

# Technical Foundation - Workflow

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Solution Beacon



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- **Networking** with Oracle customers, industry experts, third-party software firms, and other Oracle Applications specialists through our Member Database and Online Vendor Directory

# Karen Brownfield Profile

- **25+ yrs experience in IT Industry**
- **16+ yrs experience Oracle Applications**
- **9 yrs experience Workflow**
- **OAUG Board of Directors 14 years, Former President**
- **Presenter of Training/Presentations multiple clients, conferences**
- **Solution Beacon** is a leading provider of resources to Government Agencies and Fortune 1000 companies specializing in the Oracle Applications marketplace, providing assistance in the following areas:
  - Release 11i Upgrades/Implementations
  - Oracle Apps Database Administration
  - Oracle Systems Architecture
  - Oracle Performance Tuning
  - Oracle Workflow

## 4 Sets of Tables

- Design
- Runtime
- Event
  - Definitions
  - Queues
- Directory Services



## Design vs. Runtime

- WF\_ITEM\_TYPES (TL)
  - WF\_ITEM\_ATTRIBUTES (TL)
  - WF\_ACTIVITIES (TL)
  
  - WF\_ACTIVITY\_ATTRIBUTES (TL)
- WF\_ITEMS
  - WF\_ITEM\_ATTRIBUTE\_VALUES
  - WF\_ACTIVITY\_STATUSES
  - WF\_ACTIVITY\_STATUSES\_H
  - WF\_ACTIVITY\_ATTR\_VALUES

# Design vs. Runtime

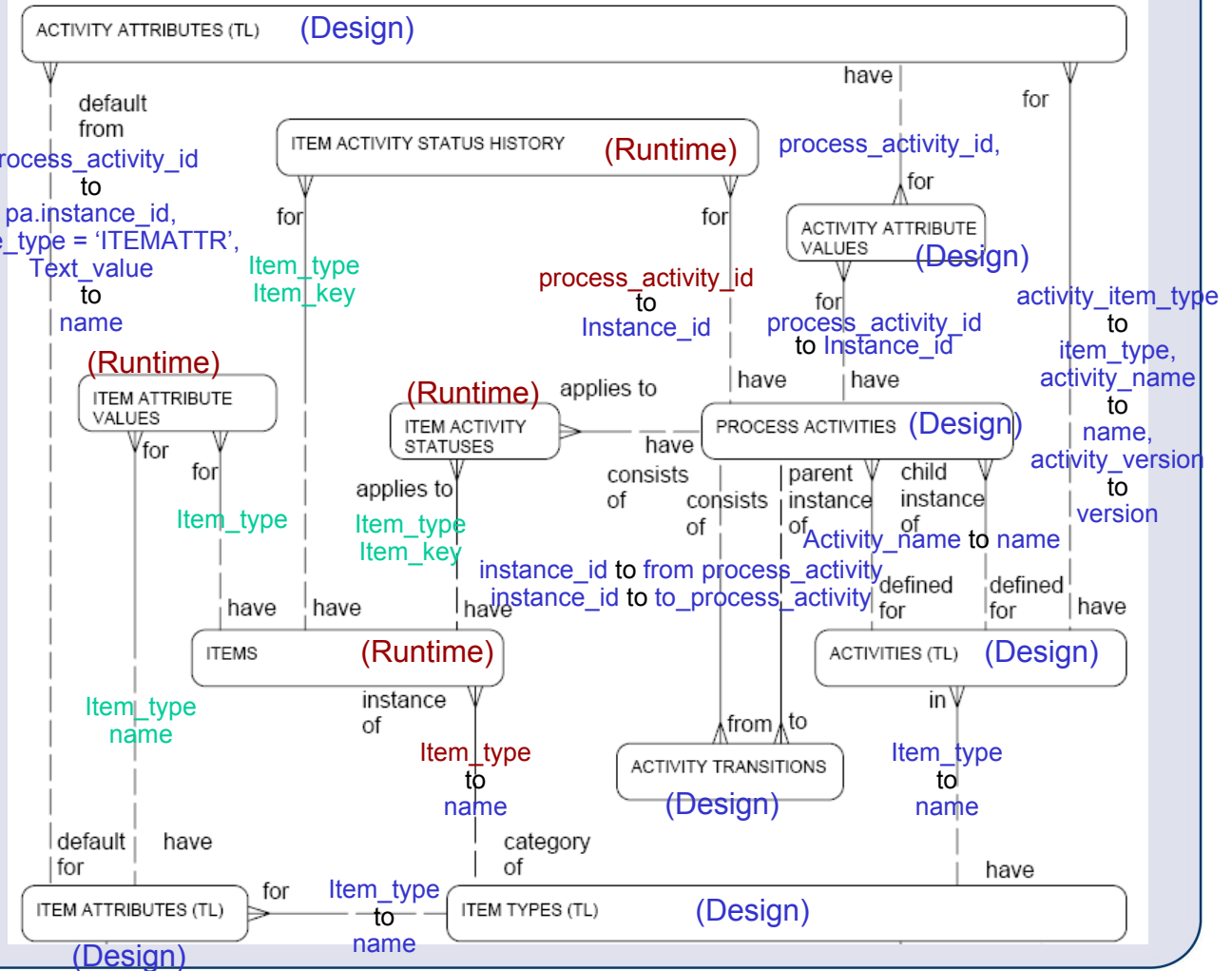
- WF\_MESSAGES (TL)
  - WF\_MESSAGE\_ATTRIBUTES (TL)
- WF\_NOTIFICATIONS
  - WF\_NOTIFICATION\_ATTRIBUTES
  - WF\_COMMENTS

