

Workflow SIG Meeting Collaborate'10

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Introduction

Welcome to Las Vegas

Thanks for sticking around for this Thu SIG

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Workflow SIG Coordinator

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Workflow SIG

- This presentation, prior presentations and references are posted on the OAUG Workflow SIG web site:
<http://workflowsig.oaug.org>
Also on my web site:
<http://jrpjr.com/>
- You don't have to be an OAUG member to access the Workflow SIGs web site.
- I apologize for the web site being "scrambled" for the past year.

Agenda

- Future of Workflow
- Current Workflow Functionality
- Future Workflow Enhancements
- Other resources for Workflow Information
- Attaching a PDF Conc Req Output to a Notification
- Questions and Answers

Versions of Apps People Are On

- 11i, Pre-11.5.10.2
- 11.5.10, ATG RUP6
- 11.5.10, ATG RUP7 - 783600.1
- R12, Pre-12.0.6
- 12.1

Future of Workflow

- Desupported as an Oracle product for standalone use.
- No longer part of the 11G DB install. Will be installed as part of the Apps Tech Stack.
- Still heavily used in R12 and will be supported by Applications Technology Group.
- Will not be used in Fusion.

BPEL - Business Process Execution Language

- BPEL is the primary replacement for Workflow Technology.
- You can use BPEL today with your 11i and R12 Applications.
- Attend some of the BPEL sessions at Collaborate or OpenWorld (next fall) to get some exposure to this powerful tool.

Workflow to BPEL Migration

- There will be no automated conversion/migration available.
- A good reference on migrating to BPEL is:
Migrating to BPEL from Oracle Work Flow
An Oracle White Paper
March 2008

<http://www.oracle.com/technology/products/ias/bpel/pdf/owf2bpel.pdf>

Workflow Custom Development Strategy

- Any Workflow customization written totally from scratch should probably be written using BPEL.
Example:
A totally custom approval or notification process.
- Extensions or “Tweaks” to an existing Workflow process should probably be done using Oracle Workflow.
Example:
Adding a new step of sub process to the Order Header Workflow Process.

Current Workflow Functionality

Current Workflow Releases

- Metalink Note: **464727.1**
Oracle Workflow Documentation Updates for 11i.ATG_PF.H.delta.7 (RUP 7)
- Metalink Note: **737857.1**
Oracle Workflow Documentation Updates for Release 12.0.6
- Metalink Note: **950877.1**
Oracle Workflow Release Notes, Release 12.1.2

Gary Grant, Oracle Support

Current – Important Notes from Support

- Metalink Note: **1058183.1**
Notification Fails To Be Generated When A DOCX Document Is Attached

- Metalink Note: **974088.1**
Workflow Mailer Is Not Able to Handle Unsolicited Emails Due to Error:
`java.io.IOException: Error in encoded stream`

Gary Grant, Oracle Support

Current – Workflow Best Practices

- Oracle Workflow Best Practices
Release 12 and Release 11i
Metalink Note: **453137.1**

Current – Integrated SOA Gateway

- Oracle has extended the Business Event System to consume and invoke web services using a simple wizard based WSDL consumer as part of Integrated SOA Gateway feature
- Oracle has also enabled the invoking of a web service from with a Workflow.

http://blogs.oracle.com/ebusinesssuiteintegration/2009/07/invoking_web_service_from_orac_1.html

http://blogs.oracle.com/ebusinesssuiteintegration/2010/02/business_events_-_ebs_adater_v.html

Current – Bulk Notification Response

- ATG, RUP6, MetaLink Note: **760386.1**
How to enable Bulk Notification Response Processing for Workflow in 11i
- This feature allows users to respond to multiple notifications with a similar response.

Current - Notification Subject Lines

- ATG RUP 7, adds the ability to include a PL/SQL Document Attribute in your notification subject line.
- This is really helpful if having to deal with language translations in emails.

Current – WF_MAIL.SEND

- ATG RUP 7, There is now a PL/SQL API call to allow a message to be sent via email that does not have to be associated with a Workflow Item Type/Key.
- Sends a message to be dispatched through e-mail by a notification mailer.
- The message content and recipients provided in the parameters do not need to be associated with any workflow process or directory service roles.
- The message content must be complete, preformatted, and email-ready, and should conform to the content type specified.

Current - Assignee Type LOVs

- Meant to provide security on the Assignee LOV's.
- This allows a user to select an Assignee Type first then select the User/Role. See ML Note: 950877.1 for the list of pages that will support this functionality.
- Workflow ships two objects one for Assignee Type and other for Users/Roles.
- At Customer site, instance sets can be created on these objects with appropriate predicates and granted to users or roles or responsibilities to enforce data security.
- Available as a 1 off patch for 12.0.6, Metalink Note: 965413.1

Vijay Shanmugam, Oracle

Future Workflow Enhancements

Future – DB Session Context Cleanup

- First, how many people are aware that Workflow is Database Session Context unaware
- It is essential in an environment where you have multiple OU's you must understand how Workflow maintains Database Session Context
- Oracle Workflow Developers Guide, Chapter 6, 'Standard API for an Item Type Selector or Callback Function'

