Basic Concepts of SAP Workflow Development

Session: INT207

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KEY LEARNING POINTS

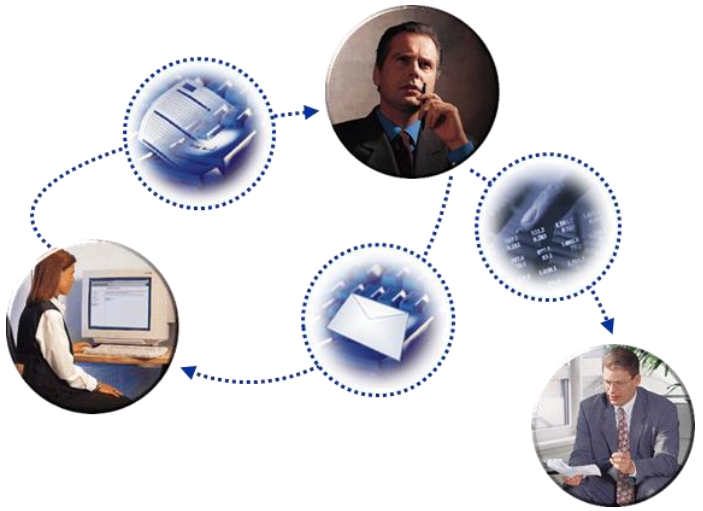
- Key components of SAP Workflow engine
- How to build a workflow process
- How to configure and use advanced features in SAP Workflow

