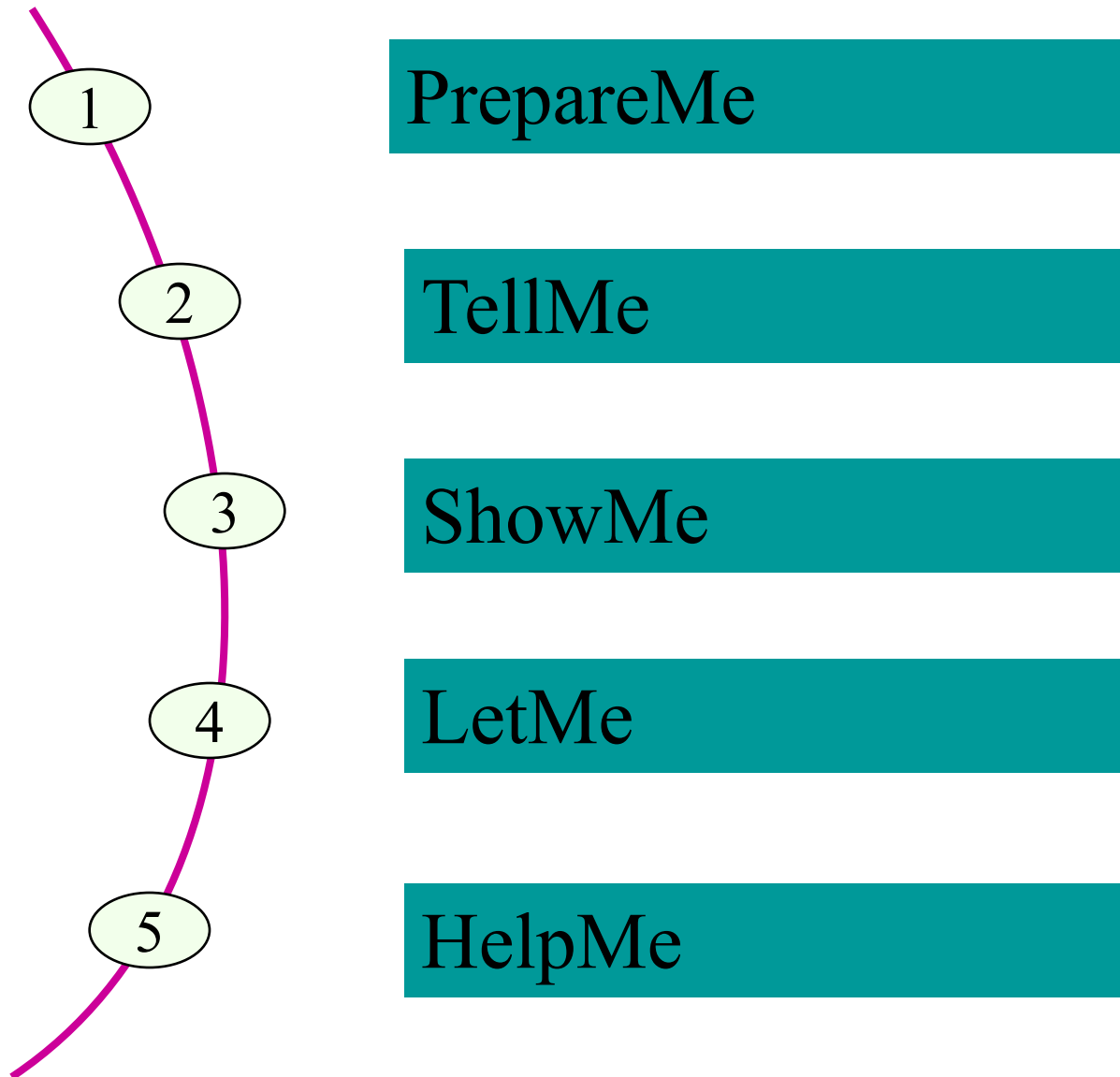
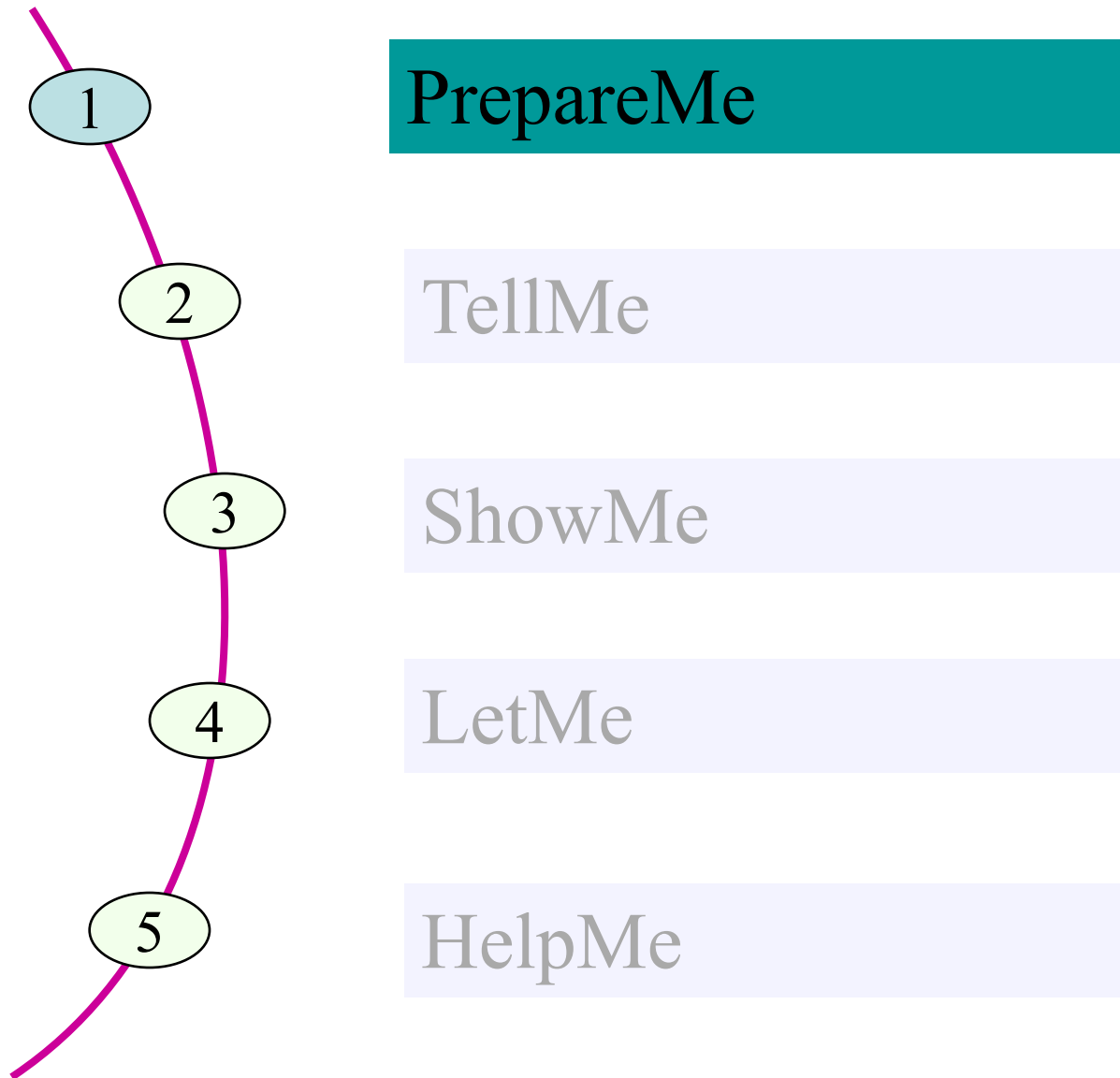


AB2002 - Business Workflow - v1.0

Business Workflow



Business Workflow



Workflow Definition

- SAP Business Workflow® is a **cross-application tool** that makes it possible to integrate business **tasks/processes** between applications.
- This tool was introduced in R/3 Release 3.0A, and received a substantial facelift in the Enjoy Release, 4.6A, which warranted the new name Workflow Builder.

Need for Workflow

- A business process can consist of several steps. Historically, the tasks have been coordinated manually or by some informal means of communication (sticky note, e-mail, shouting, and so on).
- The common problem in these approaches is :
 - Inefficiency
 - Each lacks a way to trace where a task is
 - Who executed (or is executing it),
 - How much time it required.
- In contrast, the workflow **ensures that the right work is sent to right person at the right time in the right sequence with the right information.**

