MBUG 2017

Banner Workflow Boot Camp

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Session Rules of Etiquette

- Please turn off your cell phone
- If you must leave the session early, please do so discreetly
- Please avoid side conversation during the session

Why would you use a Banner Workflow(WF)?

- Simplifies and directs the flow of work throughout your entire organization:
  - ◦ Replace paperwork
  - ◦ Send electronic notifications
- Provides timely movement of work between role players
- Perform repetitive tasks – update records using PL/SQL
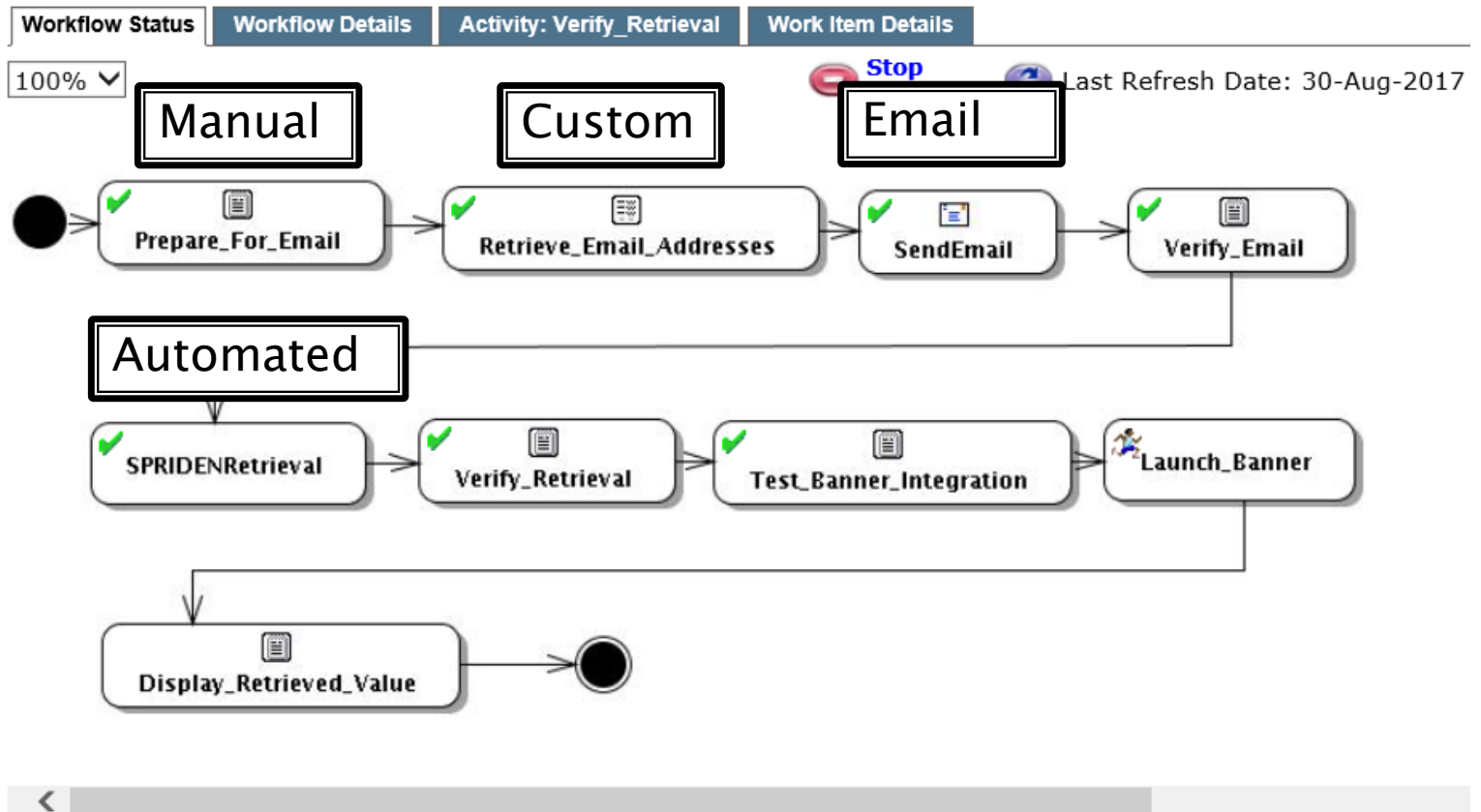- **Promotes process improvement within your organization**

