating, time-consuming, and challenging. Per Oracle Corporation, customers should upgrade when there is a business reason to do so. In today's IT environment, it is critical that there is a return on your upgrade investment. To do that successfully, upgrades should be approached with the same level of planning, strategy, and execution as the original implementation.

O2 Works LLC, with decades of hands-on experience, is offering a concise, packaged assessment designed to identify all of the technical and functional issues that need to be considered as part of any Oracle EBS upgrade effort.

#### Areas to be explored include:

- Upgrade extent:
- Technical and functional upgrade efforts
- Upgrade vs. re-implementation
- · Business alignment
- New features / functionality of potential new modules
   Customization & extension assessment / evaluation
- Top ten needs list
- Top ten needs its
   Capacity planning:
- Hardware and network scale-ability
- Downtime requirements
- Database instance strategy
   Resource expectations
- Training and application support
- Review current learning tools
- Assess existing support effectiveness
- Evaluate on-going training needs
- Other considerations:
- Patching status
- De-support timeframes
   Testing capacity, strategy
- Oracle product strategy / direction considerations
- Project planning capacity
- Who needs to be on the team and when

Description of Service: Depending upon the size of your application footprint, O2 Works will deploy a team consisting of a technical lead and 1—2 functional resources to perform the assessment. It is expected that the evaluation will be completed within 1 week's time and results presentation/ report will be completed in the following week.

Deliverables: Engagement deliverables for the upgrade assessment include

- ☑ Technical Assessment of current environment
- Strategic upgrade briefing meeting / presentation for key personnel and end-users covering:
- Proven upgrade strategy for customizations and extensions
- · Third party tool recommendations
- Best practice recommendations for testing and training
- Project planning assistance for technical and functional teams
   Final report detailing pre and post-upgrade recommendations









# How to Ensure Success - Build a Repeatable Process

- **Secure** Active Executive sponsorship and support
- Communicate Transparent reporting on Progress
- Gather Proper Materials
- Recruit The Right Team Members
- Organize Create and Update Critical documents
- Analyze and Plan Use Iterative Method (3 rounds)
- Execute -A Serious and Dedicated Testing Process
- Experience Have a leader, bring back the vets

Tip - Archive work from previous iterations









# **Secure Executive Sponsorship**

- Who is the 800 lb. Gorilla?
  - High visibility buy-in
  - Support active is better
  - When you really have to have a decision...
  - Helps control scope creep
- Does the project have legs?
  - Is it aligned to the current business objectives
  - Strategic
  - Return On Investment









#### **Communication**

- Have a comprehensive plan
  - Understand the frequency
  - By what method / means
- Know your audience
  - What are they interested in
  - Share relevant knowledge
- Set the tone
  - Be transparent
  - Positive
  - Recognize the value
  - Focus on what upgrade will provide to business









## **Gather Proper Materials**

#### From My Oracle Support:

- Release Content Documents for releases between where you are and where you want to be
- Latest *Implementation* guides for each module in production or moving to production
- Latest *User* guides for each module
- Secure Passwords and Access for whole team
- New release information:
  - E-Business Suite R12.0 Information Center [ID 401740.1]
  - E-Business Suite Upgrade Guide [ID 461705.1]
  - Advisor Webcasts: New R12 Fin. Prod. Features [ID 744894.1]
  - E-Business Suite Release 12.1 Information Center [ID 806593.1]
  - Advisor Webcasts: E-Business Suite Release 12.1 [ID 398877.1]









## **Proper Materials (cont.)**

- List of Customizations and Extensions
  - Include all reports, forms, views, extracts, triggers, etc
  - List of custom reports (in all forms)
  - Interfaces
  - Workflow/Account Generator Definitions
  - Oracle supported extensions
  - Anything that touches Oracle that didn't come shipped from Oracle Corporation
  - Disconnected Spreadsheet (for OIE)
- Detailed design documents for all of above
- Be prepared for some "unknown" customizations