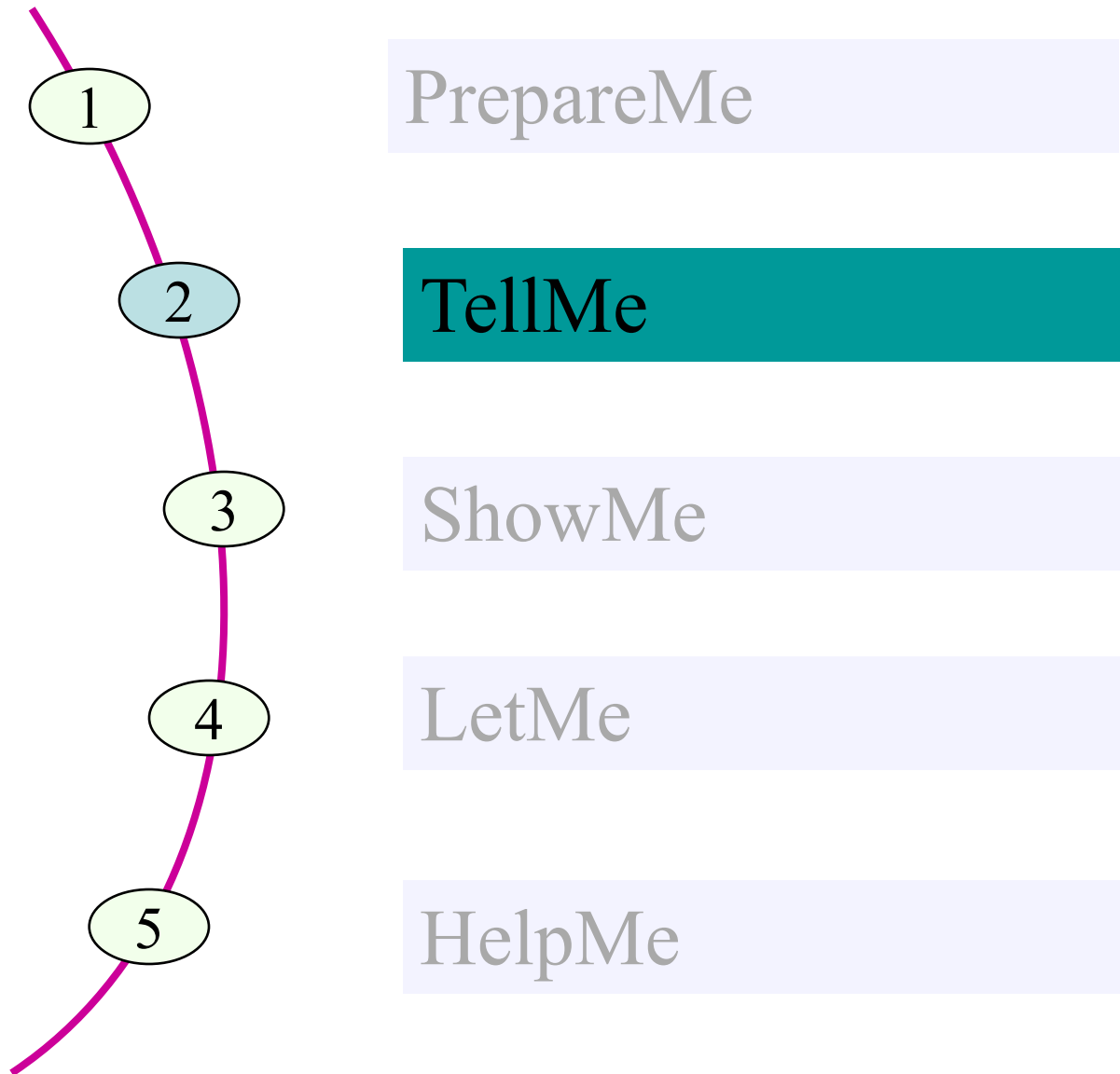
Why SAP Workflow?

- Tool for the automization of **business processes**
- Not tied up to any particular application
- Operates uniformly **across applications**
- Coordinate all participating tasks
- Provide users with **active support**

Workflow Boundaries

- The component uses the **existing transactions & function modules**. The functionality and operability of the existing transactions and function modules are neither changed nor restricted by the workflow control.
- SAP Business Workflow does not intervene in the programmed processes within a transaction
- The component makes the R/3 System easier to operate, which is particularly useful for ***inexperienced or occasional users***.

Business Workflow



Workflow

- A workflow consists of a sequence of steps, which are processed either by people or automatically by the system.

Workflow Builder

- Modeling tool for creating a workflow definition.
 - Creating and process workflow definition
 - Test and activate a workflow definition

Workflow Definition

- Technical description of a workflow
- Workflow definition is made up of individual steps and events with one step and one or more events making up one unit. These units can be arranged in sequence or in parallel.
- The workflow definition is the set of rules that determine the path that the process takes. For example, how a purchase requisition is processed, from the initial request to the creation of the purchase order

Workflow Instance

- A Workflow Instance, which is often simply referred to as the workflow, is a single workflow run. For example, the processing of a single purchase requisition for computers.

Task

- The Tasks are the steps in the process, which have to be performed either by people or automatically by the software. For example, to check for the availability of the spare computers in the company.
- During runtime a tasks is represent as a Workitem.
- Following tasks exist in the workflow context:
 - Single-step task
 - Activity in which an object method is executed on a specific object
 - Multi-step task (Workflow)
 - Activity whose description includes reference to a workflow definition

Work Item

- A Work item is the task instance that is performed as a single workflow step. For example, check that there are no spare computers available in the company.

Agent

- Agents are the people who process the tasks (via the work items). For example, requisitioner and a member of the purchasing department.
- A system user who participates actively in SAP Business Workflow and executes work items
- Types of agents available
 - Possible agent
 - User who is organizationally authorized to start a task and execute the associated work item
 - Responsible agent
 - User assigned locally to a step in the workflow definition
 - Excluded agent
 - User who is excluded from processing a work item

Container

- Container is the place where all the data used in the workflow is collected.
- Basic common data structure of the various definition.
- Containers have container elements for holding the following:
 - Values (Constants)
 - Structure
 - Object references
 - Complex types
- The container elements can be used to control the execution of work items and workflows.
- Types of container:
 - Workflow container
 - Task Container
 - Event Container
 - Method Container
 - Rule Container

Binding

- Binding is the set of rules that define which data is passed to which part of the process.
- Assignment of values to a container element at runtime.
- Binding definition:
 - Specification of assignment rules describing the assignment of data to a container element or the exchange of data between two container element.

Business Object Builder

- Tool for creating and processing business object types.
- Can be used to access the definition of an object type
- Subtypes can be created for existing Business object type

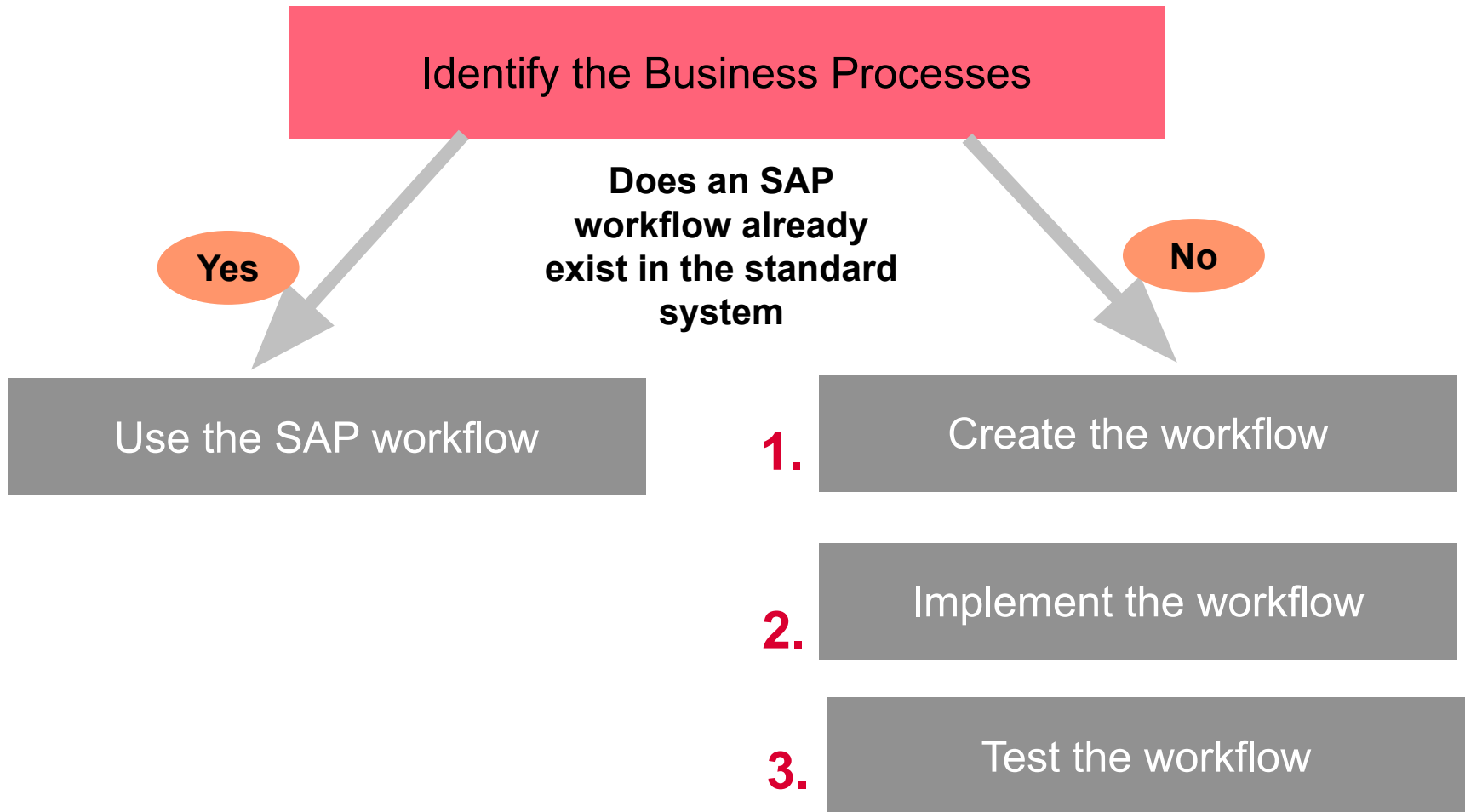
Object Type

- Business objects integrate the data and functions of business applications into your workflows.
- They enable workflow engine to communicate with business applications with all the flexibility and robustness required for a production environment