# Design w/o Equivalent Runtime

- WF\_LOOKUPS (TL)
- WF\_LOOKUP\_TYPES (TL)
- WF\_PROCESS\_ACTIVITIES
- WF\_ACTIVITY\_TRANSITIONS

# ERD (WF omitted)

**Table Linking Keys**  
**Red – runtime**  
**Blue – Design**  
**Green - Both**





# WF\_ITEM\_TYPES – RUP4

NUM_ACTIVE	NUMBER
NUM_ERROR	NUMBER
NUM_DEFER	NUMBER
NUM_SUSPEND	NUMBER
NUM_COMPLETE	NUMBER
NUM_PURGEABLE	NUMBER

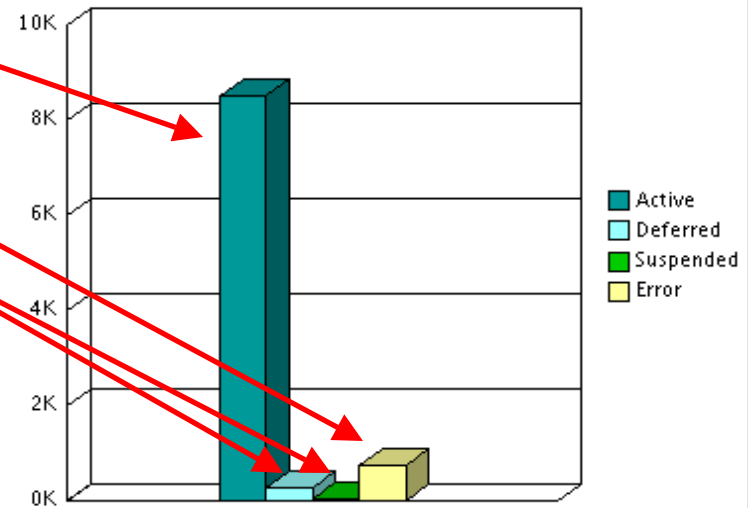
Select	Work Item Type <input type="checkbox"/>	Persistence Type	Retention Period	Count	Purgeable
<input checked="" type="radio"/>	ADS HR Custom Workflows	PERM	0	1	0
<input type="radio"/>	AP Invoice	TEMP	0	19	18
<input type="radio"/>	Change Action	PERM	0	2	0
<input type="radio"/>	Change Workflow Routing Step	PERM	0	1	0
<input type="radio"/>	Dossier Approval Flow Enhanced	TEMP	0	1	0
<input type="radio"/>	GMS Workflow	PERM	0	2	0
<input type="radio"/>	HR	TEMP	0	9	0

## Workflow Metrics

### Work Items

Hide

Last Updated: 26-02-2007 01:05:57



## WF\_<table>\_TL - design

- Primary Keys of non\_TL plus Language
- Display\_Name
- Description

NAME	VARCHAR2 (8)	Yes
LANGUAGE	VARCHAR2 (4)	Yes
DISPLAY_NAME	VARCHAR2 (80)	Yes
PROTECT_LEVEL	NUMBER	Yes
CUSTOM_LEVEL	NUMBER	Yes
DESCRIPTION	VARCHAR2 (240)	
SOURCE_LANG	VARCHAR2 (4)	Yes

REQAPPRV

- Requisition
- Directory Service
- Hidden Item Types

Navigator Control Properties

Item Type | Roles | Access

Internal Name: REQAPPRV

Display Name: Requisition

Description: Requisition Approval Process

Persistence: Temporary

Number of Days: 0

Selector: PO\_REQAPPROVAL\_LAUNCH.POREQ\_SELECTOR

OK Cancel Apply Help

## WF\_ITEMS – Runtime

- Item\_Key added as PK
- User\_Key
- Owner\_Role
- Begin\_/End\_Date
- Parent\_Item\_Type / Key
  - Example: which workflow called WFERROR
- Root Activity – the actual top process

* ITEM_TYPE	VARCHAR2 (8)	Yes
* ITEM_KEY	VARCHAR2 (240)	Yes
ROOT_ACTIVITY	VARCHAR2 (30)	Yes
ROOT_ACTIVITY_VERSION_NUMBER		Yes
OWNER_ROLE	VARCHAR2 (320)	
PARENT_ITEM_TYPE	VARCHAR2 (8)	
PARENT_ITEM_KEY	VARCHAR2 (240)	
PARENT_CONTEXT	VARCHAR2 (2000)	
BEGIN_DATE	DATE	Yes
END_DATE	DATE	
USER_KEY	VARCHAR2 (240)	

## WF\_ITEM\_ATTRIBUTES - Design

* ITEM_TYPE	VARCHAR2 (8)	Yes
* NAME	VARCHAR2 (30)	Yes
SEQUENCE	NUMBER	Yes
TYPE	VARCHAR2 (8)	Yes
PROTECT_LEVEL	NUMBER	Yes
CUSTOM_LEVEL	NUMBER	Yes
SUBTYPE	VARCHAR2 (8)	
FORMAT	VARCHAR2 (240)	
TEXT_DEFAULT	VARCHAR2 (4000)	
NUMBER_DEFAULT	NUMBER	
DATE_DEFAULT	DATE	

The screenshot shows the 'Navigator Control Properties' dialog box for the 'Approval Path ID' attribute. The 'Attribute' tab is selected, and the following values are visible:

- Item Type: Requisition
- Internal Name: APPROVAL\_PATH\_ID
- Display Name: Approval Path ID
- Description: Approval Path ID
- Type: Number
- Format: (empty)
- Default: Constant
- Value: (empty)