AGENDA

1. Introduction
2. Workflow architecture
3. Container concept
4. Event concept
5. Rules
6. Workflow administration

INTRODUCTION

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

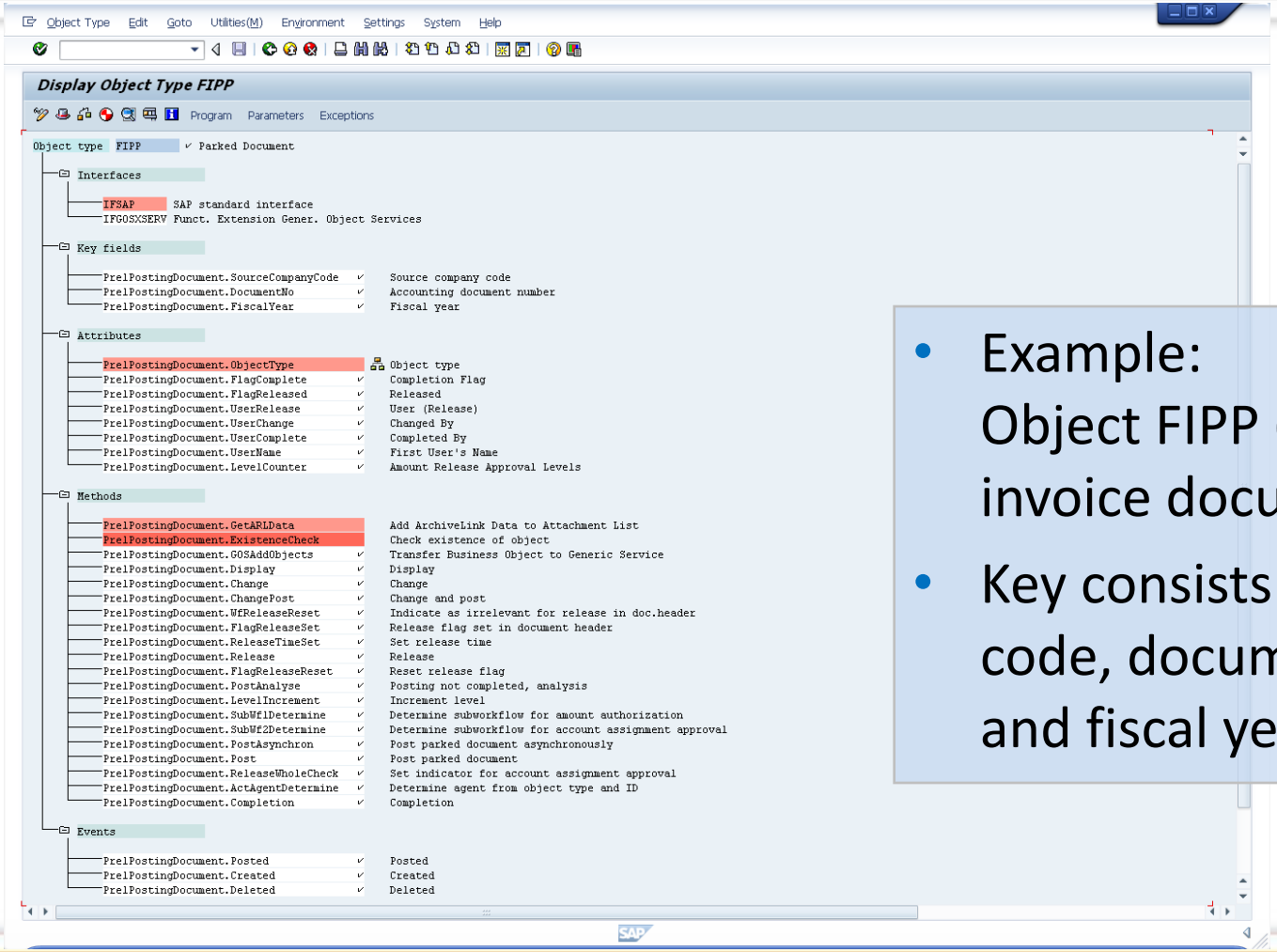
AGENDA

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

OBJECT TYPES

- 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

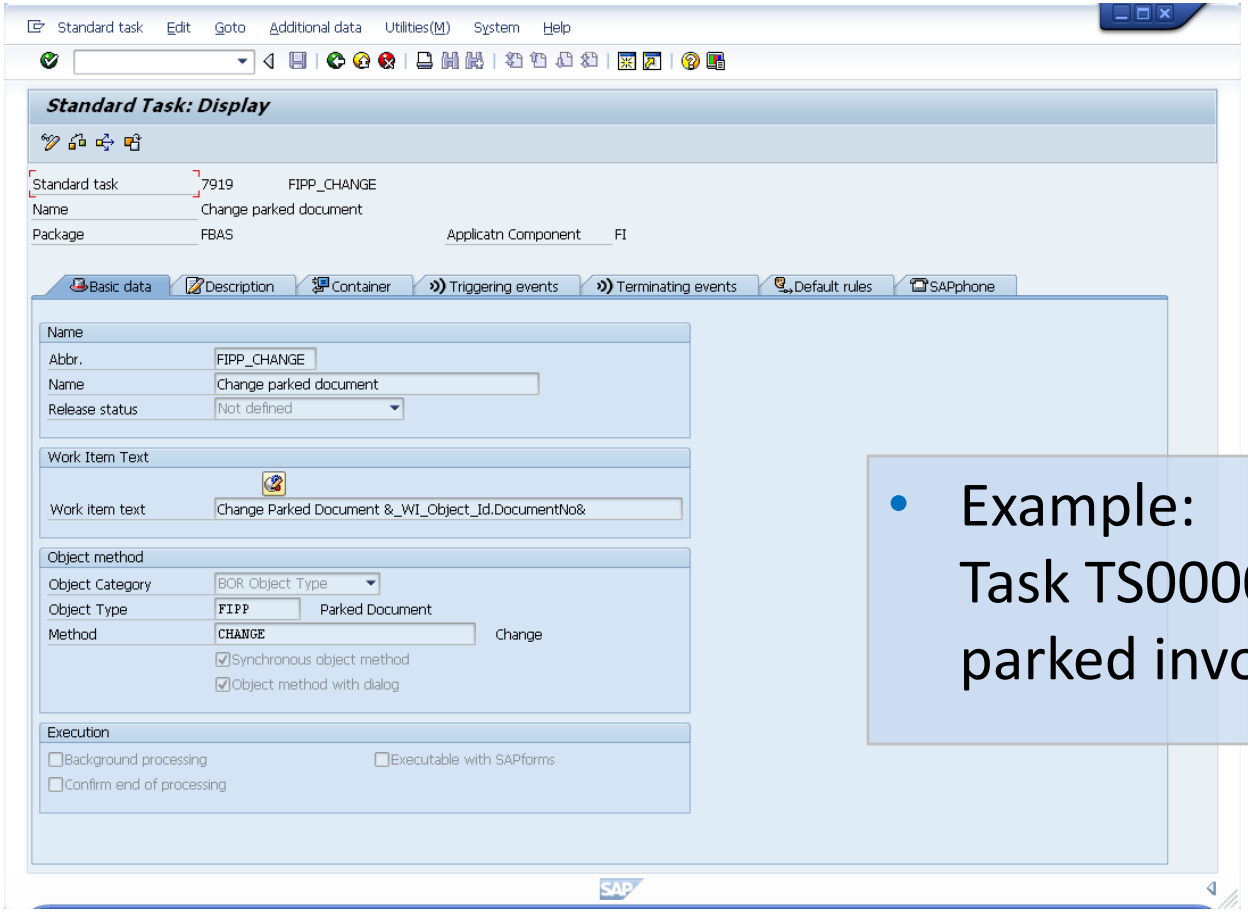


- Example:
  Object FIPP (Parked invoice document)
- Key consists of company code, document number, and fiscal year

SINGLE STEP TASK

- 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)