Future – DB Session Context Cleanup (cont)

- It is up to the Application module using Workflow to check and set the correct Database Session Context using a special Selector function called with the following modes:
 - **TEST_CTX** - to determine (validate) if the current item type context information is correct before executing a function
 - **SET_CTX** - The Workflow Engine calls the selector/callback function with this command each time it encounters a new item type and item key combination (with exceptions)
 - **RUN** - to select the appropriate process to start in specific situations
- The selector function is implemented as a PL/SQL procedure

Future – DB Session Context Cleanup (cont)

- Where is the Selector function specified in the Workflow

The screenshot shows the 'Navigator Control Properties' dialog box with the 'Item Type' tab selected. The fields are as follows:

- Internal Name:** OEOL
- Display Name:** OM Order Line
- Description:** Oracle Order Management includes the concept of an Order Liner. One or many lines belong to a specific Header.
- Persistence:** Temporary
- Number of Days:** 0
- Selector:** OE_STANDARD_WF.OEOL_SELECTOR (highlighted with a red box)

Buttons at the bottom: OK, Cancel, Apply, Help.

Future – DB Session Context Cleanup (cont)

- This has resulted in DB Session Context's not always being set in all cases and one workflows context to remain in effect for a next workflows execution.
- As part of this enhancement in 12.1.2, Workflow will cleanup any session context set by a workflow process and restore to original context set at the time of startup.
- You need to make sure that your selector functions are setup on custom workflow Item Types.

Vijay Shanmugam, Oracle

Other Resources

Workflow SIG Web Site

<http://workflowsig.oaug.org/>

Vijay's Blog

<http://blogs.oracle.com/ebusinesssuiteintegration>

Other Resources (cont)

Karen Brownfield, Solution Beacon

List of Recommended Patches

<http://www.solutionbeacon.com/Patches.pdf>

Workflow Performance Tuning

Slides: <http://www.solutionbeacon.com/WorkflowPerformanceTuning.pdf>

WP: <http://www.solutionbeacon.com/WorkflowPerformanceTuningWP.pdf>

Workflow Trouble Shooting

Slides:

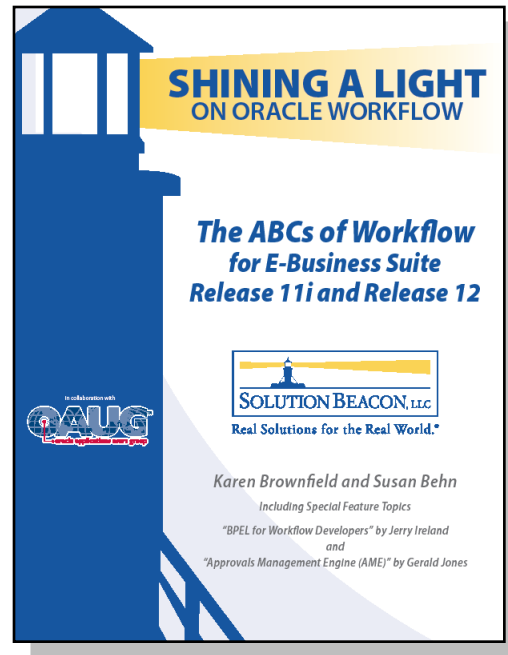
<http://www.solutionbeacon.com/WorkflowTroubleshootingOAUG09.pdf>

WP:

<http://www.solutionbeacon.com/WorkflowTroubleshootingOAUG09WP.pdf>

Other Resources (cont)

Karen Brownfields reference book on Workflow



There is also a DVD version now available.

Available at www.solutionbeacon.com

Attaching a Concurrent Request Output PDF to a Notification

Background

- We have all of these nice XML Publisher formatted concurrent request output files how can we attach them to a Workflow Notification?
- I get this question via email about once a month
- I had a client finally request it so here is how I handled it
- Details and code will be posted to my web site after Collaborate'10

High Level Process

1. The workflow submits a concurrent program
2. The concurrent program has a printer driver that transfers the PDF file from the APPS Tier to the DB Tier
3. A PL/SQL routine loads the PDF into a temporary LOB
4. The LOB is attached to the Workflow Notification

Workflow submits a concurrent program

Which OraApps user will submit the program?

- You need to save off the current DB session context and set a new user and responsibility context, `FND_GLOBAL.APPS_INITIALIZE`

The Workflow API's won't work to submit the request

- You need to specify the Post Processing Options for XML Publisher, `FND_REQUEST.ADD_LAYOUT`
- Also specify the printer driver to transfer the output file, `FND_REQUEST.SET_PRINT_OPTIONS`

Wait for the concurrent request to complete

Printer Driver Transfers File

Why transfer the file?