- Sequence – order listed in Builder
- Subtype – not used

# WF\_ITEM\_ATTRIBUTE\_VALUES - Runtime

- Item\_Key added as PK
- Value
  - Text is all types except Number or Date or Event
- WF\_ENGINE.
  - GetItemAttr<type>
    - Text, Number, Date, Event
    - Attributes
      - ItemType
      - ItemKey
      - aName
      - Ignore\_notfound

Column Name	Null?	Data Type
* ITEM_TYPE	N	VARCHAR2 (8 Byte)
* ITEM_KEY	N	VARCHAR2 (240 Byte)
* NAME	N	VARCHAR2 (30 Byte)
TEXT_VALUE	Y	VARCHAR2 (4000 Byte)
NUMBER_VALUE	Y	NUMBER
DATE_VALUE	Y	DATE
EVENT_VALUE	Y	WF_EVENT_T

- SetItemAttr<type>
  - Text, Number, Date, Event
  - Attributes
    - ItemType
    - ItemKey
    - aName
    - aValue

# WF\_ACTIVITIES - Design

* ITEM_TYPE	VARCHAR2 (8)	Yes
* NAME	VARCHAR2 (30)	Yes
* VERSION	NUMBER	Yes
TYPE	VARCHAR2 (8)	Yes
FUNCTION	VARCHAR2 (240)	
RESULT_TYPE	VARCHAR2 (30)	
COST	NUMBER	
READ_ROLE	VARCHAR2 (320)	
WRITE_ROLE	VARCHAR2 (320)	
EXECUTE_ROLE	VARCHAR2 (320)	
ICON_NAME	VARCHAR2 (30)	
MESSAGE	VARCHAR2 (30)	
ERROR_PROCESS	VARCHAR2 (30)	
ERROR_ITEM_TYPE	VARCHAR2 (8)	Yes
RUNNABLE_FLAG	VARCHAR2 (1)	Yes
FUNCTION_TYPE	VARCHAR2 (30)	

Navigator Control Properties

Activity | Details | Roles | Access

Internal Name: APPROVE\_AND\_FORWARD\_THE\_REQ

Display Name: Approve And Forward The Req

Description:

Icon: APPROVE.ICO

Function Name: PO\_REQAPPROVAL\_ACTION.APPROVE\_AND\_F

Function Type: PL/SQL

Result Type: PO Activity Performed

Cost: 0.00

Buttons: OK, Cancel, Apply, Help

**FUNCTION**

- Type – EVENT, FUNCTION, PROCESS , NOTICE

# WF\_ACTIVITIES - Design

* ITEM_TYPE	VARCHAR2 (8)	Yes
* NAME	VARCHAR2 (30)	Yes
* VERSION	NUMBER	Yes
TYPE	VARCHAR2 (8)	Yes
EXPAND_ROLE	VARCHAR2 (1)	Yes
FUNCTION	VARCHAR2 (240)	
RESULT_TYPE	VARCHAR2 (30)	
COST	NUMBER	
READ_ROLE	VARCHAR2 (320)	
WRITE_ROLE	VARCHAR2 (320)	
EXECUTE_ROLE	VARCHAR2 (320)	
ICON_NAME	VARCHAR2 (30)	
MESSAGE	VARCHAR2 (30)	
ERROR_PROCESS	VARCHAR2 (30)	
ERROR_ITEM_TYPE	VARCHAR2 (8)	Yes
RUNNABLE_FLAG	VARCHAR2 (1)	Yes
FUNCTION_TYPE	VARCHAR2 (30)	

Navigator Control Properties

Activity | Details | Roles | Access

Internal Name: PO\_REQ\_APPROVE

Display Name: Approve Requisition Notification

Description:

Icon: NOTE\_WRT.ICO

Function Name: PO\_WF\_REQ\_NOTIFICATION.POST\_APPROVAL

Function Type: PL/SQL

Result Type: PO Document Approval Action

Message: Approve Requisition JRAD

Expand Roles

OK Cancel Apply Help

**NOTICE**

- Example with a Post-Notification function

# WF\_ACTIVITIES - Design

* ITEM_TYPE	VARCHAR2 (8)	Yes
* NAME	VARCHAR2 (30)	Yes
* VERSION	NUMBER	Yes
TYPE	VARCHAR2 (8)	Yes
FUNCTION	VARCHAR2 (240)	
RESULT_TYPE	VARCHAR2 (30)	
COST	NUMBER	
READ_ROLE	VARCHAR2 (320)	
WRITE_ROLE	VARCHAR2 (320)	
EXECUTE_ROLE	VARCHAR2 (320)	
ICON_NAME	VARCHAR2 (30)	
MESSAGE	VARCHAR2 (30)	
ERROR_PROCESS	VARCHAR2 (30)	
ERROR_ITEM_TYPE	VARCHAR2 (8)	Yes
RUNNABLE_FLAG	VARCHAR2 (1)	Yes
FUNCTION_TYPE	VARCHAR2 (30)	
EVENT_NAME	VARCHAR2 (240)	
DIRECTION	VARCHAR2 (30)	


Navigator Control Properties

Activity | Details | Roles | Access

Internal Name: MAIN\_REQAPPRV\_PROCESS

Display Name: Main Requisition Approval

Description: Main Requisition Approval using Approval List

Icon: PROCESS.ICO  Browse

Result Type: PO Main Requisition Approval Process Result Edit

Runnable

OK Cancel Apply Help

PROCESS

# WF\_ACTIVITIES - Design

* ITEM_TYPE	VARCHAR2 (8)	Yes
* NAME	VARCHAR2 (30)	Yes
* VERSION	NUMBER	Yes
TYPE	VARCHAR2 (8)	Yes
FUNCTION	VARCHAR2 (240)	
RESULT_TYPE	VARCHAR2 (30)	
COST	NUMBER	
READ_ROLE	VARCHAR2 (320)	
WRITE_ROLE	VARCHAR2 (320)	
EXECUTE_ROLE	VARCHAR2 (320)	
ICON_NAME	VARCHAR2 (30)	
MESSAGE	VARCHAR2 (30)	
ERROR_PROCESS	VARCHAR2 (30)	
ERROR_ITEM_TYPE	VARCHAR2 (8)	Yes
RUNNABLE_FLAG	VARCHAR2 (1)	Yes
FUNCTION_TYPE	VARCHAR2 (30)	
EVENT_NAME	VARCHAR2 (240)	
DIRECTION	VARCHAR2 (30)	