SINGLE STEP TASKS

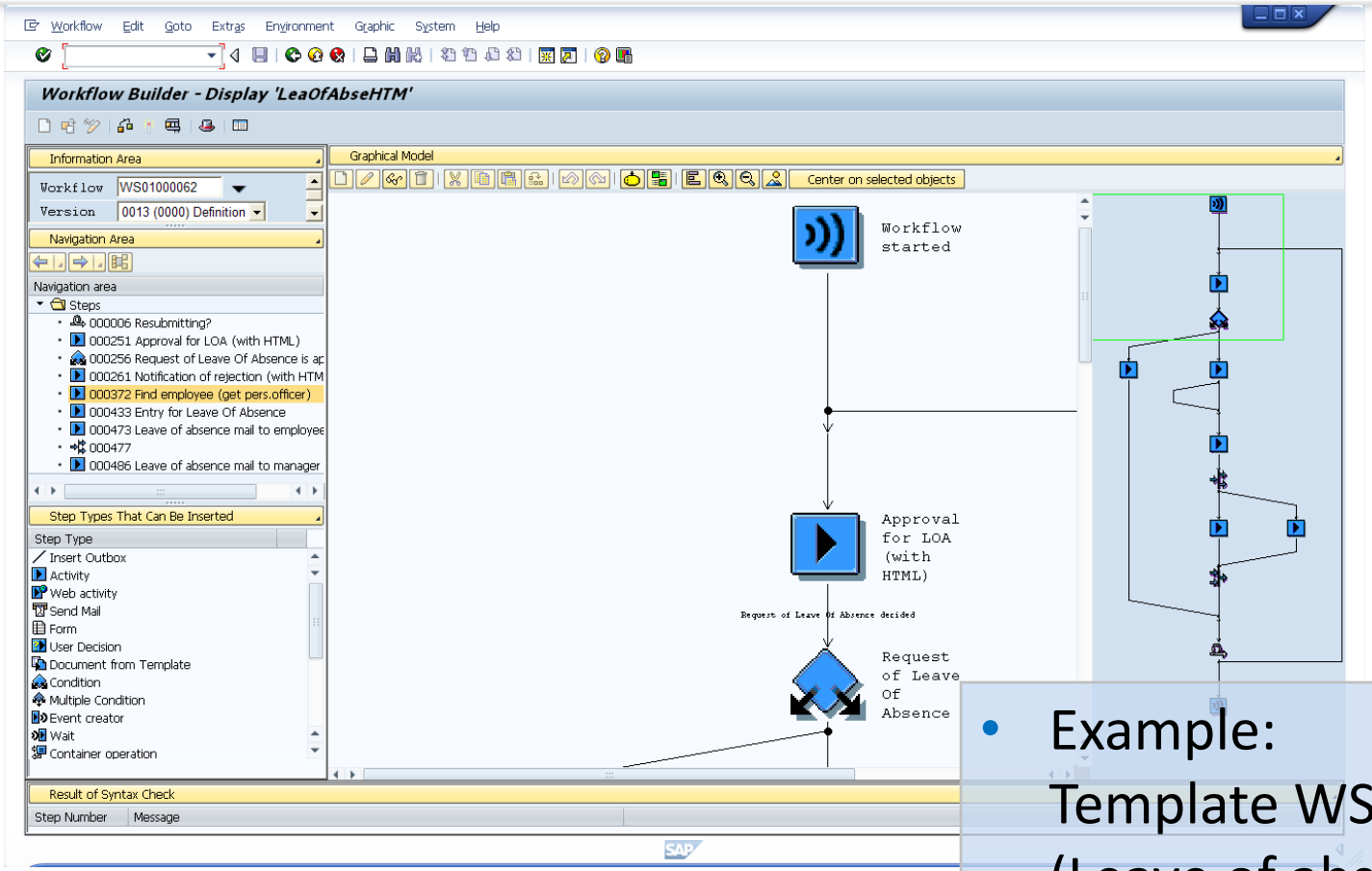


- Example:
  Task TS00007919 (Change parked invoice document)