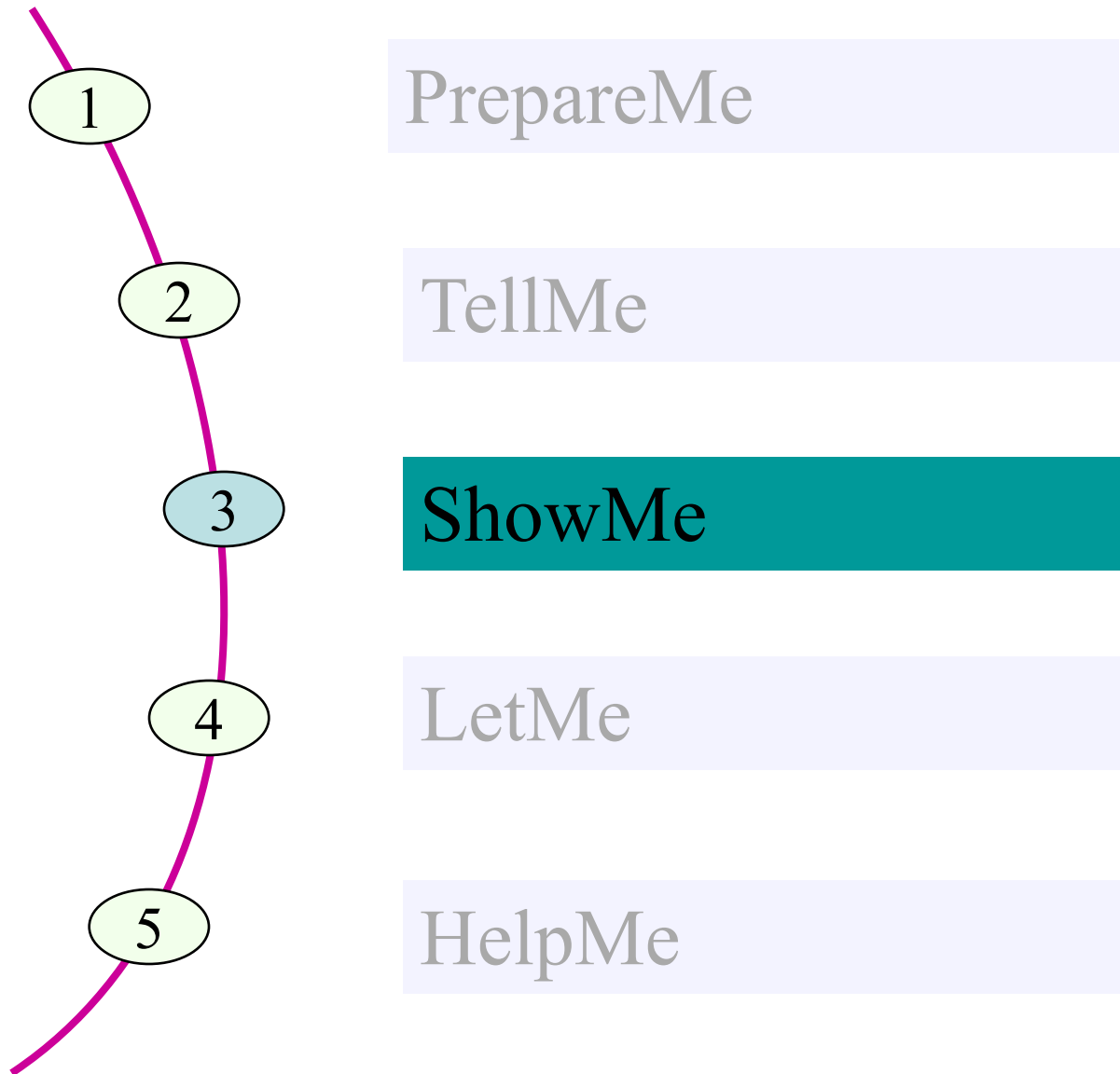
Object Type

- Description of data (objects) in the system created at definition time in the Business Object Builder
- Object types are described and implemented by specifying the following components:
 - Basic data
 - Key fields
 - Attributes
 - Methods with parameters, result and exceptions
 - Events with parameters
 - Implementation program
- The Object type must be defined before its data (Objects) can be used in the system.

Workflow project Approach

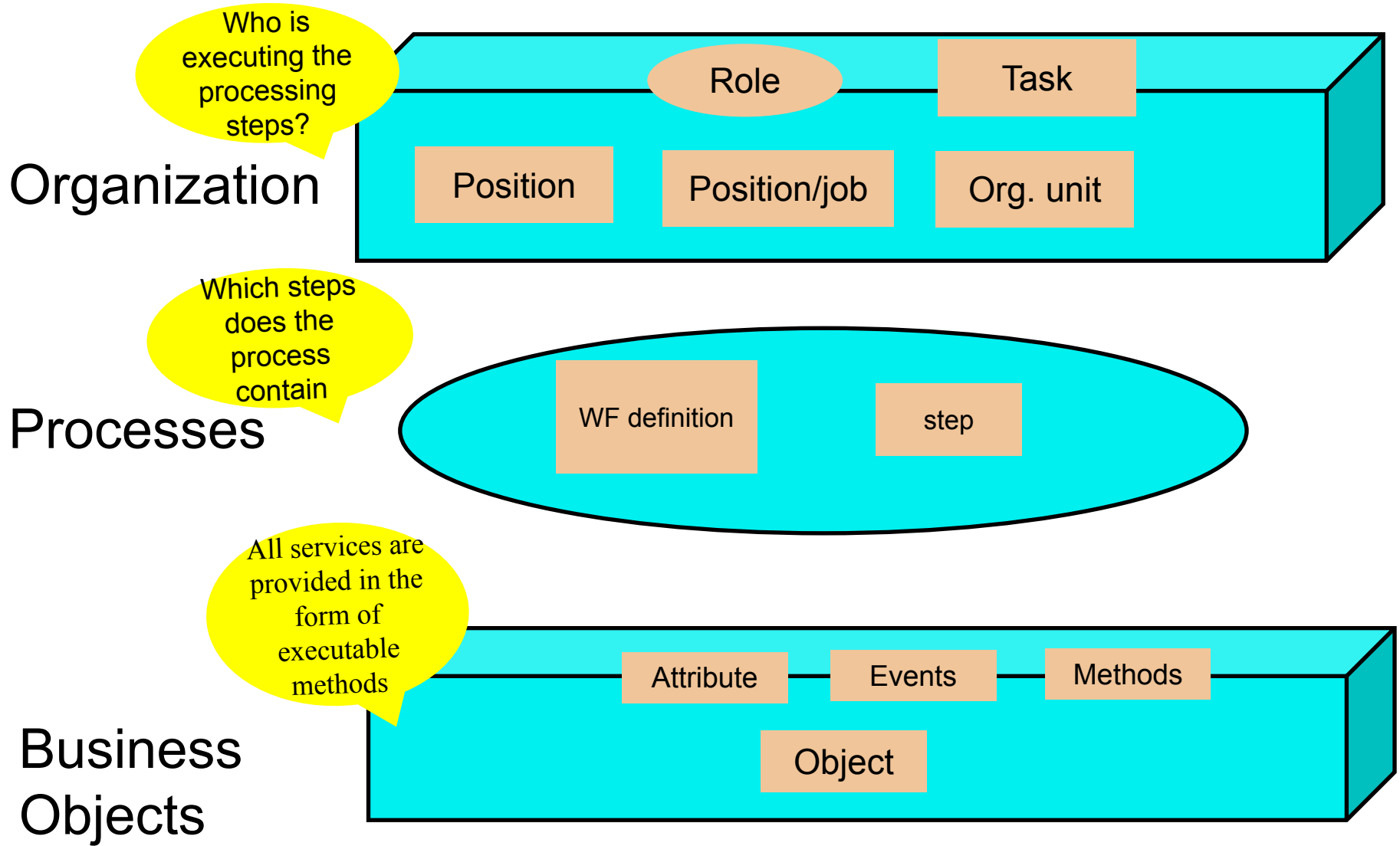


Business Workflow Overview



WORKFLOW ARCHITECTURE

Workflow Architecture



WORKFLOW CUSTOMIZING

What Auto-Customizing Does

- The automatic workflow customizing sets up the system using defaults so that you ready to use the system as quickly as possible.
- The most important activities are as follows:
 - **Maintain Active Plan Version**
 - Plan version (with its contents) is seen by the workflow system as the only valid plan version.
 - All SAP Workflows supplied automatically become part of the plan version that has been selected as the active plan version
 - Only one of the plan versions created in the system can be active.
 - **Configure RFC Destination**
 - The runtime system always executes its tRFC calls via the logical destination `WORKFLOW_LOCAL_XXX` (XXX stands for client number)
 - The workflow runtime system is client dependent i.e. a single workflow instance normally executes within one client
 - **Maintain Workflow System Administrator**
 - **Schedule Background Job for Missed Deadlines**
 - **Maintain Prefix Numbers**

Automatic Workflow Customizing: SWU3

Customizing the system is the very first step that you will take when you plan to use workflow

The screenshot shows the SAP SWU3 'Maintain Runtime Environment' interface. The left pane shows a tree view of activities, with 'Maintain Runtime Environment' expanded and marked with a red 'X' icon, indicating it is inactive. A callout bubble points to this icon with the text 'Customizing is Inactive'. The right pane shows details for the selected component, including 'SAP_BASIS: SAP BASIS' and 'Execution' set to 'Automatic/Manual'. A callout bubble points to the 'Execution' field with the text 'Use this button to perform automatic customization'. Below the details, there is a list of activities that can be performed automatically, including 'Configure RFC destination', 'Maintain system administrator for workflow', 'Maintain active plan variant', 'Classify decision task as general', and 'Document generation/form integration'. A callout bubble points to the 'Classify Tasks as General' activity in the left pane with the text 'Customizing is Active'. At the bottom, a table header is visible with columns: Entry, Executi..., Date, Ti..., Name, Software component, and Activ...