Navigator Control Properties

Activity | Details | Roles | Access

Internal Name: START\_RECEIVE

Display Name: Start Receive

Description: Start Receive

Icon: EVENT.ICD  Browse

Event Action: Receive

Event Filter: oracle.apps.po.event.requester\_change

Cost: 0.00

OK Cancel Apply Help

**EVENT**

# WF\_ACTIVITIES - Design

* ITEM_TYPE	VARCHAR2 (8)	Yes
* NAME	VARCHAR2 (30)	Yes
* VERSION	NUMBER	Yes
TYPE	VARCHAR2 (8)	Yes
RERUN	VARCHAR2 (8)	Yes
BEGIN_DATE	DATE	Yes
END_DATE	DATE	
FUNCTION	VARCHAR2 (240)	
RESULT_TYPE	VARCHAR2 (30)	
COST	NUMBER	
READ_ROLE	VARCHAR2 (320)	
WRITE_ROLE	VARCHAR2 (320)	
EXECUTE_ROLE	VARCHAR2 (320)	
ICON_NAME	VARCHAR2 (30)	
MESSAGE	VARCHAR2 (30)	
ERROR_PROCESS	VARCHAR2 (30)	
ERROR_ITEM_TYPE	VARCHAR2 (8)	Yes
RUNNABLE_FLAG	VARCHAR2 (1)	Yes
FUNCTION_TYPE	VARCHAR2 (30)	

Navigator Control Properties

Activity Details Roles Access

Error Item Type

Error Process

Effective

On Revisit

Version

OK Cancel Apply Help

All

# WF\_PROCESS\_ACTIVITIES - Design

*	PROCESS_ITEM_TYPE	VARCHAR2 (8)	Yes
*	PROCESS_NAME	VARCHAR2 (30)	Yes
*	PROCESS_VERSION	NUMBER	Yes
	ACTIVITY_ITEM_TYPE	VARCHAR2 (8)	Yes
	ACTIVITY_NAME	VARCHAR2 (30)	Yes
**	INSTANCE_ID	NUMBER	Yes
*	INSTANCE_LABEL	VARCHAR2 (30)	Yes
	PERFORM_ROLE_TYPE	VARCHAR2 (8)	Yes
	PROTECT_LEVEL	NUMBER	Yes
	CUSTOM_LEVEL	NUMBER	Yes
	START_END	VARCHAR2 (8)	
	DEFAULT_RESULT	VARCHAR2 (30)	
	ICON_GEOMETRY	VARCHAR2 (2000)	
	PERFORM_ROLE	VARCHAR2 (320)	
	USER_COMMENT	VARCHAR2 (240)	

- Timeout definition stored in WF\_ACTIVITY\_ATTRIBUTE\_VALUES (NAME=TIMEOUT)

- Properties page of node in process diagram

# WF\_ITEM\_ACTIVITY\_STATUSES (\_H) - Runtime

- Item\_Key added as PK
- Process\_Activity added as PK (=Instance\_id in WF\_PROCESS\_ACTIVITIES)
- All Activities
- Notifications
- Errored
  - Activity\_Status = 'ERROR'

* ITEM_TYPE	VARCHAR2 (8)	Yes
* ITEM_KEY	VARCHAR2 (240)	Yes
* PROCESS_ACTIVITY	NUMBER	Yes
ACTIVITY_STATUS	VARCHAR2 (8)	
ACTIVITY_RESULT_CODE	VARCHAR2 (30)	
ASSIGNED_USER	VARCHAR2 (320)	
NOTIFICATION_ID	NUMBER	
BEGIN_DATE	DATE	
END_DATE	DATE	
EXECUTION_TIME	NUMBER	
ERROR_NAME	VARCHAR2 (30)	
ERROR_MESSAGE	VARCHAR2 (2000)	
ERROR_STACK	VARCHAR2 (4000)	
OUTBOUND_QUEUE_ID	RAW (16)	
DUE_DATE	DATE	

# WF\_ACTIVITY\_ATTRIBUTES - Design

* ACTIVITY_ITEM_TYPE	VARCHAR2 (8)	Yes
* ACTIVITY_NAME	VARCHAR2 (30)	Yes
* ACTIVITY_VERSION	NUMBER	Yes
* NAME	VARCHAR2 (30)	Yes
SEQUENCE	NUMBER	Yes
TYPE	VARCHAR2 (8)	Yes
VALUE_TYPE	VARCHAR2 (8)	Yes
PROTECT_LEVEL	NUMBER	Yes
CUSTOM_LEVEL	NUMBER	Yes
SUBTYPE	VARCHAR2 (8)	
FORMAT	VARCHAR2 (240)	
TEXT_DEFAULT	VARCHAR2 (4000)	
NUMBER_DEFAULT	NUMBER	
DATE_DEFAULT	DATE	

Navigator Control Properties

Attribute

Function: Compare Text

Internal Name: VALUE2

Display Name: Reference value

Description: Standard against which test value is compared

Type: Text

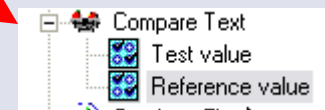
Length: 2000

Default Type: Constant

Value:

OK Cancel Apply Help

- Properties page of attribute assigned to function in Navigator page



# WF\_ACTIVITY\_ATTR\_VALUES - Design

* PROCESS_ACTIVITY_ID	NUMBER	Yes
* NAME	VARCHAR2 (30)	Yes
VALUE_TYPE	VARCHAR2 (8)	Yes
PROTECT_LEVEL	NUMBER	Yes
CUSTOM_LEVEL	NUMBER	Yes
TEXT_VALUE	VARCHAR2 (4000)	
NUMBER_VALUE	NUMBER	
DATE_VALUE	DATE	

Navigator Control Properties

Function | Details | Roles | Access | Node | Node Attributes

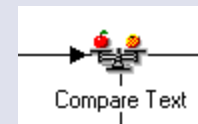
Attribute

Name

Name	Value Type	Value	Type	De:
Test value	Item Attribute	Is AME used for approval?	Text	Val
Reference value	Constant	Y	Text	Sta

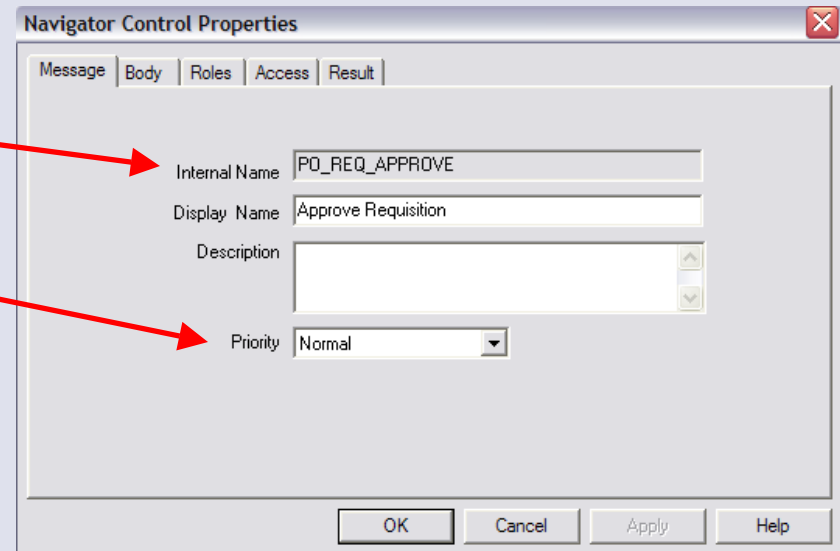
OK Cancel Apply Help

- Properties page of node in process diagram



# WF\_MESSAGES - DESIGN

* TYPE	VARCHAR2 (8)	Yes
* NAME	VARCHAR2 (30)	Yes
PROTECT_LEVEL	NUMBER	Yes
CUSTOM_LEVEL	NUMBER	Yes
DEFAULT_PRIORITY	NUMBER	



The screenshot shows the 'Navigator Control Properties' dialog box with the 'Message' tab selected. The 'Internal Name' field contains 'PO\_REQ\_APPROVE', the 'Display Name' field contains 'Approve Requisition', and the 'Priority' dropdown is set to 'Normal'. Two red arrows point from the 'NAME' and 'DEFAULT\_PRIORITY' fields in the table to the 'Internal Name' and 'Priority' fields in the dialog box, respectively.

Field	Value
Internal Name	PO_REQ_APPROVE
Display Name	Approve Requisition
Description	
Priority	Normal

## WF\_MESSAGES\_TL - DESIGN

* TYPE	VARCHAR2 (8)	Yes
* NAME	VARCHAR2 (30)	Yes
* LANGUAGE	VARCHAR2 (4)	Yes
DISPLAY_NAME	VARCHAR2 (80)	Yes
SUBJECT	VARCHAR2 (240)	Yes
PROTECT_LEVEL	NUMBER	Yes
CUSTOM_LEVEL	NUMBER	Yes
DESCRIPTION	VARCHAR2 (240)	
BODY	VARCHAR2 (4000)	
SOURCE_LANG	VARCHAR2 (4)	Yes
HTML_BODY	VARCHAR2 (4000)	

Navigator Control Properties

Message Body Roles Access Result

Subject &DOCUMENT\_TYPE\_DISP &DOCUMENT\_NUMBER for &PREPARER\_DIS

Text Body HTML Body

&PO\_REQ\_APPROVE\_MSG  
&PO\_REQ\_LINES\_DETAILS  
&ACTION\_HISTORY

OK Cancel Apply Help

- Due to language, subject and body in \_TL table

# WF\_MESSAGE\_ATTRIBUTES - DESIGN

* MESSAGE_TYPE	VARCHAR2 (8)	Yes
* MESSAGE_NAME	VARCHAR2 (30)	Yes
* NAME	VARCHAR2 (30)	Yes
SEQUENCE	NUMBER	Yes
TYPE	VARCHAR2 (8)	Yes
SUBTYPE	VARCHAR2 (8)	Yes
VALUE_TYPE	VARCHAR2 (8)	Yes
PROTECT_LEVEL	NUMBER	Yes
CUSTOM_LEVEL	NUMBER	Yes
FORMAT	VARCHAR2 (240)	
TEXT_DEFAULT	VARCHAR2 (4000)	
NUMBER_DEFAULT	NUMBER	
DATE_DEFAULT	DATE	
ATTACH	VARCHAR2 (1)	