MULTI STEP TASK

- 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

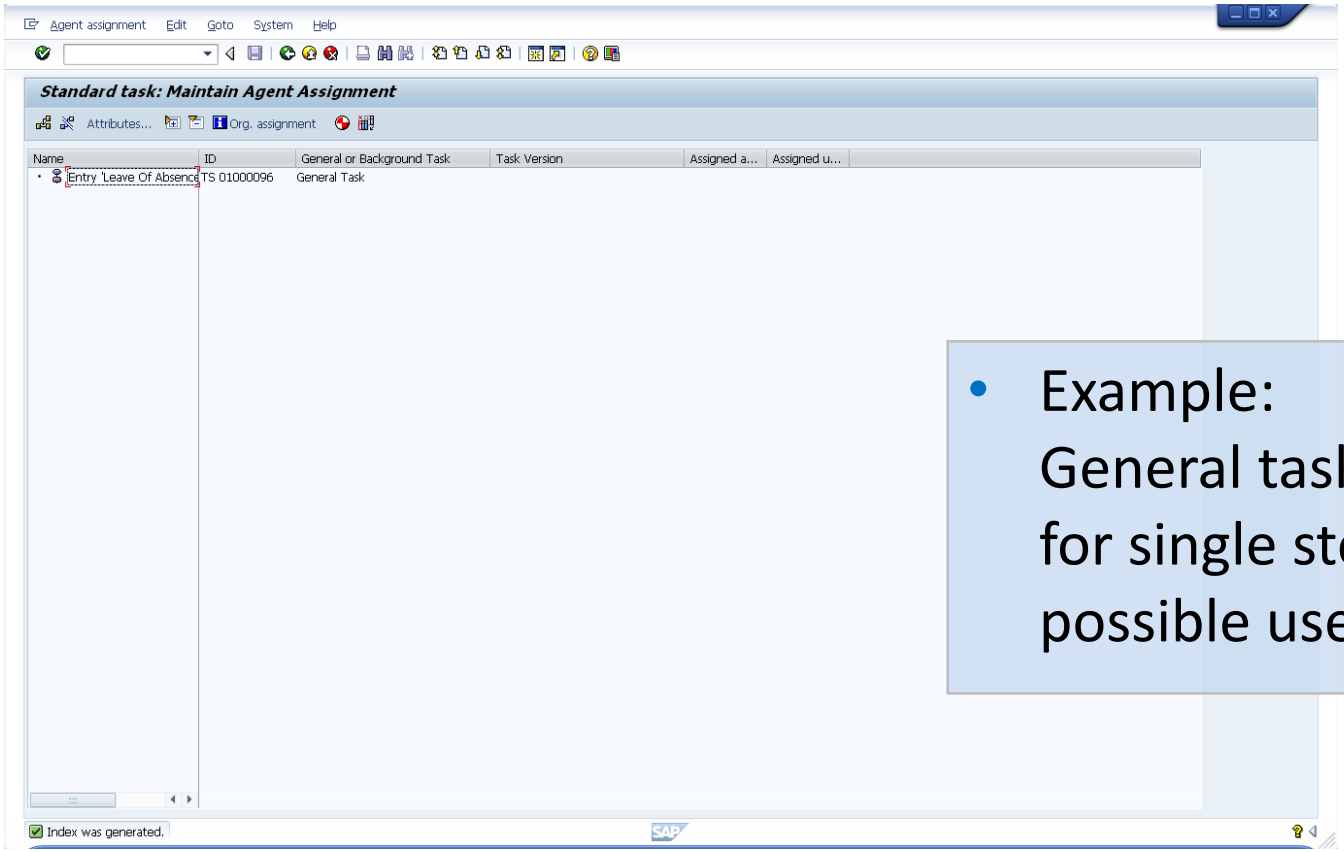


- Example: Template WS1000062 (Leave of absence)

RESPONSIBILITIES

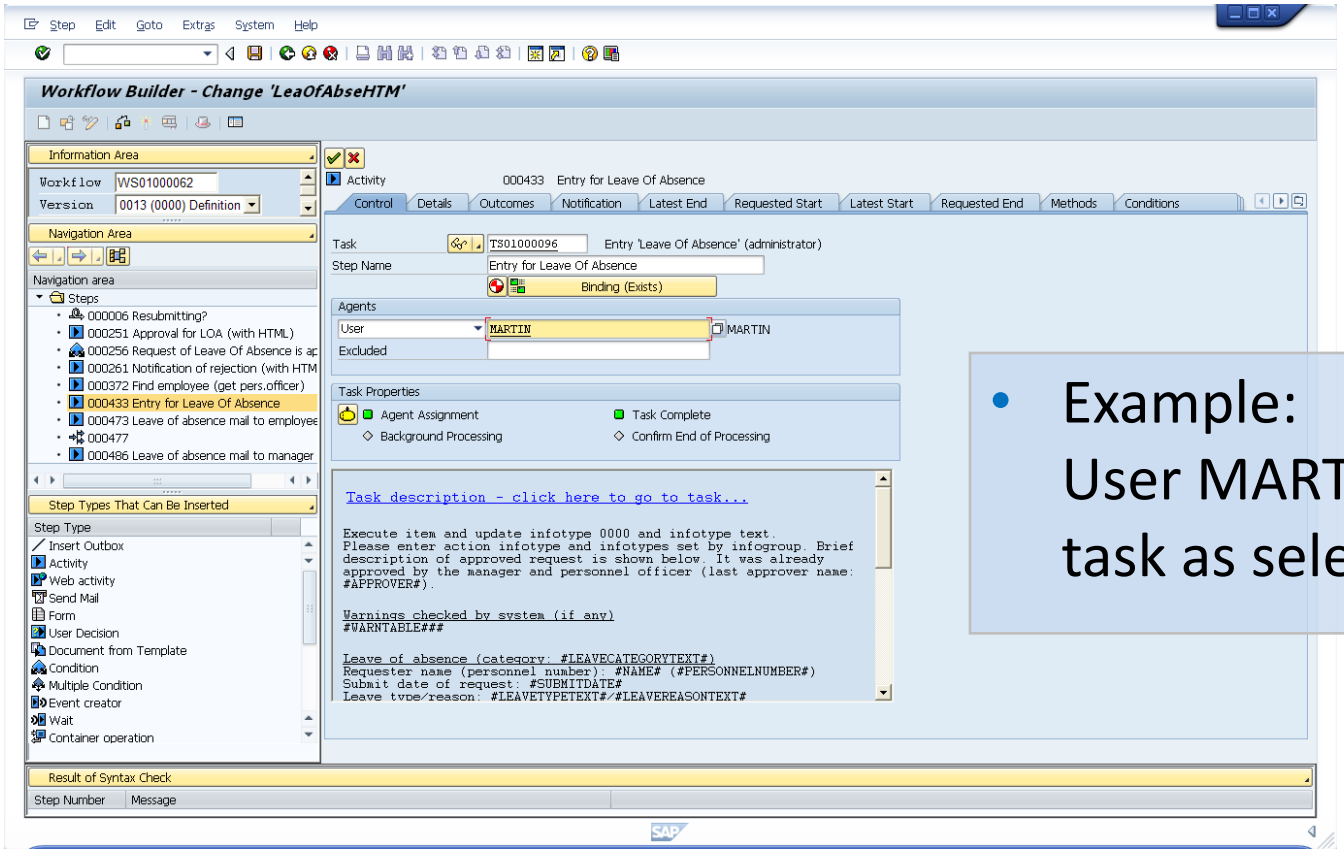
- Represent the possible and the selected user(s) for the execution of a task
- Can be assigned statically or dynamically
- Generally defined based on the HR organizational structure
- Users can be excluded