Maintain Runtime Environment

Component
SAP_BASIS: SAP BASIS

Execution
Automatic/Manual

Use this button to perform automatic customization

Customizing is Inactive

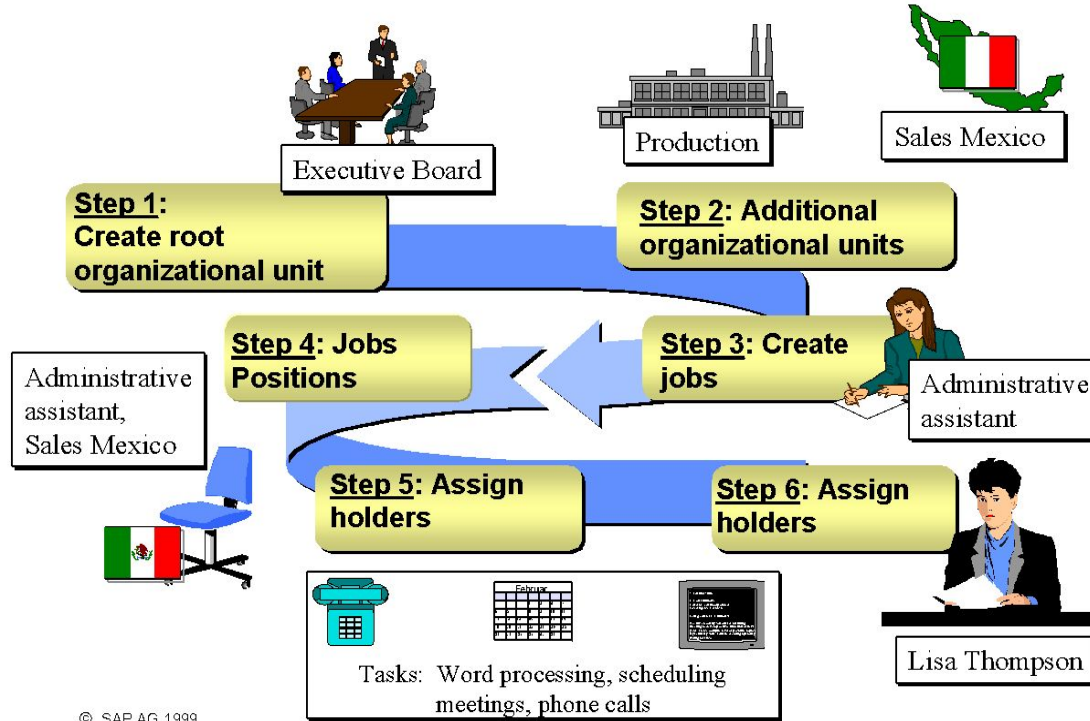
Customizing is Active

- Configure RFC destination
- Maintain system administrator for workflow
- Maintain active plan variant
- Classify decision task as general
- Document generation/form integration

Entry	Executi...	Date	Ti...	Name	Software component	Activ...
-------	------------	------	-------	------	--------------------	----------

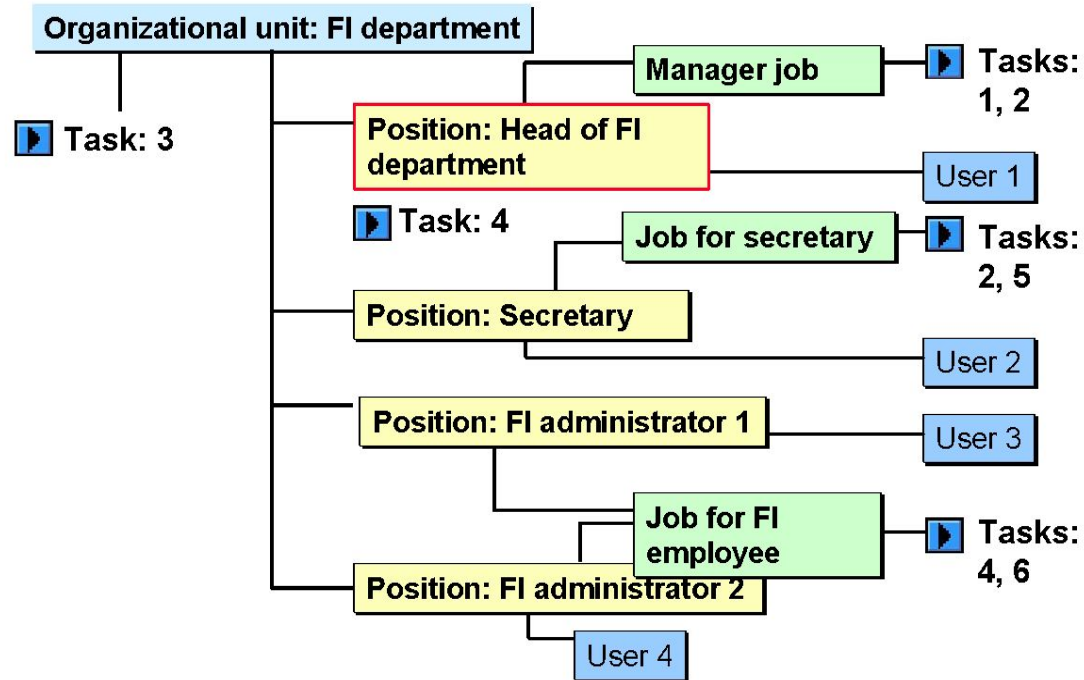
ORGANIZATIONAL STRUCTURE

Creating an Organizational Plan



- The above diagram illustrates that the first step in Simple Maintenance is to create a root organizational unit. Once one organizational unit has been created, the organizational units below it have to be created.
- Organizational units and jobs may be created in any order but must exist before the associated positions are created.
- Jobs may exist in the job index or may be created once the model contains an organizational unit.
- Positions are created once the relevant jobs have been created in the job index.
- Tasks are assigned using jobs and positions.
- Holders are assigned to positions, not to jobs.

Assignment Workflow Tasks: Organizational Objects



- **The relevant users receive a work item at runtime.**
 - Task 1: User 1 (via manager job)
 - Task 2: User 1, user 2 (via manager job/job for secretary)
 - Task 3: User 1, user 2, user 3, user 4 (via organizational unit)
 - Task 4: User 1, user 3, user 4 (via position for head of FI department/job for FI employee)
 - Task 5: User 2 (via secretary job)
 - Task 6: User 3, user 4 (via job for FI employee)

Create Job: PPOM

The screenshot shows the 'Create Job' dialog box in the 'Organization and Staffing (Workflow)' application. The dialog is titled 'Create Job' and has a 'Valid from' field set to '18.04.2007' and a 'to' field set to '31.12.9999'. Below this, there is a table for 'Existing: Job' with columns for 'Object abbr.', 'Name', 'Start date', and 'End Date'. The table contains several rows of existing jobs, including '00 Admin', '00 Co admin', '00 Dir', and '00 HR Mgr'. The dialog also has a 'Create: Job' section with a table for 'Object abbr.' and 'Name'. The background shows the 'Organization and Staffing (Workflow)' application interface with a menu bar and a tree view on the left.

Organization and Staffing (Workflow) Edit Goto Settings System Help

Create jobs... Cancel F12

Organization and Staffing (Workflow) Change

Find by

- Organizational unit
- Position
- Job**
- Person
- User
- Workflow template
- Standard task
- Task
- Task group
- Rule
- Object history

Welcome

This is the i

Organizati

The user int

- In the search
- These
- where
- The b
- the d

Create Job

Valid from 18.04.2007 to 31.12.9999

Create: Job

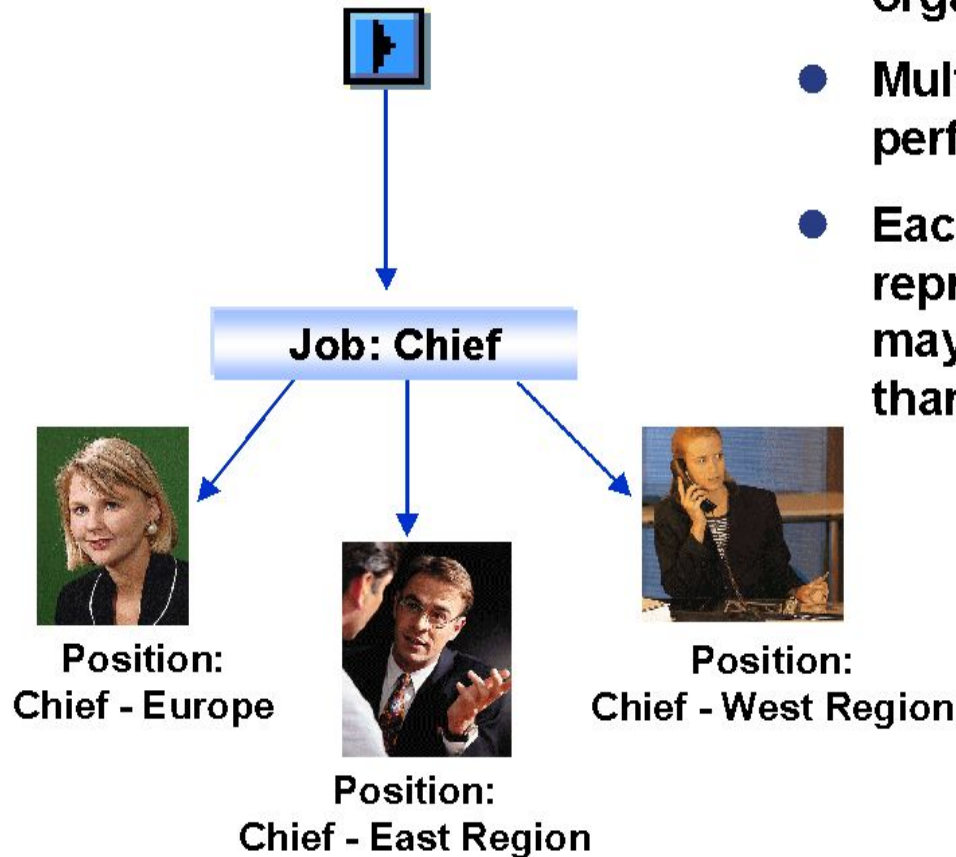
Object abbr.	Name

Existing: Job

Object abbr.	Name	Start date	End Date
00 Admin	00 Administrator	01.01.2000	31.12.9999
00 Admin	00 Administrator	01.01.2000	31.12.9999
00 Co admin	00 Controlling administrator (HR550)	01.01.2003	31.12.9999
00 Dir	00 Director	01.01.2000	31.12.9999
00 Dir	00 Director	01.01.2000	31.12.9999
00 Dir	00 Director	01.01.2000	31.12.9999
00 HR Mgr	00 Human Resource Manager	01.01.2000	31.12.9999
00 HR Mgr	00 Human Resource Manager	01.01.2000	31.12.9999