Navigator Control Properties

Attribute

Message: Approve Requisition

Internal Name: REQ\_URL

Display Name: Requisition Detail

Description: Requisition Detail

Type: URL

Source: Send

Frame Target: Full Window

Attach Content

Default

Type: Item Attribute

Value: Requisition Detail

OK Cancel Apply Help

- Message\_Type is the Item\_Type

# WF\_MESSAGE\_ATTRIBUTES - DESIGN

* MESSAGE_TYPE	VARCHAR2 (8)	Yes
* MESSAGE_NAME	VARCHAR2 (30)	Yes
* NAME	VARCHAR2 (30)	Yes
SEQUENCE	NUMBER	Yes
TYPE	VARCHAR2 (8)	Yes
SUBTYPE	VARCHAR2 (8)	Yes
VALUE_TYPE	VARCHAR2 (8)	Yes
PROTECT_LEVEL	NUMBER	Yes
CUSTOM_LEVEL	NUMBER	Yes
FORMAT	VARCHAR2 (240)	
TEXT_DEFAULT	VARCHAR2 (4000)	
NUMBER_DEFAULT	NUMBER	
DATE_DEFAULT	DATE	
ATTACH	VARCHAR2 (1)	

Navigator Control Properties

Message | Body | Roles | Acc | **Result**

Display Name: Action

Description: Please approve or reject this requisition.

Lookup Type: PD Document Approval Action [Edit]

Default

Type: Constant

Value: Approve [Edit]

Clear

OK Cancel Apply Help

- Special Attribute  
NAME = RESULT

## WF\_NOTIFICATIONS - Runtime

- Group\_id – notification\_id in WF\_ITEM\_ACTIVITY\_STATUSES
- Notification\_id – will be different if Expand Roles was checked
- Message\_Type – ITEM\_TYPE
- Message\_Name – Message in WF\_ITEM\_ACTIVITY\_STATUSES

* NOTIFICATION_ID	NUMBER	Yes
GROUP_ID	NUMBER	Yes
MESSAGE_TYPE	VARCHAR2 (8)	Yes
MESSAGE_NAME	VARCHAR2 (30)	Yes
RECIPIENT_ROLE	VARCHAR2 (320)	Yes
STATUS	VARCHAR2 (8)	Yes
ACCESS_KEY	VARCHAR2 (80)	Yes
MAIL_STATUS	VARCHAR2 (8)	
PRIORITY	NUMBER	
BEGIN_DATE	DATE	
END_DATE	DATE	
DUE_DATE	DATE	
RESPONDER	VARCHAR2 (30)	

## WF\_NOTIFICATIONS - Runtime

- Recipient\_Role – Perform\_Role in WF\_PROCESS\_ACTIVITIES
- Due\_Date – Begin\_Date plus Timeout

* NOTIFICATION_ID	NUMBER	Yes
GROUP_ID	NUMBER	Yes
MESSAGE_TYPE	VARCHAR2 (8)	Yes
MESSAGE_NAME	VARCHAR2 (30)	Yes
RECIPIENT_ROLE	VARCHAR2 (320)	Yes
STATUS	VARCHAR2 (8)	Yes
ACCESS_KEY	VARCHAR2 (80)	Yes
MAIL_STATUS	VARCHAR2 (8)	
PRIORITY	NUMBER	
BEGIN_DATE	DATE	
END_DATE	DATE	
DUE_DATE	DATE	
RESPONDER	VARCHAR2 (320)	

## WF\_NOTIFICATIONS - Runtime

- Responder – actual role or email address
- Original\_Recipient – recipient before forwarding
- From\_Role – role that sent notification (forwarded)
- From\_To\_User – Display\_Name of role

RESPONDER	VARCHAR2 (320)	
USER_COMMENT	VARCHAR2 (4000)	
CALLBACK	VARCHAR2 (240)	
CONTEXT	VARCHAR2 (2000)	
ORIGINAL_RECIPIENT	VARCHAR2 (320)	Yes
FROM_USER	VARCHAR2 (320)	
TO_USER	VARCHAR2 (320)	
SUBJECT	VARCHAR2 (2000)	
LANGUAGE	VARCHAR2 (4)	
MORE_INFO_ROLE	VARCHAR2 (320)	
FROM_ROLE	VARCHAR2 (320)	

## WF\_NOTIFICATIONS - Runtime

- More\_info\_Role – role information requested from
- Subject – shows & token substitutions

RESPONDER	VARCHAR2 (320)	
USER_COMMENT	VARCHAR2 (4000)	
CALLBACK	VARCHAR2 (240)	
CONTEXT	VARCHAR2 (2000)	
ORIGINAL_RECIPIENT	VARCHAR2 (320)	Yes
FROM_USER	VARCHAR2 (320)	
TO_USER	VARCHAR2 (320)	
SUBJECT	VARCHAR2 (2000)	
LANGUAGE	VARCHAR2 (4)	
MORE_INFO_ROLE	VARCHAR2 (320)	
FROM_ROLE	VARCHAR2 (320)	

## WF\_NOTIFICATIONS - Runtime

- Status
  - OPEN
  - CLOSED
  - CANCELLED
- MAIL\_STATUS
  - NULL
  - MAIL
  - SENT
  - ERROR

* NOTIFICATION_ID	NUMBER	Yes
GROUP_ID	NUMBER	Yes
MESSAGE_TYPE	VARCHAR2 (8)	Yes
MESSAGE_NAME	VARCHAR2 (30)	Yes
RECIPIENT_ROLE	VARCHAR2 (320)	Yes
STATUS	VARCHAR2 (8)	Yes
ACCESS_KEY	VARCHAR2 (80)	Yes
MAIL_STATUS	VARCHAR2 (8)	
PRIORITY	NUMBER	
BEGIN_DATE	DATE	
END_DATE	DATE	
DUE_DATE	DATE	
RECORDED	VARCHAR2 (30)	