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Banner WF Features

- Sequential/Parallel processing
- Directed activities
- Proxy support
- Banner integration
- Activity types
  - Interactive
  - Manual
  - Automated
  - Email
  - Custom
  - Approval

Example: System Verification Workflow

Examples of WFs at JSU

- Employees termination notification
- Admissions Checklist item notification (received, added)
- Admissions decision notification (Grad and Ugrad)
- Graduation Clearance Denial notification
- Next approver notifications for Requisitions and Budget Transfers
- Supervisor Timesheet Approval notice
- Change of Major workflow

WF Administrative tasks

- MIF/Organizations
- User/Role Management
- Security Management
- On-Line Users
- Business Components
- Workflow Alerts
- In-process Monitoring
- Deleting Workflows

WF Admin tasks (cont'd)

- Supports Multiple Institution Functionality (using Oracle VPD)
- User Management
  - Identified by User accounts
  - ID/Password
- Role management – groups of skills – more complex, since one user can have more than one role
  - Types – Primary, Proxy
  - Determines which activities you see on your worklist

WF Admin tasks (cont'd)

- Security Management
  - There exists a security group for all administrative tasks
  - Access is handled by adding roles to security groups
- On-Line users
  - Ability to view who is currently logged into the workflow system

Business Components

▸ Are reusable units of work: launch a Banner form; run a SQL procedure or query; launch a desktop application

▸ Define the data to be used and the work that will be performed

▸ Are organized logically, i.e. Student, Finance, HR

▸ Each component in a category is unique by name, product type, and release ID combination

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Business Components (cont'd)

▸ Component Types – Internal
- ◦ Runs on the WF server
- ◦ No user interaction required
- ◦ Examples: SQL query, SQL procedure

▸ Component Types – Interactive
- ◦ Runs on the client's machine
- ◦ Requires user interaction
- ◦ Examples: Banner form, desktop application

Business Components (cont'd)

- Technology Types
  - Tells Worklist how to launch
  - User-defined technology types
  - Delivered technology types

    - Desktop application, i.e. Word, Excel

    - Web application – default browser with URL populated

    - Banner forms – i.e. SPAPERS

    - SQL query

    - **SQL procedure – most common**

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Business Components (cont'd)

- Component Parameters
  - Used for data communication between component and workflow
  - Can be used in launch parameter values
  - Examples: Stored procedure, Banner form

Workflow Alerts

▸ Used to notify workflow owner that a workflow instance has entered a stalled or error state

▸ Monitor on a daily basis

  ▸ Workflow alert examples:

    ◦ Single guard condition not satisfied
    ◦ User in directed activity not found
    ◦ Error in automatic activity

Workflow Alerts (cont'd)

- Workflow Maintenance
  - Looks like workflow status
  - Contains the alert
  - Allows the following activities
    - Change context parameter values
    - Force transitions
    - Release alert
    - Stop workflow
    - Force complete on activity
  - Workflow alert will go away once it is handled

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In-Process Monitoring

- Report of running workflow instance for a specified workflow model
- Applies to workflows with an 'Active' status and 'Test' status
- Example

Deleting Workflows

- Uses constraints to minimize search results
- Completely removes these workflow instances from the system
- Use extreme caution when deleting!
- Example

Workflow/Banner Events – Objectives

- Event Overview
- Set Up: Five-step process
- External Events

Event Overview

- A business event is an action that will eventually launch an instance of a workflow
- Examples of when to capture a business event in Banner
  - A change to a table in the Banner database
  - Specific conditions are met in PL/SQL code