Positions

**Task: Approve
vacation request**



- **Positions are specific to your organization.**
- **Multiple positions may perform similar job tasks.**
- **Each position typically represents one employee, but may be partially filled by more than one.**

Create Position: P013

The screenshot shows a software interface for creating a position. The top toolbar contains several icons, with the 'New' icon (a document with a plus sign) circled in red. Below the toolbar is a search sidebar with a 'Find by' section containing 'Position', 'Search term', and 'Structure search'. The main area contains a form with the following fields:

- Plan version:
- Position:
- Abbr.:

Below the form are five tabs: 'Active', 'Planned', 'Submitted', 'Approved', and 'Rejected'. The 'Active' tab is selected. Below the tabs is a table with the following columns and rows:

Infotype Name	E..
Object	
Relationships	
Description	
Department/Staff	
Planned Compensation	
Vacancy	
Acct. Assignment Features	
Authorities/Resources	
Work Schedule	
Employee Group/Subaroup	

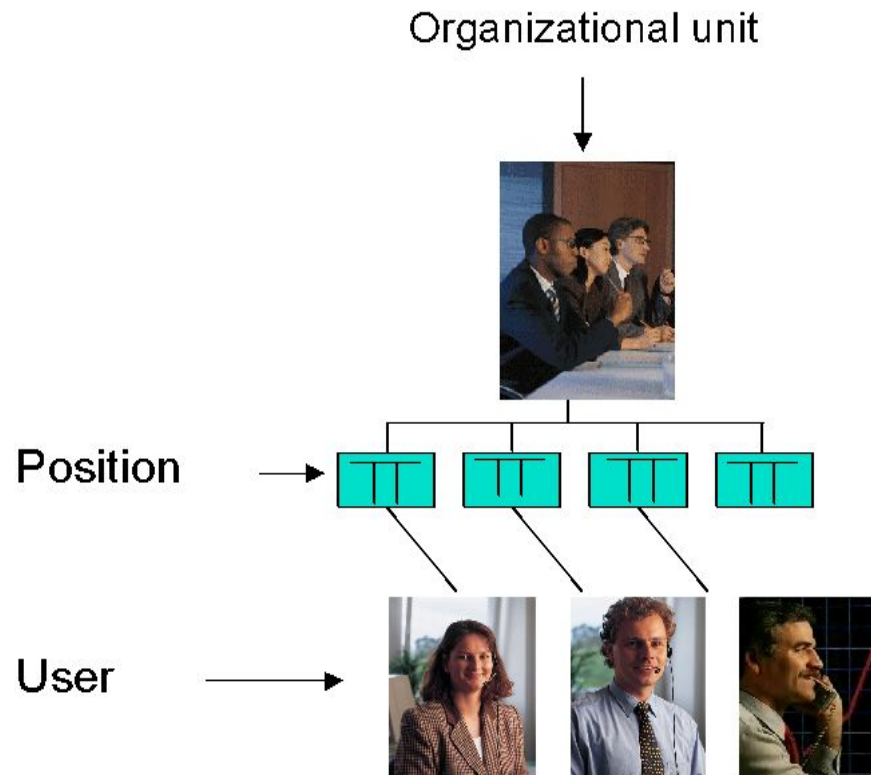
On the right side of the table, there is a 'Time period' section with the following options:

- Period
- From:
- Today
- All
- From curr. date
- To current date

At the bottom right of the 'Time period' section is a 'Select.' button.

Basic HR Definition for Workflow

You can create your organizational plan quickly using the function 'Simple Maintenance' in HR Organizational Management. You only cater for the basic objects and their relationships.



Creation of Workflow or Tasks through T-Code: PFTC

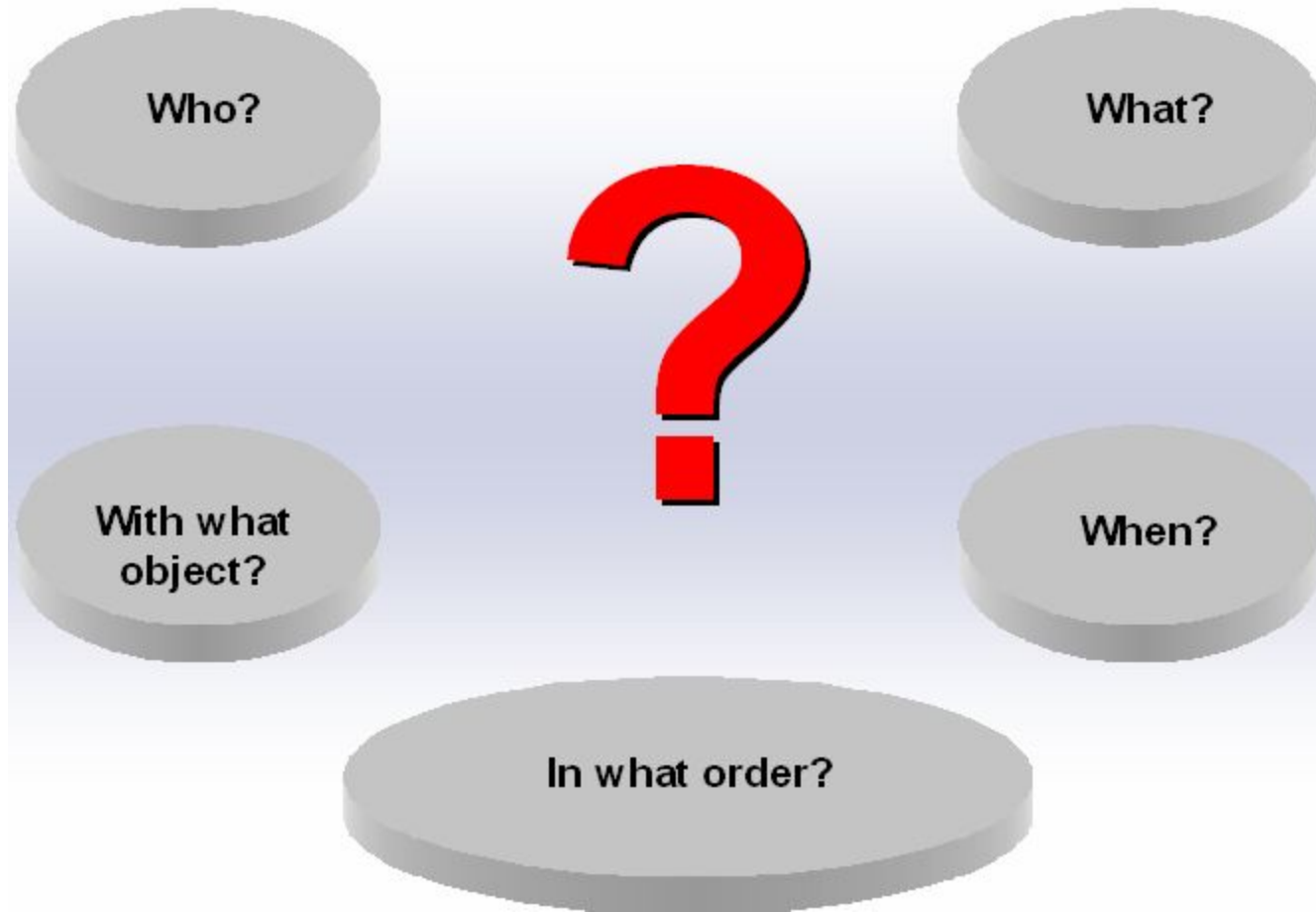
The screenshot shows the SAP PFTC transaction interface. The menu bar includes Task, Edit, Goto, View, System, and Help. The title bar reads "Task: Maintain". Below the title bar is a toolbar with icons for document, edit, copy, paste, and delete. The main area contains a table with the following data:

Task type	Standard task
Task	All types
Name	Standard task
	Customer task
	Workflow Template
	Workflow Task
	Task Group

Annotations on the screenshot:

- A light blue box on the right contains the text: **Client Independent**
Standard task : **TS**
Workflow Template : **WS**
Task Group : **TG**
- A pink box on the right contains the text: No longer used, supported in previous versions
- A light blue box at the bottom right is crossed out with a red 'X' and contains the text: **Client Dependent**
Customer tasks : **T**
Workflow Task : **WF**

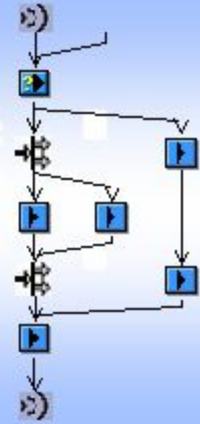
Five Questions for each part of a Business Process and how to map them in Steps/Tasks