## **Custom code change quagmire**

- Oracle's R12 Upgrade: Most code upgraded seamlessly, but...
- Custom Code Requiring Changes during :
  - Forms: ~10% of forms and libraries needed touching
  - Reports: ~1% of reports needed touching
  - C code: ~20% of C code needed touching
  - Java code: ~1% of overall Java code needed touching
  - JSP's: ~50% of JSP's needed touching
  - AutoConfig Configuration Customizations
  - Development Tools: compilers, Forms/Reports Builder 10.1.2,
     JDev10.1.3

Source: Ray Lin - Customer Service Support Manager: Oracle E-Business Suite Release 12 Upgrade









## **Proper Materials – Tools**

- Library of Test Cases
  - Detailed test scripts
  - Include and use cases from past 11i Implementation or upgrades
  - Be prepared to add some test cases for new features or functionality
  - Modify test cases to reflect new or changed functionality
  - Make sure your test cases have specifics about test data and expected results
  - Check them back in to the library for next time









## **Proper Materials - Hardware**

- Hardware, Software, and Network
  - Space for Test, Dev, Training Environments
  - Cloning skills
  - Scale-able instance strategy
  - Adequate high speed storage / recovery capabilities
  - Shared Project Folder or Space
  - Ability for Oracle Support Access if Necessary (ODC or Net meeting)
  - Adequate network bandwidth / throughput
  - Remote access via secure VPN



## **Proper Materials – Hardware (cont.)**

#### **Definition of Current State of Production**

- All components of the tech stack
  - Browser Version
  - Database
  - App server
  - Discoverer
  - Self Service Framework
  - Approvals Manager
  - Desktop OS
  - Version of ADI
  - Version on tools
- Pay attention to certification for all tech stack elements
  - http://blogs.oracle.com/stevenChan/certifications.html
  - "Certifications" tab on My Oracle Support









## **Recruit Extended Team - Responsibilities**

Management / Executive Sponsor						
	Project Manager					
Technical Lead	Business Analyst Fin. Apps	Trainer				
DBA / Sys. Admin	Developer / Analyst	Business Process Owners	Super Users			
Help Desk / Network Support						
End Users / Testers						









#### **Two Critical Documents**

Master Checklist — Build a Master list for the upgrade and list every step.

TIP: Download Maintenance Wizard to a spreadsheet.

Capture timings for pre, during, and post patching. LIST and Assign EVERYTHING.

Master Impact List — Complete full listing of all potential changes that should require investigation or retesting

- Drives new features use and all testing
- Applies to standard Oracle features and Customercreated impacts









# **Example of Master Impact List**

	Master Impact Analysis - Upgrade to 11.5.10 Initial version						
Item	Module /Impact Description	Classification	Status	Assigned	Pack?	Ranking	Notes
				(Who)		(H,M,L)	
PO							
	Custom Pricing APIs	Optional	Open		11.5.10		Custom pricing date api; Custom requisition pricing api; Custom PO/Release pricing api;
	Purchasing Documents Open Interface Enhancements	Optional	Open		11.5.10		Add new lines and associated shipments to an existing standard PO in Approved or Incomplete status and then initiate the approval process.
	Autocreate and PO Entry Usability	Mandatory	Open		11.5.10		Increased size of autocreate window to display more requisition lines; Increased size of Enter PO window to display more order lines; Reduced pop up messages; Provided "Reassign Buyer" option in the AutoCreate window.
	Procurement Contracts - See Notes Below	Optional	Open		11.5.10		Contract Management capabilities (Oracle Procurement Contracts)
Sourcin	g						
	Negotiation Scoring	Optional	Open		11.5.10		Negotiation Level Attributes; Scoring Templates; Subjective Scoring; Analysis Scenarios;
	Award Summary	Optional	Open		11.5.10		Provides a complete view of the award recommendation for sourcing team members and designated award approvers.
	Award Approval	Optional	Open		11.5.10		List of approvers is automatically generated based on rules set up in Oracle Approvals Management
	Amendments	Optional	Open		11.5.10		Manage changes to a published sourcing event even after suppliers have begun responding.
	Document Printing	Optional	Open		11.5.10		Buyers and Suppliers can generate copies of the sourcing package in PDF format.
ENG							
	Increase Change Type Name Length	Mandatory	Open		11.5.10		
	Electronic Names and Electronic Signatures (ERES) Support	Optional	Open		11.5.10		Oracle Quality
	MLS Support for Change Types	Optional	Open		11.5.10		Change types can be entered in Multiple languages
WIP	i i						
	Outside Processing Enhancements	Optional	Open		11.5.10		Improved communication between mfg and procurement functions when qty or date changes occur
	Component Picking Enhancements	Optional	Open		11.5.10		Link a Supply Subinventory to a Machine resource
	Electronic Records and Electronic Signature Support (ERES)	Optional	CLOSED		11.5.10		For FDA Regulations