Event Overview

Banner Form

Workflow

Event Dispatcher

External Events

Business Processes

Mapped workflows

Oracle
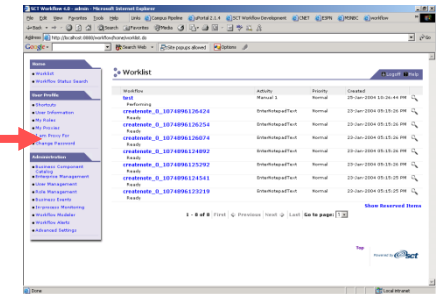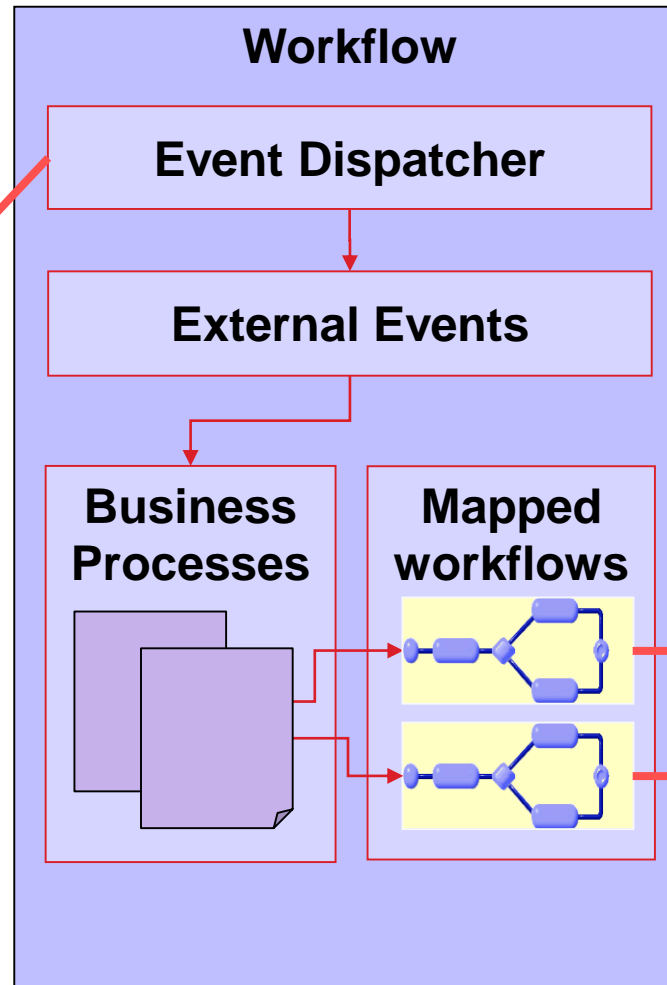
Worklist
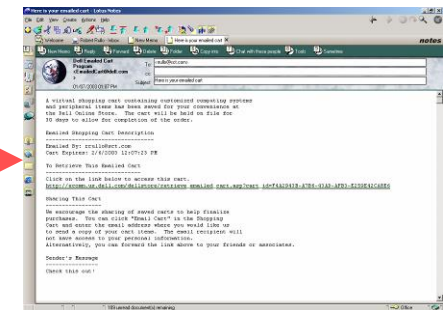
Email

WF Setup: Five-step process

1. Define event in Banner
2. Create trigger/procedure that fires an instance of the event
3. Model the WF that event will launch
4. Define event in WF
5. Define business process in WF

Step 1 – Define Banner Event

▸ Uses five forms/tables:

- **GTVEQNM** – Event Name Validation

- **GTVEQPM** – Parameter Name Validation

- **GTVEQPG** – Parameter Group Validation

- **GOREQPG** – Parameter Group Definition

- **GOREQNM** – Event Definition

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Step 1 – Define Banner Event (cont'd)

▸ **GTVEQNM** – Event Name Validation

Step 1 – Define Banner Event (cont'd)

▸ **GTVEQPM** – Parameter Name Validation

Step 1 – Define Banner Event (cont'd)

▸ **GTVEQPG** – Parameter Group Validation

Step 1 – Define Banner Event (cont'd)

▸ **GOREQPG** – Parameter Group Definition

Step 1 – Define Banner Event (cont'd)

▸ **GOREQNM** – Event Definition

Step 2 – Create trigger/procedure that fires an instance of the event

- Most events are fired via a trigger
- Can also fire in a procedure or package
- Uses GOKPARM / GOKEVNT packages

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Step 2 – Create trigger/procedure that fires an instance of the event (cont'd)

```
CREATE OR REPLACE TRIGGER BANINST1.JSU_WF_FIN_FOBAPPH_INS
   AFTER INSERT
   ON FIMSMGR.FOBAPPH
   REFERENCING NEW AS NEW OLD AS OLD
   FOR EACH ROW
WHEN (
NEW.FOBAPPH_QUEUE_ID = 'DENY'
     )
BEGIN

   SUBMIT_WF_EVENT ('REQUISITION_DENIED',
            'Requisition ' || :NEW.FOBAPPH_DOC_CODE || ' Denied',
            :NEW.FOBAPPH_DOC_CODE);

END JSU_WF_FIN_FOBAPPH_INS;
```
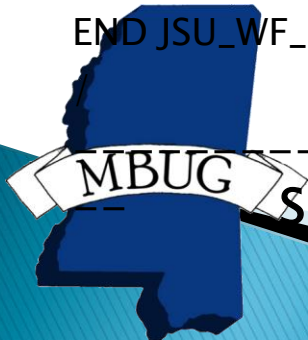
SUBMIT_WF_EVENT package calls GOKEVNT and GOKPARM