In What Order?: Workflow Definition

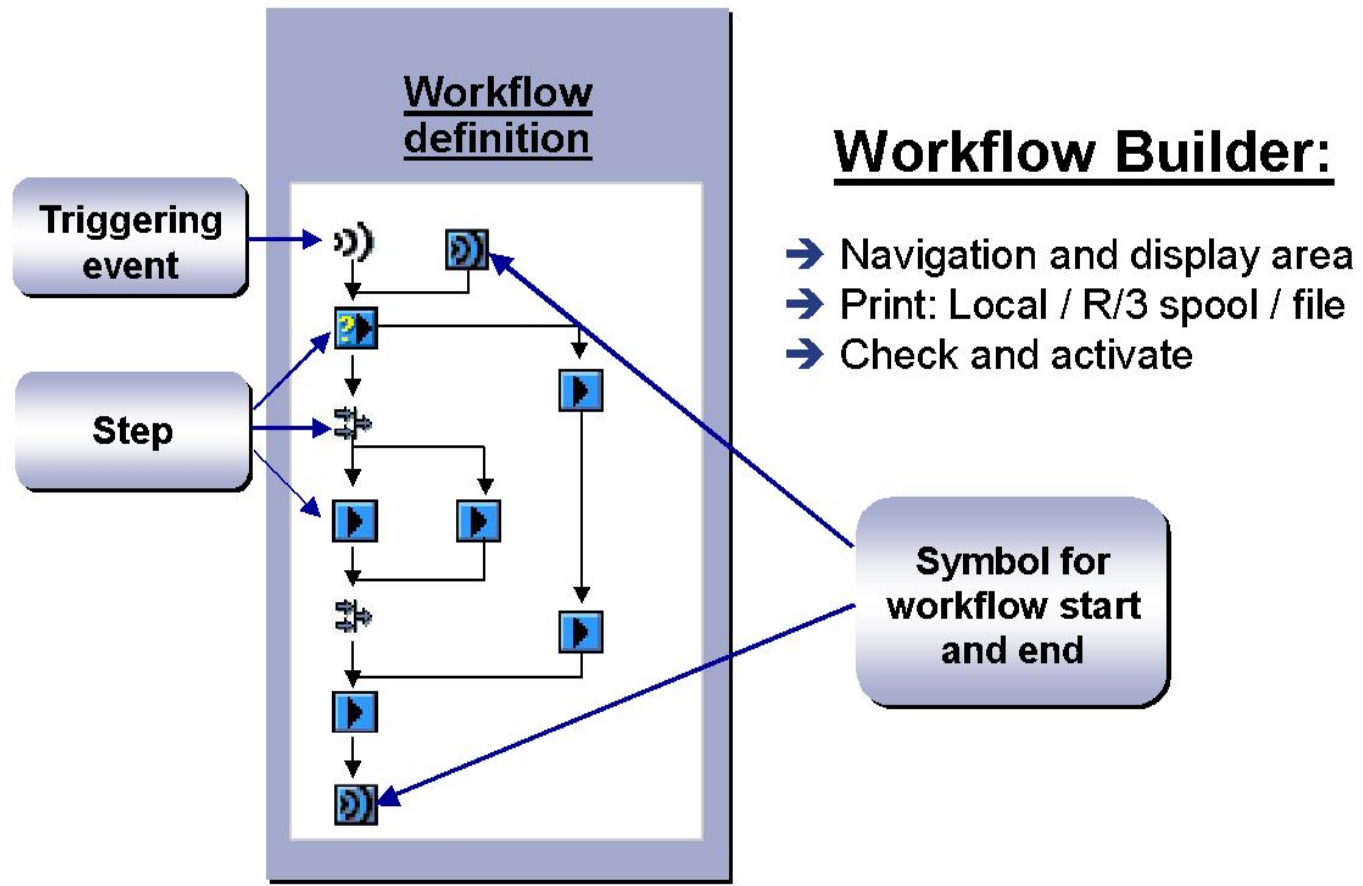
- **Workflow definition**

Controls the business process



Workflow definition controls the calling sequence of each step. Steps like workflow, can also be triggered by events.

In What Order?: Workflow Builder (SWDD)...How it looks



With What Object? What?: T-code: PFTC, Calling Methods within a Task

The screenshot shows the SAP PFTC (Process Flow Designer) interface. The title bar reads 'Standard task Edit Goto Additional data Utilities(M) System Help'. The main window title is 'Standard Task: Display'. Below the title bar, there are several icons for task management. The main content area is divided into several sections:

- Name:** Create WORD document from workflow
Package: SWUO Appl. component: BC-BMT-WFM
- Basic data:** Name: Create WORD document from workflow, Release status: Released
- Description:** Work Item Text: Create WORD document from workflow data
- Container:** Object method: Object Category: BOR Object Type, Object Type: WF_WORDTPL WF_WORD_FORMABSEN, Method: CREATE Create document. Checkboxes: Synchronous object method, Object method with dialog.
- Terminating events:** Execution: Background processing, Executable with SAPforms, Confirm end of processing.

Attach Object Method here,
give Object Category, Object
Type and Method Name

Define
•Synch / Asynch
•Dialog / Without Dialog

Define binding between Task
Container and Method here.

With What Object?: Business Object and its Method

The screenshot displays the SAP Business Object Explorer interface. The main window shows the Business object BUS2089, expanded to show the Employee Trip object. The left pane lists the object's structure: Interfaces, Key fields, Attributes, and Methods. The right pane lists the methods for Employee Trip, each with a green checkmark and a brief description. The method EmployeeTrip.Find is highlighted in red. The status bar at the bottom shows the current object is EmployeeTrip.

Method	Description
EmployeeTrip.Find	Find object
EmployeeTrip.GetStatus	Status, General Info, Amounts for a Trip
EmployeeTrip.GetList	Status, General Info, Amounts for All Trips
EmployeeTrip.GetExpenseForm	Standard Travel Expense Form
EmployeeTrip.GetExpenseForm_HTML	Standard Travel Expense Form as HTML Table
EmployeeTrip.CreateFromDataWeekly	Creation of Weekly Report (PR04)
EmployeeTrip.GetDetailsWeekly	Output Detail Tables for Weekly Report
EmployeeTrip.GetOptionsWeekly	Create Local Workspace for ReportCreate (Output Tables)
EmployeeTrip.Approve	Approve Trip
EmployeeTrip.ExistenceCheck	Check Existence of Trip
EmployeeTrip.CollectMileage	Determination of Trip Legs for Employee
EmployeeTrip.SetOnHold	Set Trip Status to "On Hold"
EmployeeTrip.Delete	Delete Trip
EmployeeTrip.GetOptions	Import Personal Data and Travel Expense Tables
EmployeeTrip.CreateFromData	Create a Trip (Batch Input PR01)
EmployeeTrip.GetDetails	Output Detail Tables for Trip
EmployeeTrip.Cancel	Cancel Trip
EmployeeTrip.CreateInteractive	Create Trip (Online)
EmployeeTrip.ChangeInteractive	Change a Trip (Online)
EmployeeTrip.Display	Display Object
EmployeeTrip.DisplayExpenseForm	Display Travel Expense Form
EmployeeTrip.DisplayPlan	Display Travel Plan (Online)
EmployeeTrip.ChangePlan	Change Travel Plan (online)
EmployeeTrip.ChangePlanStatus	Change Approval Status of a Travel Plan
EmployeeTrip.QueuePnr	Place PNR in a Processing Queue
EmployeeTrip.CancelPlan	Cancel Travel Plan

Business Object
E.g. BUS2089

What?: Method Configurations

The image shows a screenshot of the SAP Method Configuration Wizard for the method 'CancelPlan'. The main window is titled 'Method CancelPlan' and contains the following fields:

Method	CancelPlan
Object type	BUS2089
Release	46C
Status	released
Name	Cancel Travel Plan
Description	Cancel Travel Plan

Below these fields are three tabs: 'General', 'Result type', and 'ABAP'. The 'General' tab is selected, showing a list of radio buttons for the method type: Function module (selected), API function, Transaction, Dialog module, Report, and Other. The 'Name' field is set to 'FITP_CANCEL_PLAN'. A red bracket highlights the radio button options, and a red arrow points from this area to the 'Result type' tab of a zoomed-in view.

The zoomed-in view of the 'Result type' tab shows the following options:

- Dialog
- Synchronous
- Result parameter
- Instance-independent

Another red arrow points from the 'General' tab of the main window to the 'General' tab of the zoomed-in view. The zoomed-in view also shows the 'ABAP' tab, which is currently selected, displaying the following options:

- ABAP Dictionary
 - Reference table
 - Reference field
 - Search Help
- Object type
- Multiline

What?: Method Parameters

The screenshot illustrates the process of viewing method parameters in SAP Business Objects Explorer. A red arrow points from the 'Parameters' tab in the top toolbar to the 'Object Type BUS2089: Display Parameters for Method CANCEL' window. Another red arrow points from the 'EmployeeTrip.Cancel' method in the left-hand tree to the 'Object Type: Editor Display Program RPRBOR01' window.

Object Type BUS2089: Display Parameters for Method CANCEL

Parameter	Obj. Type	First Release	Imp.	Man.	Exp.
Return	BUS2089	40A	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Object Type: Editor Display Program RPRBOR01

```
334 begin_method cancel changing container.  
335 DATA:  
336     return LIKE bapireturn.  
337 CALL FUNCTION 'BAPI_TRIP_CANCEL'  
338     EXPORTING  
339         employeenumber = object-key-employeenumber  
340         tripnumber     = object-key-tripnumber  
341     IMPORTING  
342         return         = return  
343     EXCEPTIONS  
344         OTHERS       = 01.  
345 CASE sy-subrc.  
346     WHEN 0.          " OK  
347     WHEN OTHERS.    " to be implemented  
348 ENDCASE.  
349 swc_set_element container 'RETURN' return.  
350 end_method.
```

WHO: Agents

The screenshot shows a task configuration window with several sections:

- Task:** ID `TS74508415`, Agent `ag1`
- Step Name:** `ag1`
- Binding:** `Binding (Does Not Exist)`
- Agents:** Fields for `Expression` and `Excluded`.
- Task Properties:** Includes `Agent Assignment` (checked), `Background Processing` (unchecked), `Task Complete` (checked), and `Confirm End of Processing` (unchecked).

Callouts on the right side of the image:

- Responsible Agents:** Points to the `ag1` field in the Task section.
- Excluded Agents:** Points to the `Excluded` field in the Agents section.
- Possible Agents:** Points to the `Agent Assignment` checkbox in the Task Properties section.