RESPONSIBILITIES



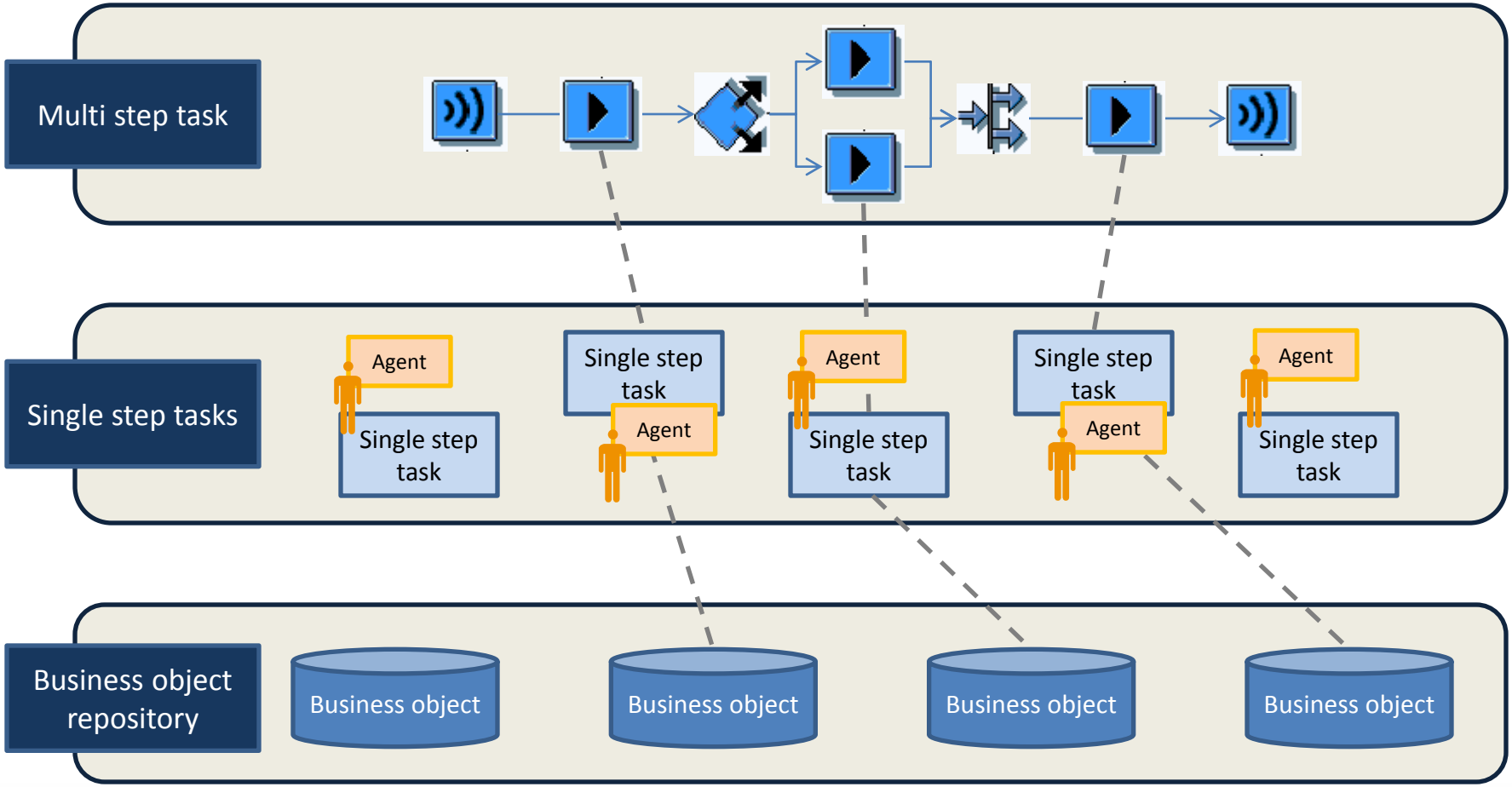
- Example:
  General task assignment for single step task as possible users