### **Master Impact List Items**

#### Some Examples:

- 3rd Party Check Printing System may need to be retested or replaced with XML / BI Publisher
- Custom Form may need to have customization reapplied to standard Oracle form
- Account Generator changes might get overwritten, and it may be necessary to reapply changes
- New Report available as standard functionality, we may want to review as a potential business solution
- Standard Interface may have new parameters, may need
  - to resubmit for recurring submission (scheduling)









## **Analyze and Plan – Iterative Method**

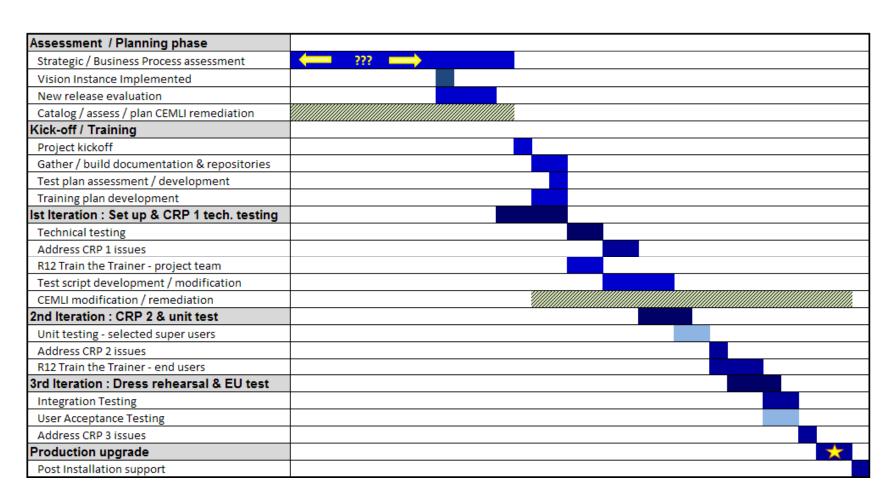
# Analyze, Plan, Estimate, Repeat

Use as a Tool to Build your Project

Plan



# **R12** Upgrade High Level Time Line











# The Method – In project

- Check for new Materials from My Oracle Support, Alerts, etc
- Master Checklist Read and Document each required Step – some functional some technical resources required – Some are pre-requisites, some are post patching steps
- Get Clarification on any unclear steps –Upgrade manual or Patch– internally or with Oracle Support – missed steps are costly









- DBA team creates the test environment
- Set up R12 Vision Instance for functional sandbox
- Refine Master Checklist Timings for Pre-Requisite Steps – DBA Portion
- DBA applies patches gather good timing estimates (challenge in test environment)
- Gather timing on additional patching, Gather Statistics, post patching, etc









- Begin Assembly of Master Impact List (could be parallel with previous steps)
  - List of Customizations and Extensions
  - List of "configurable" items like Workflow
  - Review cumulative RCD documents for functionality changes, even bug fixes
  - Bolt-on products and interfaces
  - Mandatory and Optional New Features

Provides an excellent list of potential changes or points of failure – Drives Testing Effort