Standard task: Maintain Agent Assignment

The screenshot shows a task configuration window for a standard task. It includes a table of agents and a detailed configuration panel.

Name	ID	General or Background Task	Task Version
ag1	TS 74508415	Task	
AFG_AG	TG 74500028		

The configuration panel for the selected task includes:

- General Task
- General forwarding allowed
- General forwarding not allowed
- Forwarding not allowed
- Classification: `Not classified`
- Locked for instantiation
- Locked against execution
- Transfer:

Callouts on the right side of the image:

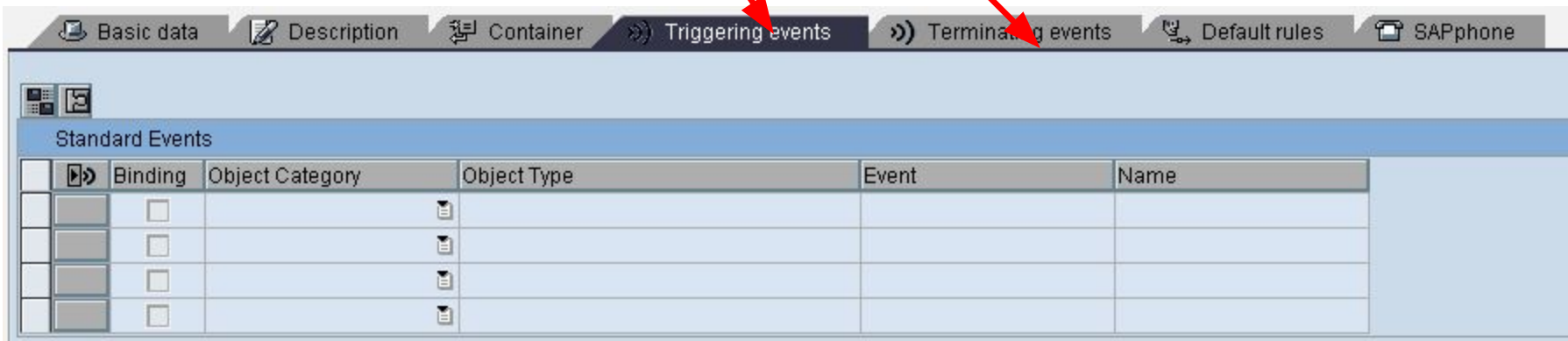
- Button turns green if agent assignment is configured:** Points to the `Transfer checkbox.`
- Possible Agents assignment:** Points to the `General forwarding allowed` radio button.

When? T-code: PFTC



Events can be used to trigger:

- Workflow instantiation
- Commencement of a step
- Completion of a step, normally for asynchronous tasks



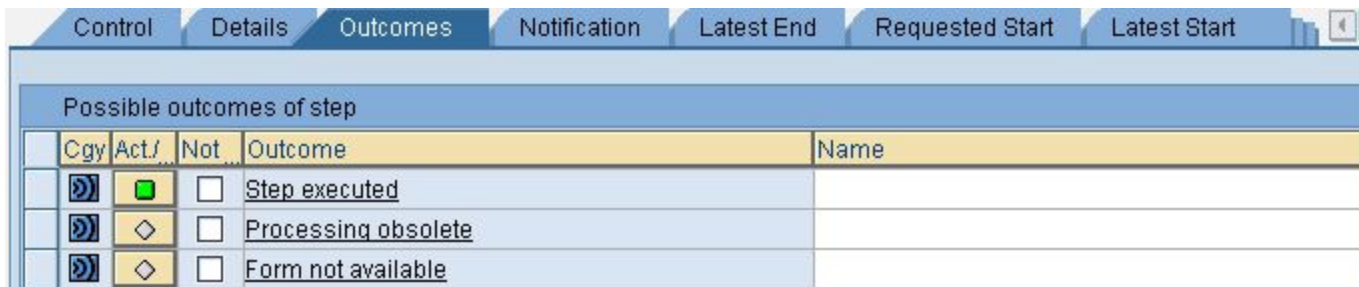
	Binding	Object Category	Object Type	Event	Name
<input type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>				
<input type="checkbox"/>	<input type="checkbox"/>				







When?

SWDD Double Click on Step...

A Condition, Multiple Condition and User Decision step have more than one outcome and depending on the conditions only one of them is executed.

Outcomes can be labeled for easy understanding.

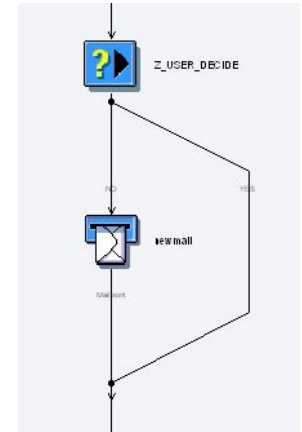


Cgy	Act/	Not	Outcome	Name
		<input type="checkbox"/>	Step executed	
		<input type="checkbox"/>	Processing obsolete	
		<input type="checkbox"/>	Form not available	

STEP TYPES

Step Types in Workflow

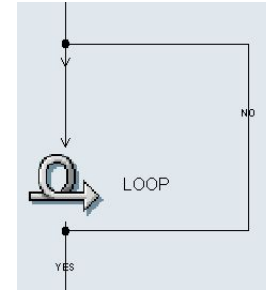
User Decision



- The agent is asked a question and given a pre-defined list of answers
- All the options are available in the work item.
- Each answer is a separate branch in workflow

Step Types in Workflow

Loop (Until)

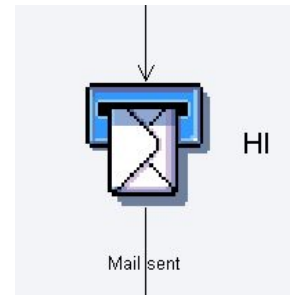


Runtime use:

- for the purpose of iterative processing of a few steps based on certain condition.

Step Types in Workflow

Send Mail:



- The text entered in this step type is sent as an e-mail
- Both external (on the outlook id) and internal mails (SAP mails) can be sent

Step Types in Workflow

- Send Mail:

The subject line of the mail - 50 characters at the max.

To insert Container Elements

To enter text in mail

Send Mail 000002 HI

Mail Control Programming Exits Properties Change Data

Recipients

Recipient type Organizational Object

Expression & WF_INITIATOR& Initiator of Workflow Instance

Send express

Subject HI

done Save as local file

Li 1, Co 1

Step Types in Workflow

- Send mail:

Within the Task
(under the
CONTROL tab)
The subject line of
mail shown in
Work item Text

Standard task:	99900216	ZADS
Name	ZDS	
Package	\$TMP	

Basic data		Description	Container
------------	--	-------------	-----------

Name	
Abbr.	ZADS
Name	ZDS
Release status	Not defined

Work Item Text	
Work item text	HI

Object method	
Object Category	BOR Object Type
Object Type	SELF ITEM WI for Self Method
Method	SENDTASKDESCRIPTION
	<input checked="" type="checkbox"/> Synchronous object method
	<input type="checkbox"/> Object method with dialog

The Mail Text is
present under the
description Tab within
the Task

Name	ZDS	Appl. component
Package	\$TMP	

Basic data		Description	Container	Triggering events	Termination
------------	--	-------------	-----------	-------------------	-------------

Text type:	Task description	Language:	English
------------	------------------	-----------	---------

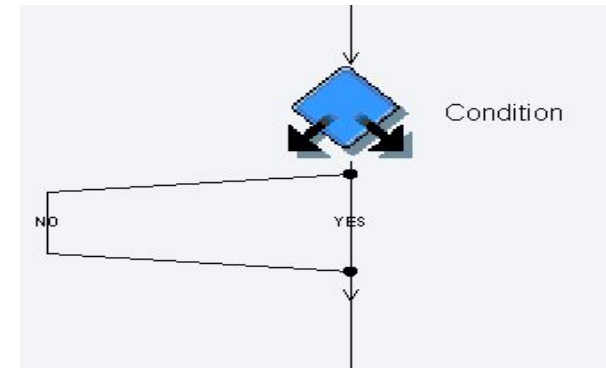
done

Step Types in Workflow

Condition

Run time use:

- Can be used in a scenario where further course of action depends on the condition being true or false



Condition

Condition 000004

Control Properties Change Data

Step Name

Step not in workflow log

Condition

Click here to create a new condition

Outcomes

Outbox	Name
True	
False	

Change Condition

Operators Logic

EX And
NX Or
CE Not
NE

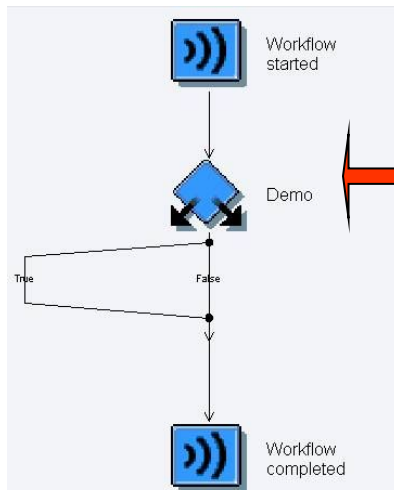
Constant

Parenteses

Expression 1 Description

- System Fields
- Container
 - _Adhoc_Objects Ad Hoc Objects of Workflow Instance
 - _Attach_Objects Attachments of Workflow Instance
 - _Wf_Initiator Initiator of Workflow Instance
 - _Wf_Priority Priority of Workflow Instance
 - _Wf_Group_ID Grouping Characteristic for Workflow Instances
 - _Workitem Workflow Instance
 - _Wf_Version Definition Version of this Workflow Instance
 - carrid carrier id

Not	Express. 1	Operator	Express. 2	And/Or
	Choose an Expression...			