RESPONSIBILITIES



- Example:
  User MARTIN assigned to task as selected user

ARCHITECTURE



WORKFLOW ARCHITECTURE - DEMO

- Step 1: Explore FIPP object
- Step 2: Create workflow template
- Step 3: Integrate single steps tasks
- Step 4: Assign responsibilities

AGENDA

1. Introduction
2. Workflow architecture
3. Container concept
    a) Definition
    b) Container types
    c) Bindings
4. Event concept
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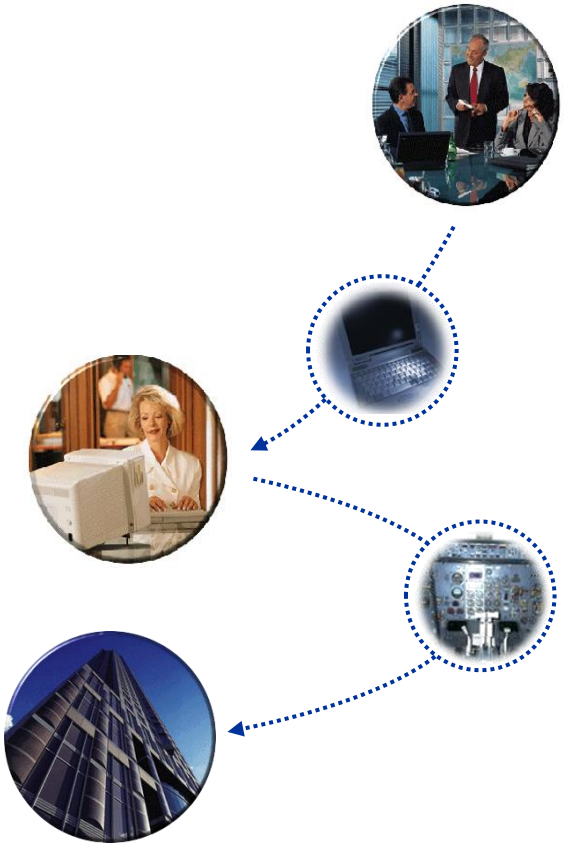
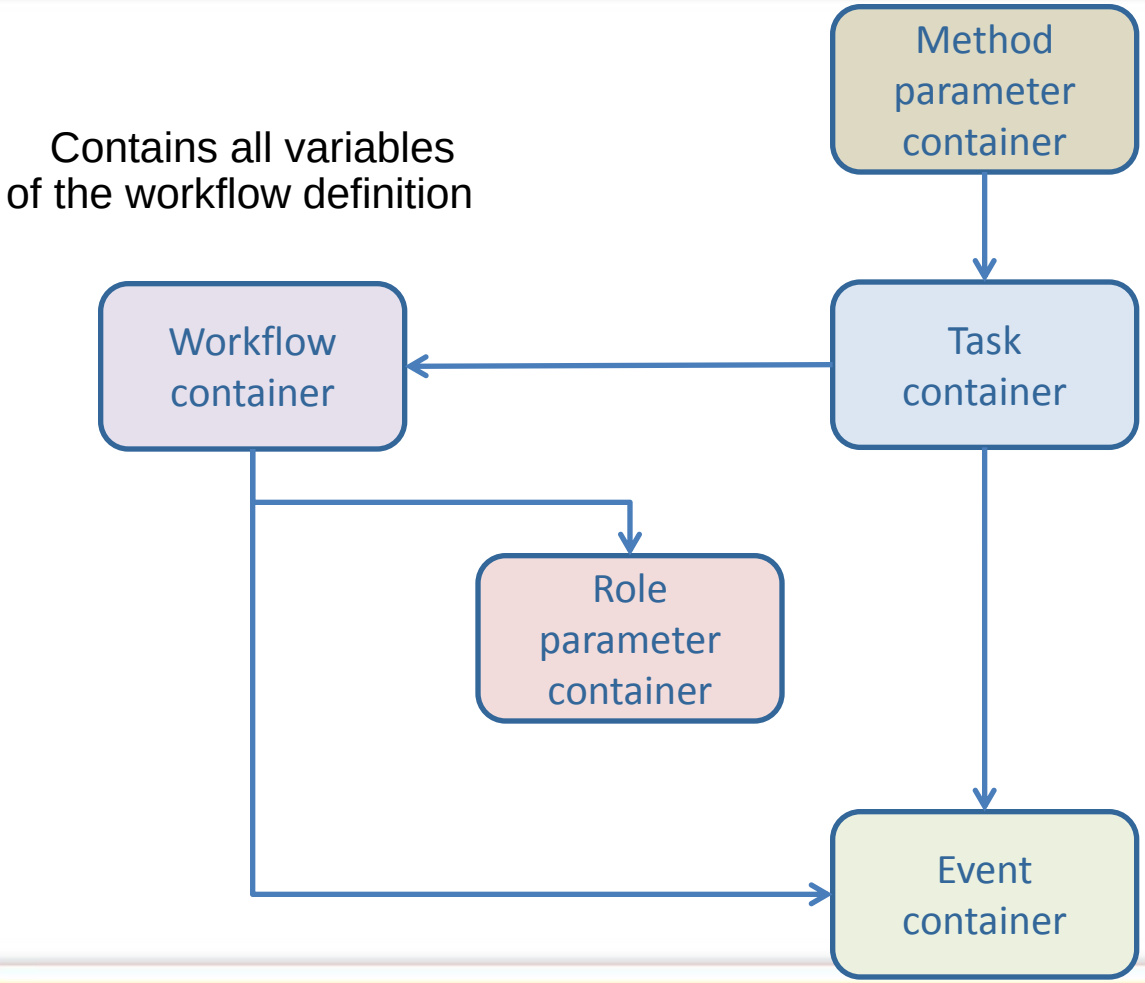
CONTAINER DEFINITION