# WF\_NOTIFICATION\_ATTRIBUTES - Runtime

- Name – Name in WF\_MESSAGE\_ATTRIBUTES

* NOTIFICATION_ID	NUMBER		Yes
* NAME	VARCHAR2	(30)	Yes
TEXT_VALUE	VARCHAR2	(4000)	
NUMBER_VALUE	NUMBER		
DATE_VALUE	DATE		
EVENT_VALUE	WF_EVENT_T	(1)	

## **WF\_ITEM\_ACTIVITY\_STATUSES\_V**

- Joins
  - WF\_ITEM\_TYPES and WF\_ITEM\_TYPES\_TL
  - WF\_ITEMS
  - WF\_ACTIVITIES and WF\_ACTIVITIES\_TL
  - WF\_PROCESS\_ACTIVITIES
  - WF\_ACTIVITY\_STATUSES and \_H
- Great for queries
  - Not so great if joins to other views/tables involved
  - OK for EXISTS, NOT EXISTS, IN

## WF\_ITEM\_ACTIVITY\_STATUSES\_V

ITEM_TYPE	ITEM_TYPE_DISPLAY_NAME	ITEM_TYPE_DESCRIPTION	ITEM_KEY	USER_KEY	ITEM_BEGIN_DATE	ITEM_END_DATE
AEXP	Expenses		12000		28-Jul-2000 10:49:54 AM	
AEXP	Expenses		15477	W15477	12-Jun-2003 2:01:31 PM	
AEXP	Expenses		13267	W13267	27-Feb-2002 8:26:06 AM	
AEXP	Expenses		13286	W13286	27-Feb-2002 9:32:02 AM	
AEXP	Expenses		13288	W13288	27-Feb-2002 9:36:59 AM	
AEXP	Expenses		13289	W13289	27-Feb-2002 9:38:36 AM	

- Information from WF\_ITEM\_TYPES, WF\_ITEMS, WF\_ITEM\_TYPES\_TL

## WF\_ITEM\_ACTIVITY\_STATUSES\_V

ACTIVITY_ID	ACTIVITY_LABEL	ACTIVITY_NAME	ACTIVITY_DISPLAY_NAME	ACTIVITY_DESCRIPTION	ACTIVITY_TYPE_CODE	ACTIVITY_TYPE_DISPLAY_
156033	INFORM_PREP_NO_MANAGER_RESP	INFORM_NO_MANAGER_RESPONSE	Inform Preparer - No Manager Respons		NOTICE	Notice
481509	INFORM_SYSADM_NO_APPROVER	INFORM_NO_APPROVER	Inform System Administrator - No Appro		NOTICE	Notice
361655	INFORM_SYSADM_NO_APPROVER	INFORM_NO_APPROVER	Inform System Administrator - No Appro		NOTICE	Notice
361655	INFORM_SYSADM_NO_APPROVER	INFORM_NO_APPROVER	Inform System Administrator - No Appro		NOTICE	Notice
361655	INFORM_SYSADM_NO_APPROVER	INFORM_NO_APPROVER	Inform System Administrator - No Appro		NOTICE	Notice
361655	INFORM_SYSADM_NO_APPROVER	INFORM_NO_APPROVER	Inform System Administrator - No Appro		NOTICE	Notice

- Information from WF\_PROCESS\_ACTIVITIES, WF\_ACTIVITIES, WF\_ACTIVITIES\_TL, FND\_LOOKUPS

## WF\_ITEM\_ACTIVITY\_STATUSES\_V

EXECUTION_TIME	ACTIVITY_BEGIN_DATE	ACTIVITY_END_DATE	ACTIVITY_STATUS_CODE	ACTIVITY_STATUS_DISPLAY_NAME	ACTIVITY_RESULT_CODE	ACTIVITY_RESULT_DISPLAY_NAME
6387	24-Jul-2003 2:32:32 PM		ERROR	Error	#MAIL	Mail
6133	24-Jul-2003 2:32:24 PM		ERROR	Error	#MAIL	Mail
5766	24-Jul-2003 2:32:22 PM		ERROR	Error	#MAIL	Mail
5832	24-Jul-2003 2:32:22 PM		ERROR	Error	#MAIL	Mail
5878	24-Jul-2003 2:32:23 PM		ERROR	Error	#MAIL	Mail
5901	24-Jul-2003 2:32:23 PM		ERROR	Error	#MAIL	Mail

- Information from WF\_ITEM\_ACTIVITY\_STATUSES (or \_H), FND\_LOOKUPS, WF\_CORE.ACTIVITY\_RESULT

## WF\_ITEM\_ACTIVITY\_STATUSES\_V

ASSIGNED_USER	ASSIGNED_USER_DISPLAY_NAME	NOTIFICATION_ID	OUTBOUND_QUEUE_ID	ERROR_NAME	ERROR_MESSAGE	ERROR_STACK
ARYAN		658758		WF_ERROR	9004: An error has	
SYSADMIN	SYSADMIN	658748		WF_ERROR	9004: An error has	
SYSADMIN	SYSADMIN	658733		WF_ERROR	9004: An error has	
SYSADMIN	SYSADMIN	658735		WF_ERROR	9004: An error has	
SYSADMIN	SYSADMIN	658737		WF_ERROR	9004: An error has	
SYSADMIN	SYSADMIN	658738		WF_ERROR	9004: An error has	

- Information from WF\_ITEM\_ACTIVITY\_STATUSES (or \_H), FND\_LOOKUPS, WF\_DIRECTORY.GETROLEDISPLAYNAME