Step 3 – Create the WF in Modeler

- Create the workflow model using the Workflow Modeler
  - Building blocks:
    - Start
    - Activities: component, email, manual, approval, custom
    - Transitions
    - Branching
    - Timer activity
    - Parallel activity
    - Stop

- Example

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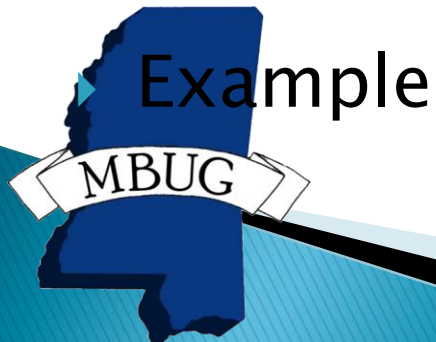
Step 3 – Create the WF in Modeler (cont'd)

- Parameters
  - Parameters are the data used in a workflow
  - Parameters are passed to the workflow when it starts
  - Parameters are passed to and from workflow activities
- Parameters types:
  - Context parameters (*need to be created*)
  - Component parameters (define data fields used by an activity)
  - Attributes (Originator; WF specific name)
  - Event parameters
  - *discussed with Business Events

Step 3 – Create the WF in Modeler (cont'd)

- Parameter Mapping
  - **FROM context TO component**
    - **->input (IN)**
  - **FROM component TO context**
    - **<-output (OUT)**

- WF Modeler Demo

Parameter Mappings

Context Parameter		Component Parameter	Type
Employee_ID	←	EMP_ID	Text
Employee_Name	←	EMP_NAME	Text
Termination_Date	←	EFF_TERM_DATE	Text
Originator_ID	←	ORIG_ID	Text
Originator_Name	←	ORIG_NAME	Text
Transaction_Number	→	**TRANSACTION_NO**	Text

Close

Step 4 – Define event in WF

- Workflow event names must match the Banner event names
- Workflow parameter names must match the Banner parameter names
- Wizard provides ability to get events from Banner -> Example
- Events are global
- Associate workflows that MAY get launched when workflow gets this event
  - Map event parameters to workflow parameters

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Step 5 – Define business process in WF

- Defines the evaluation process to use when events get posted to workflow
- Events can be part of multiple business processes
- A business process can have multiple events
- Each business process can only launch one workflow instance per organization
  - If an event should launch more than one workflow for an organization, create multiple business processes
  - Can associate more than one workflow and organization with a business process for different periods of time only

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WF Reports

- Workflows and specific tasks are reportable.
- – Report summary statistics
- – Time to completion
- – Workflow status
- – And more

WF Report example

```
SELECT A.WORKFLOW_NAME  "WF_NAME",
      (SELECT C1.VALUE
        FROM WORKFLOW.ENG_PROPERTIES_VALUES C1
        WHERE C1.NAME = 'ADMS_APP_NUM_IN' AND A.WF_ID = C1.ID)
        "APP_NUMBER",
      C.VALUE                    "TERM",
      A.NAME                     "LOCATION",
      B.FIRST_NAME || ' ' || B.LAST_NAME "PERFORMER",
      (  TO_DATE ('1970-01-01', 'YYYY-MM-DD')
       + start_date / (1000 * 60 * 60 * 24)
       - (6 / 24))
        "RECEIVED DATE"
   FROM WORKFLOW.VWORKITEMS        A,
      WORKFLOW.WFUSER           B,
      WORKFLOW.ENG_PROPERTIES_VALUES C
  WHERE    A.PD_ID = 7183086
      AND A.STOP_DATE IS NULL  --not completed
      AND A.RUNNING = 'Y'
      AND A.WORKLIST_OWNER = B.ID
      AND C.NAME = 'ADMS_TERM_IN'
      AND A.WF_ID = C.ID
ORDER BY 4, 5, 1, 2
```

Review/Wrap Up

▸ Questions
▸ Contact:

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