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.



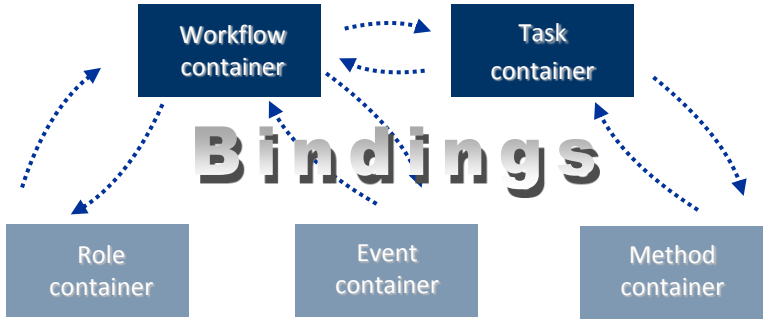
CONTAINER TYPES



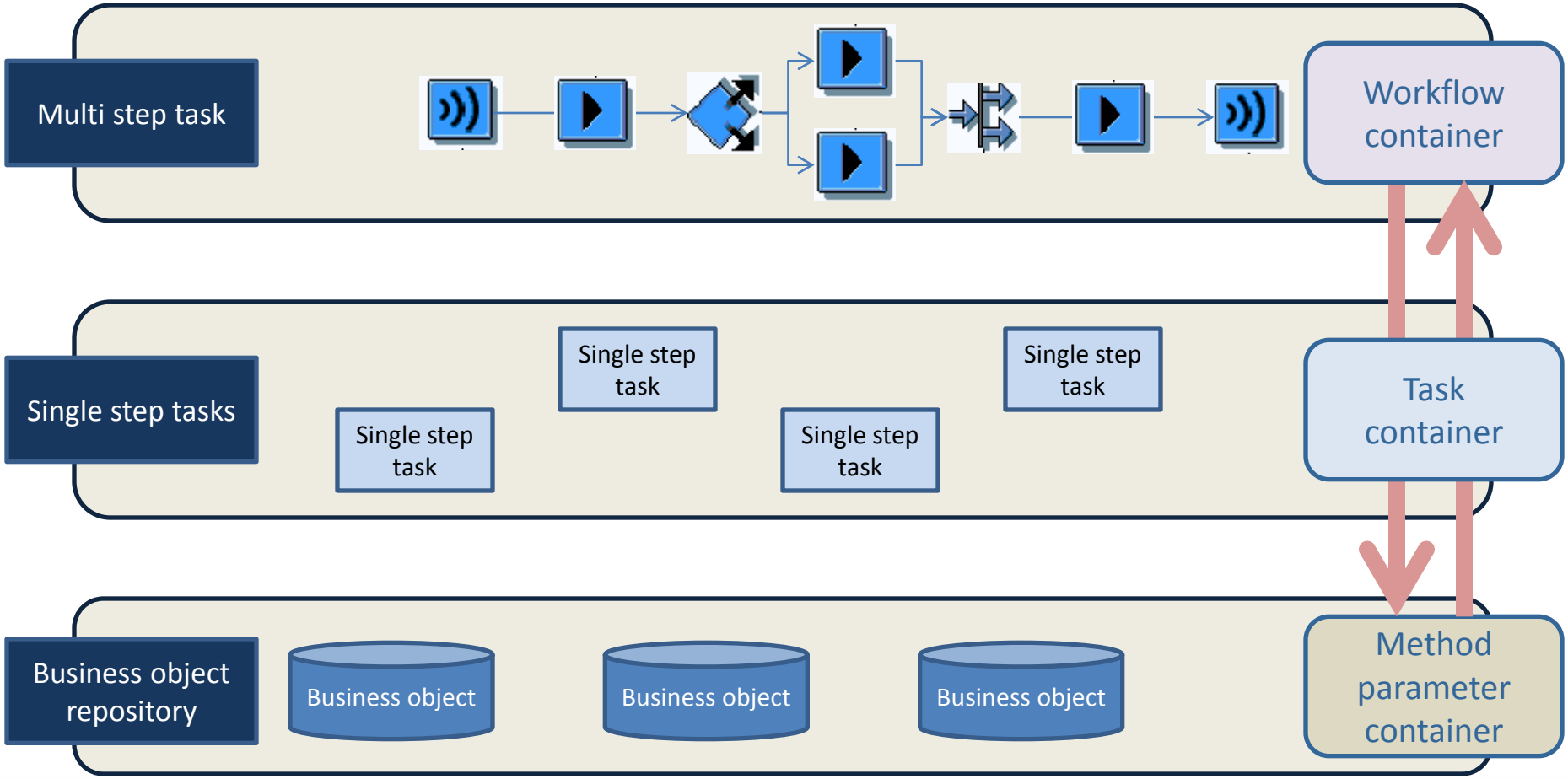
BINDINGS

Bindings administer the flow from one container to another.

Bindings are defined at time of implementation and are used at runtime.



CONTAINER CONCEPT



CONTAINER CONCEPT - DEMO

- Step 1: Create workflow container element FIPP
- Step 2: Integrate with task container
- Step 3: Integrate with work item description

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    a) Definition
    b) Types of events
    c) Event creation
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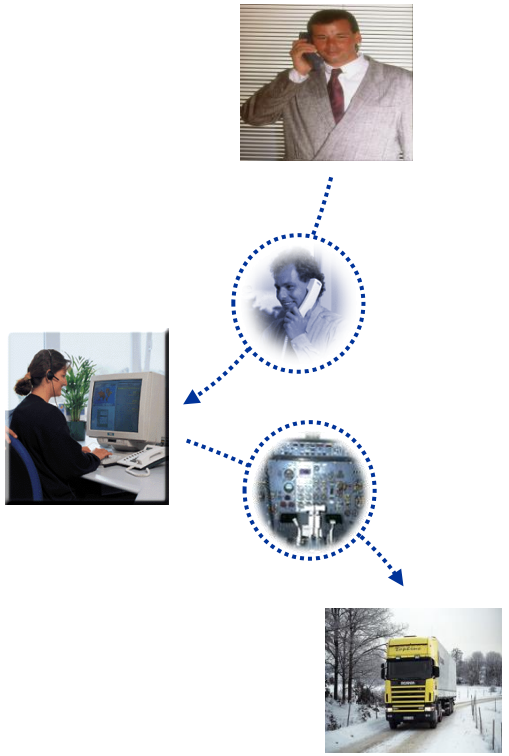
EVENTS DEFINITION