- Meet with Technical and Functional team to refine Master Impact list
  - Add missed impacts
  - Remove unnecessary impacts
  - Prioritize High to Low
- Develop thorough test plan to cover graduated testing
- Critical Tie Test cases from Library to items left on Master Impact List
- Create New Test Cases and Scripts or update to include new features and functionality









- Assign Technical Impacts to developer(s) to research as early as possible
  - Interfaces, Extensions, etc
  - Research table and other changes
  - Get estimate of rework time if necessary
  - Refer back to design documents
  - Ensure it is still used, still a requirement
  - Optimizer Changes Performance
- Assign test cases to Testing team members for Execution – Have test cases for all items on Master Impact List









- Issue Resolution and Verification of Functionality
- Finalize "Footprint" of new features beforehand
- Develop Re-Training Materials and Communication Plan if necessary
- Plan and Execute Additional Iterations More the Better - 3 minimum recommendation – include a dress rehearsal for "time"
- Plan Production Cutover
- Communication of Cutover Plan Know your time to perform tasks!









# The Method – Go Live & beyond

- Cutover / War Room
- Post Cutover Support (DON'T test in Production)
- Update and File Library of Test Cases and Scripts for future use
- Keep updated and available all Training information (how-to's, FAQ's, tests)
- Archive:
  - Master Impact List
  - Materials for next upgrade
  - Redevelopment timings, etc









## **Testing Process – Special notes**

- Expect to modify all R12 test cases that contain screen shots
- Bring back your vets they are better and faster
- Know expected results Use real Data
- Assign individual test cases
- Have a process for issue logging/resolution
- Screen Shots Proof
- Signoff Accountability
- Testing Tools can provide additional value ...
   BUT, they cannot replace user involvement









## Some Suggestions based on Experience

- Get REAL timings Everyone Fudges a bit
- Insist on Upper Management approval of user involvement for testing
- Invest in a Library of *applicable Test Cases*
- Watch Email Notifications during testing
- Plan for environmental issues due to cloning
- Don't underestimate 3rd party bolt-on impacts









## Suggestions based on Experience (cont.)

- Re-Use of Team members speeds successive iterations
  - Concept of Upgrade Tiger team
  - Plan can be re-used
- Scrub Oracle Docs (RCD's) on New features before giving to End users – make easy and less scary
- Communicate the complexities to management and team members each iteration
- Systems for managing testing provide value but can be expensive









# **Other Tips**

- Assess and approve everything prior to the upgrade
- Highly recommend BI Publisher if not using it already, as it's a standard going forward.
- Double check what each Responsibility can do after the upgrade.
- Be careful with Multi-Org Access Control
- Watch Alerts and Scheduled requests
- Users should have their key reports for validation pre and post upgrade and in each test cycle









### For More Information

- My Oracle Support
- Appsnet Good Summary on New Features
- http://www.oracle.com/appsnet/technology/ upgrade/docs/features.html
- Online Help (New Features Section)
- Reference Manuals
- Blogs: Steven Chan: http://blogs.oracle.com/schan/
- User Groups / Conferences





# **Important R12 MOS notes**

#### Recommended by COE:

Article	Plan note #
Oracle E-Business Suite Upgrade Guide	461709.1
Oracle Payables Release 12 Known Issues	405627.1
R12 Proactive Intelligence Center: Oracle Payables	578232.1

#### Other relavent MOS recommandations:

Oracle Applications Upgrade Guide: Release 11i to Release 12	B31566-01
Oracle Applications Documentation Resources, Release 12	394692.1
Oracle Applications Release 12 Upgrade Sizing and Best Practices	399362.1









## **R12 Customers**















































Drop by and Enter our drawing for FREE Airline tickets and Gift Cards









### **Presentations Available**

### O2Works – Knowledge Base:

www.o2works.com/index.php/knowledge-works

## **Any Questions?**

## Thank you!

Art Dowd
Consulting Director
O2Works LLC
Oracle Applications Consulting
Dallas – Chicago - Denver
214-725-2828

adowd@o2works.com

Web: <u>www.o2works.com</u>