- The output file needs to be on the DB Tier server to be able to read it into the DB using PL/SQL

Printer Driver is just a shell script that SCP's the file from the APPS Tier to the DB Tier

- Need to determine the DB Tier server
- Destination directory needs to be a directory that PL/SQL can read from

PL/SQL routine to read file into DB

First map a directory at the DB level

```
create or replace directory XXXX_APPLPTMP as '/usr/tmp';
```

Get a DB File Handle

```
v_src_lob := BFILENAME('XXXX_APPLPTMP', v_filename);
```

Create a Temporary LOB Object

```
dbms_lob.CREATETEMPORARY(v_dest_lob, TRUE, dbms_lob.session);
```

Load file into the LOB

```
dbms_lob.LOADFROMFILE
```

Copy the LOB out to the PL/SQL Document

```
dbms_lob.COPY
```


PL/SQL Document in Message

The actual PL/SQL Document Attribute just needs to be included in the Message as an Attribute.

You don't need to actually reference the attribute in the Message Body.

The Result

Action Required: Approve Order 221001758 - Message (HTML)

File Edit View Insert Format Tools Actions Help

Reply Reply to All Forward

From: OAP3 - Oracle Workflow [oraop3@.com] Sent: Mon 3/15/2010 4:57 AM
 To: van Veen, Franck
 Cc:
 Subject: Action Required: Approve Order 221001758
 Attachments: X_OEXOEO_ACK_20633411_1.PDF (38 KB)

To **Van Veen, Franck**
 Sent **15-Mar-2010 11:55:17**
 ID **5594541**
 This order requires your approval.

Please review the attached ' Sales Order Acknowledgement - PDF' and if the order is okay approve the order with this email.

If the sales order is not okay please contact SSC OM group (om.ssc@.com) and request for the order to be updated. Only after the order has been corrected by the SSC OM Group should you click on the Reject button below.

Five minutes after the Reject button is pressed the system will regenerate another approval notification with an attached ' Sales Order Acknowledgement - PDF' as of that point in time.

Please file these approval emails as required for audit purposes.

Action History					
Num	Action Date	Action	From	To	Details
1	15-Mar-2010 11:25:15	Submit	Mahoney, Benedict	Van Veen, Franck	
2	15-Mar-2010 11:52:43	Reject	Van Veen, Franck	Workflow System	

Related Applications

[Approve Order Attach PDF](#)

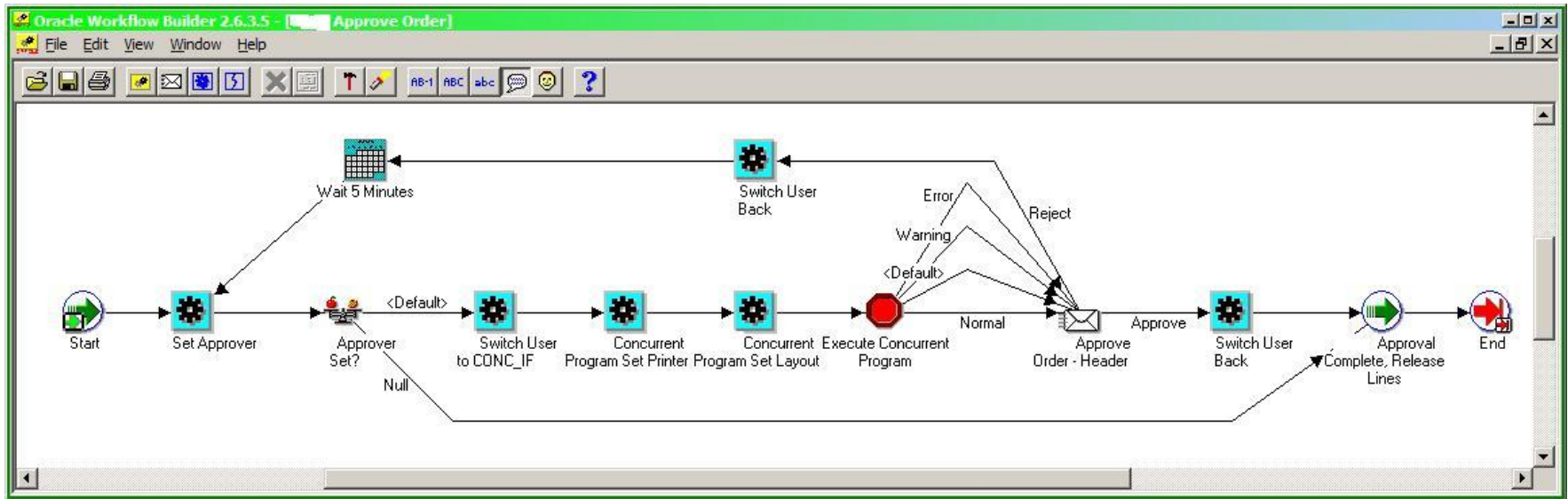
Please click on one of the following choices to automatically generate an E-mail response. Before sending the E-mail response to close this notification, ensure all response prompts include a desired response value within quotes.

Result

Result: [Approve](#) [Reject](#) [Request Information](#)

The Workflow

This is just the header approval sub process.



My Contact Information

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Copies of the presentation and other workflow related presentations are on:

<http://workflowsig.oaug.org/>

<http://jrpjr.com/>