## Sample Queries

```
PROMPT total workflows (open and closed)
```

```
SELECT    COUNT (*)  
          , item_type  
FROM      wf_items  
GROUP BY  item_type;
```

# Sample Query Results

COUNT(*)	ITEM_TYPE
1	ADSCUSTM
8	ADSHRSSA
4	ADSSALAP
19	AMSAPRV
1	AMSTASK
2	APEMPVIFY
23	APEXP
21	APINV
18	APVRMDER

COUNT(*)	ITEM_TYPE
16	PAXWFHRU
5	POERROR
9	PONAUCT
14	PONPBLSH
98	PORCPT
1	POSCHPDT
98	POSPOACK
2	POWFPOAG
148	POWFRQAG

## Sample Queries

```
PROMPT active workflows  
PROMPT (errored AND non-errored)
```

```
SELECT    COUNT (*)  
          , item_type  
          FROM wf_items  
          WHERE end_date IS NULL  
          GROUP BY item_type;
```

# Sample Query Results

COUNT(*)	ITEM_TYPE
8	ADSHRSSA
4	ADSSALAP
19	AMSAPRV
1	AMSTASK
2	APEMPVIFY
23	APEXP
2	APINV
18	APVRMDER
5	ASXLDASW

COUNT(*)	ITEM_TYPE
9	PONAUCT
14	PONPBLSH
97	PORCPT
1	POSCHPDT
98	POSPOACK
2	POWFPOAG
148	POWERFRQAG
6	PQHGEN
1	PSBBR

## Sample Queries

```
PROMPT open workflows WITH an activity IN  
PROMPT error status
```

```
SELECT    COUNT (*)  
          , item_type  
  FROM wf_item_activity_statuses_v  
 WHERE activity_status_code = 'ERROR'  
       AND item_end_date IS NULL  
 GROUP BY item_type;
```

# Sample Query Results

COUNT(*)	ITEM_TYPE
1	ADSSALAP
9	AMSAPRV
1	AMSTASK
2	APEMPVIFY
22	APEXP
2	APINV
5	ASXLDASW
64	ASXSLASW
97	CNCOMPPR

COUNT(*)	ITEM_TYPE
1	PONAUCT
8	PONPBLSH
1	POSCHPDT
98	POSPOACK
24	POWFRQAG
6	PQHGEN
1	PSBBR
32	PSBWS
17	PVLEADAS

## Sample Queries

```
PROMPT open workflows AND THE errored  
PROMPT activity (further breakdown OF  
PROMPT previous QUERY)
```

```
SELECT    COUNT (*), item_type  
          , activity_name  
  FROM wf_item_activity_statuses_v  
 WHERE activity_status_code = 'ERROR'  
       AND item_end_date IS NULL  
 GROUP BY item_type, activity_name;
```

# Sample Query Results

COUNT(*)	ITEM_TYPE	ACTIVITY_NAME
1	ADSSALAP	HR_APP_SAL
9	AMSAPRV	AMS_REVERT_STATUS
1	AMSTASK	NOOP
2	APEMPVFY	MARK_REMAINING_TRANS_VERIFIED
4	APEXP	AP_MANAGER_APPROVAL_PROCESS
1	APEXP	INFORM_AP_VALIDATE_FAILURE
16	APEXP	INFORM_NO_APPROVER
1	APEXP	INFORM_NO_MANAGER_RESPONSE
2	APINV	APINV_IA

COUNT(*)	ITEM_TYPE	ACTIVITY_NAME
1	PONAUCT	PON_PUBLISH_AUCTION
8	PONPBLSH	NOT_BIDDERS_AUC_START
1	POSCHPDT	MAIN_PROCESS
97	POSPOACK	GET_SUPPLIER
1	POSPOACK	NOTIFY_SUPPLIER2
3	POWFRQAG	BUILD_ACCRUAL_PROJECT_ACC
5	POWFRQAG	BUILD_EXP_PROJECT_ACC
1	POWFRQAG	FND_FLEX_ABORT_GENERATION
15	POWFRQAG	FND_FLEX_COPY_FROM_COMB

## Sample Queries

PROMPT WFERROR workflows AND THE workflow PROMPT  
that errored OUT TO CALL it

```
SELECT    parent_item_type
          ,DECODE (end_date, NULL, 'OPEN', 'CLOSED')
wferror_status,COUNT (*)
  FROM wf_items
  WHERE item_type = 'WFERROR'
GROUP BY parent_item_type
          ,DECODE (end_date, NULL, 'OPEN', 'CLOSED');
```

# Sample Query Results

PARENT_ITEM_TYPE	WFERROR_STATUS	COUNT(*)
APEMPVFY	CLOSED	2
APEXP	CLOSED	37
APEXP	OPEN	4
APINV	CLOSED	5
APINV	OPEN	1
ASXSLASW	CLOSED	1
ASXSLASW	OPEN	6
CSMTYPE3	CLOSED	1
CSMTYPE3	OPEN	1

OAM_BE	OPEN	2
OEOL	CLOSED	104
POSCHPDT	CLOSED	3
POSPOACK	CLOSED	106
POWFRQAG	CLOSED	35
PSBBR	CLOSED	1
PSBWS	CLOSED	32
SERVEREQ	OPEN	1
	OPEN	4

## Sample Queries

PROMPT when an event errors

```
SELECT    COUNT (*)
          , text_value
  FROM wf_item_attribute_values
 WHERE item_type = 'WFERROR'
       AND NAME = 'EVENT_NAME'
       AND text_value IS NOT NULL
 GROUP BY text_value;
```

## Sample Query Results

COUNT(*)	TEXT_VALUE
1	oracle.apps.ap.event.invoice.approval
3	oracle.apps.ar.hz.Location.create


Thank you!

Karen Brownfield

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