The Cornerstones of SAP Workflow
Session 805
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KEY LEARNING POINTS

- Key components of SAP Workflow engine
- How to build a workflow process
- How to configure and use advanced features in SAP Workflow
1. Introduction
2. Workflow architecture
3. Container concept
4. Event concept
5. Rules
6. Workflow administration
Workflow has the highest impact on the electronic processing of structured processes

- Including a range of activities
- That frequently occur in a similar or identical form
- Involve several people or departments
- Require a high degree of coordination
1. Introduction

2. Workflow architecture
   a) Object types
   b) Single step tasks
   c) Multi step tasks
   d) Responsibilities

3. Container concept

4. Event concept

5. Rules

6. Workflow administration
WORKFLOW ARCHITECTURE

Multi step task

Single step tasks

Agent
Single step task
Agent
Single step task
Agent
Single step task
Agent
Single step task

Business object repository

Business object
Business object
Business object
Business object

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• Represent a “real-world” object that exists in the business environment
• Stored in SAP Object Repository (Transaction SWO1)
• Object type components are
  • Interfaces (where does the object apply)
  • Key (how is it identified)
  • Attributes (how is it described)
  • Methods (what can be done with it)
  • Events (what can happen to it)
• Business object are new objects types generally more detailed than traditional object types and with BAPI integration
Object Types

• Example: Object FIPP (Parked invoice document)

• Key consists of company code, document number, and fiscal year
• Represents a specific step in a business process
• Access with transaction PFTC
• Single step task components are
  • Object type (what is worked on)
  • Method (what is done with the object)
  • Possible users (who may execute the task in general)
  • Work item text (task headline that appears in inbox)
  • Notification (text for information upon completion)
  • Deadline (text for information when deadline is exceeded)
  • Triggering/terminating event (when is task started/complete)
• Distinguish standard (client independent in defined number range) and customer (client dependent in 500 number)
Example: Task TS00007919 (Change parked invoice document)
• Represents a chain of single step tasks and events
• Access with transaction SWDD (and PFTC)
• Multi step task components are
  • Control
    • Single step task
    • Dialog vs. background
  • Responsibility
    • Selected agents at runtime
  • Deadlines
    • Earliest/latest requested start/end
    • Notifications
• Distinguish workflow templates (WS, client) and workflow tasks (WF, client dependent)
MULTI STEP TASK

• Example: Template WS1000062 (Leave of absence)
• Represent the possible and the selected user(s) for the execution of a task
• Can be assigned statically or dynamically
• Generally defined based on the HR organizational structure
• Users can be excluded
### RESPONSIBILITIES

- **Example:** General task assignment for single step task as possible users
Example: User MARTIN assigned to task at runtime
• Step 1: Explore FIPP object
• Step 2: Create workflow template
• Step 3: Integrate single steps tasks
• Step 4: Assign responsibilities
1. Introduction
2. Workflow architecture
3. Container concept
   a) Definition
   b) Container types
   c) Bindings
4. Event concept
5. Rules
6. Workflow administration
Containers store information and allow the exchange of that information among the different components of a workflow process.

The information is stored as a data element and processed at runtime through bindings.
CONTAINER TYPES

- **Workflow container**: Contains all variables of the workflow definition.
- **Task container**: Contains all variables of the task display and completion.
- **Role parameter container**: Contains all variables of the role determination.
- **Event container**: Contains all variables of the event trigger and receiver.
- **Method parameter container**: Contains all variables for method execution.
Bindings administer the flow from one container to another.

Bindings are defined at time of implementation and are used at runtime.
CONTAINER CONCEPT - DEMO

- Step 1: Display method container for FIPP.CHANGE
- Step 2: Display binding method container to task container
- Step 3: Display workflow container
- Step 4: Display binding task container to workflow container
1. Introduction
2. Workflow architecture
3. Container concept
4. Event concept
   a) Definition
   b) Types of events
   c) Event creation
5. Rules
6. Workflow administration
An event is an occurrence on an object in the system.

Events are published and managed by the event manager who creates the link between creator and receiver and transfers the information between the two.
**Types of Events**

**Triggering event**
- Triggers a single step or a multi step task
- Has to be defined in task
- Has to be activated in the event link table
- Event: Receiver = m : n

**Terminating event**
- Terminates a single step task
- Has to be defined in task
- Event: Receiver = m : n
• Events are published by the “Event Creator” and transferred to the “Event receiver” by the “Event manager”

• Events can be created in multiple ways
  • Program code with function module (swe_event_create)
  • Link to change management
  • Link to status management
  • Link to message system
  • Link to HR tables (administration of info-types)

• Event has to be defined for a business object in the SAP object repository
• Step 1: Display event FIPP.CREATED
• Step 2: Link event to workflow template
AGENDA

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Rules allow for the dynamic assignment of agents to a task in a workflow at runtime.

Rules are created and maintained with transaction PFAC.
• Responsibility
Allows the use of elements in the rule container to determine agents at runtime without programming.

• Organizational data
Assign an object from HR organizational model as selected user, such as organizational unit, position, or job

• Function module
Create and assign a function module that will execute at runtime to determine selected users
• Step 1: Display a rule
• Step 2: Show how rule is implemented in workflow
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Access workflow administration by using transaction SWLD, then go to Administration->Workflow runtime

Important administrative transactions
- SWI2_ADM1: Work items without agents
- SWI2_DIAG: Diagnosis of workflows with errors
- SWPR: Restart workflow after error
- SWU3: Basic workflow customizing
- SWEQADM: Manage event queue
- RSWWERRE: Execute workflow error monitoring
- SWW_SARA: Archive work items
Questions?

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