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.



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

EVENT CREATION

- 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

EVENT CONCEPT - DEMO

- Step 1: Display event FIPP.CREATED
- Step 2: Link event to workflow template

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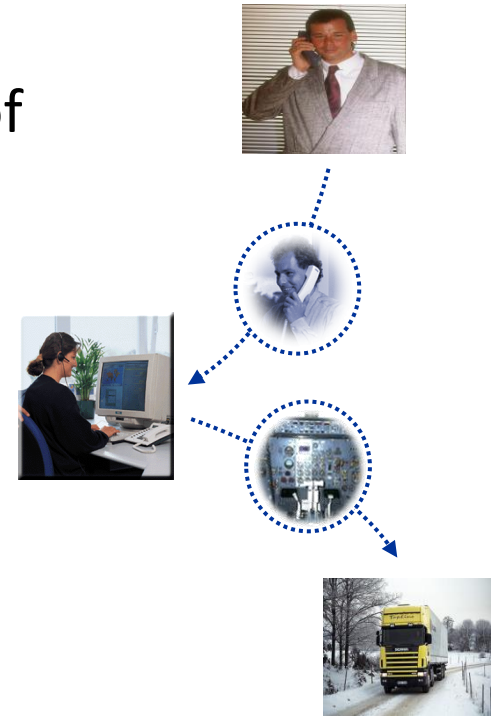
RULES DEFINITION

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

Rules are created and maintained with transaction PFAC.



RULES TYPES

- 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

RULES - DEMO

- Step 1: Display a rule
- Step 2: Show how agent 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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