Condition 000004

Control Properties Change Data

Step Name Demo

Step not in workflow log

Condition

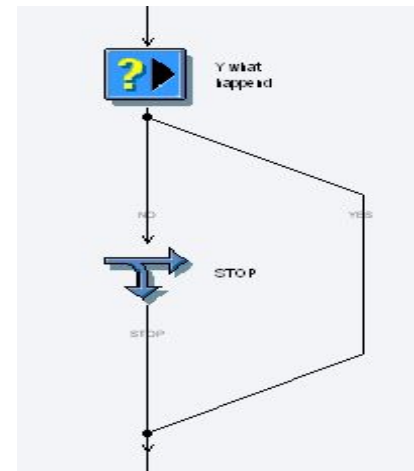
&CARRID& = &A&

Outcomes

Outbox	Name
True	True
False	False

Step Types in Workflow

Process Control



- This can be used to cancel the execution of a work item or workflow or set a work item to obsolete
- It facilitates the alternate steps to be taken in the process obsolete branch

Step Types in Workflow

Process Control:

Process Control 000008

Control Properties Change Data

Step Name CANCEL

Outcome name CANCEL

Step not in workflow log

Control

Function Cancel Work Item

Workflow Step 0000000002

Include Context

CANCEL

Step not in workflow log

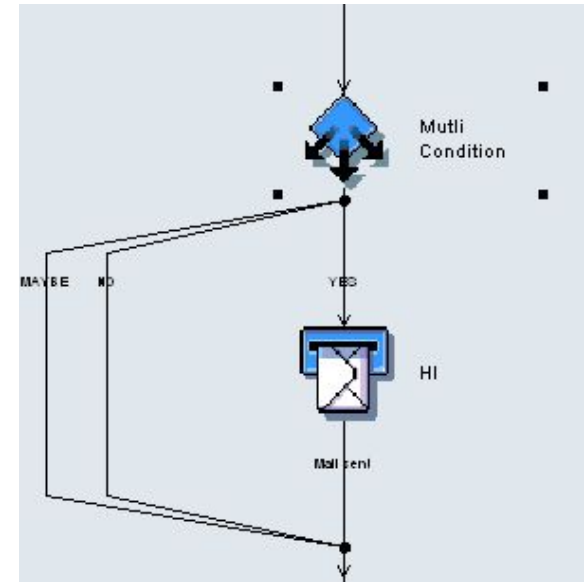
- Cancel Work Item
- Cancel Work Item
- Cancel Workflow
- Set Work Item to Obsolete
- Complete Workflow
- Cancel Workflow (Including all Callers)
- Activate Correlation
- Throw Exception

The workflow step is to be mentioned depending on the Function chosen

The options available with Process control

Step Types in Workflow

Multiple Condition:



Based on the value of a workflow container element one of the several branches in workflow is processed

Multiple Condition

Multiple Condition 000004

Condition Control Properties Change Data

Step name

Type Case

Comparison basis

Comparison Values

Val.	Outcome Name

Multiple Condition 000004

Condition Control Properties Change Data

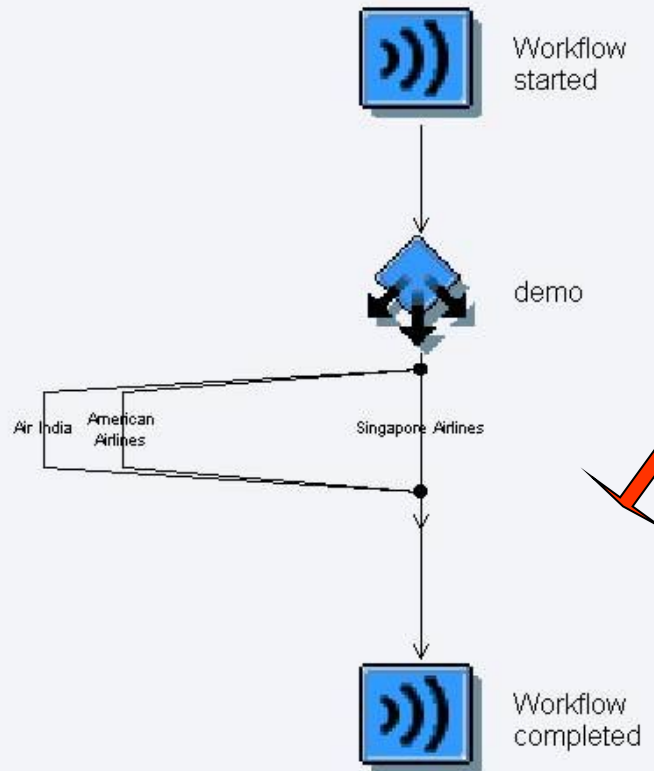
Step name demo

Type Case

Comparison basis &CARRID& carrier id

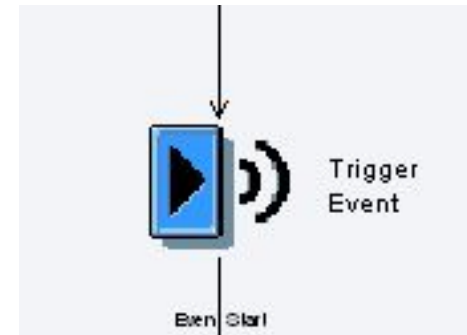
Comparison Values

Val.	Outcome Name
	American Airlines
	Air India
	Singapore Airlines



Step Types in Workflow

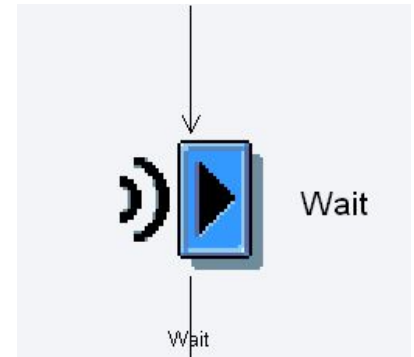
Event Creator :



- To raise an event in the workflow
- Data moves from workflow to event

Step Types in Workflow

Wait:

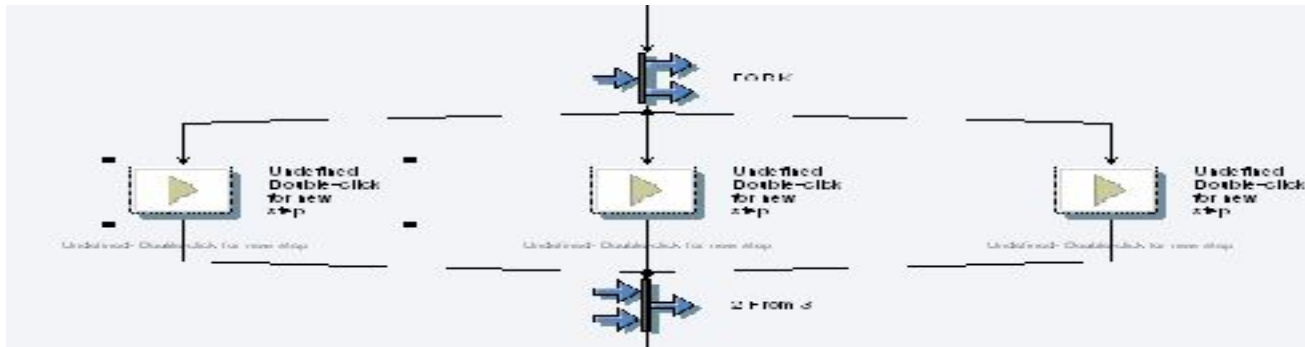


- The system waits for a specific event to be triggered
- The work item is only completed if the expected event occurs

Step Types in Workflow

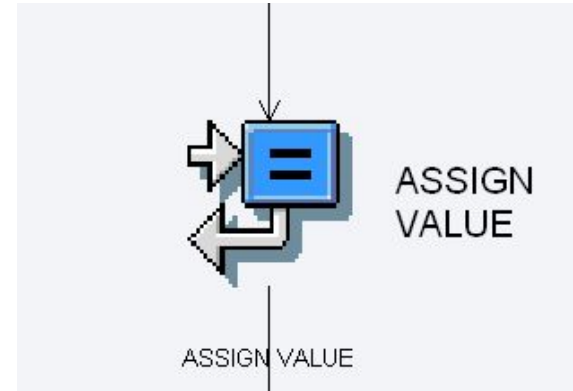
Fork:

- Used for the purpose of parallel processing
- The user can define the number of parallel processes and how many should be completed for the Fork to terminate and workflow to continue
- The fork can be terminated by defining a condition too



Step Types in Workflow


Container operation:

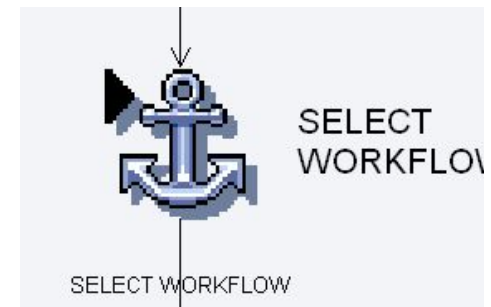


- For the purpose of performing arithmetic operations or value assignments to workflow container
- Constants and data within workflow can be used
- Multiline operations are allowed

Step Types in Workflow

Ad hoc anchor

Step Name	SELECT WORKFLOW
Outcome name	<input checked="" type="checkbox"/> SELECT WORKFLOW
	<input type="checkbox"/> Step not in workflow log
	
Insertable Workflows	
Workflow	Description
WS98000054	ZWorkForce With Decision
WS99900225	Approve Trip (for EIC Demo)



- Gives user the option to select between various workflows at runtime
- The steps of the selected Workflow shall replace this one

Step Types in Workflow

Web Activity

- The selected container elements are posted using the http protocol in an XML or SOAP message

Step Types in Workflow

- Subworkflow:
 - An activity that refers to another workflow rather than a task
- Undefined Step:
 - These can be used as placeholders during development
 - They are ignored at run time

CONTAINER & BINDING

What is a Container

- Containers are a common way of holding data throughout the workflow instance's lifespan.
- Containers are used in interface between different parts of the workflow and between the workflow and business applications.

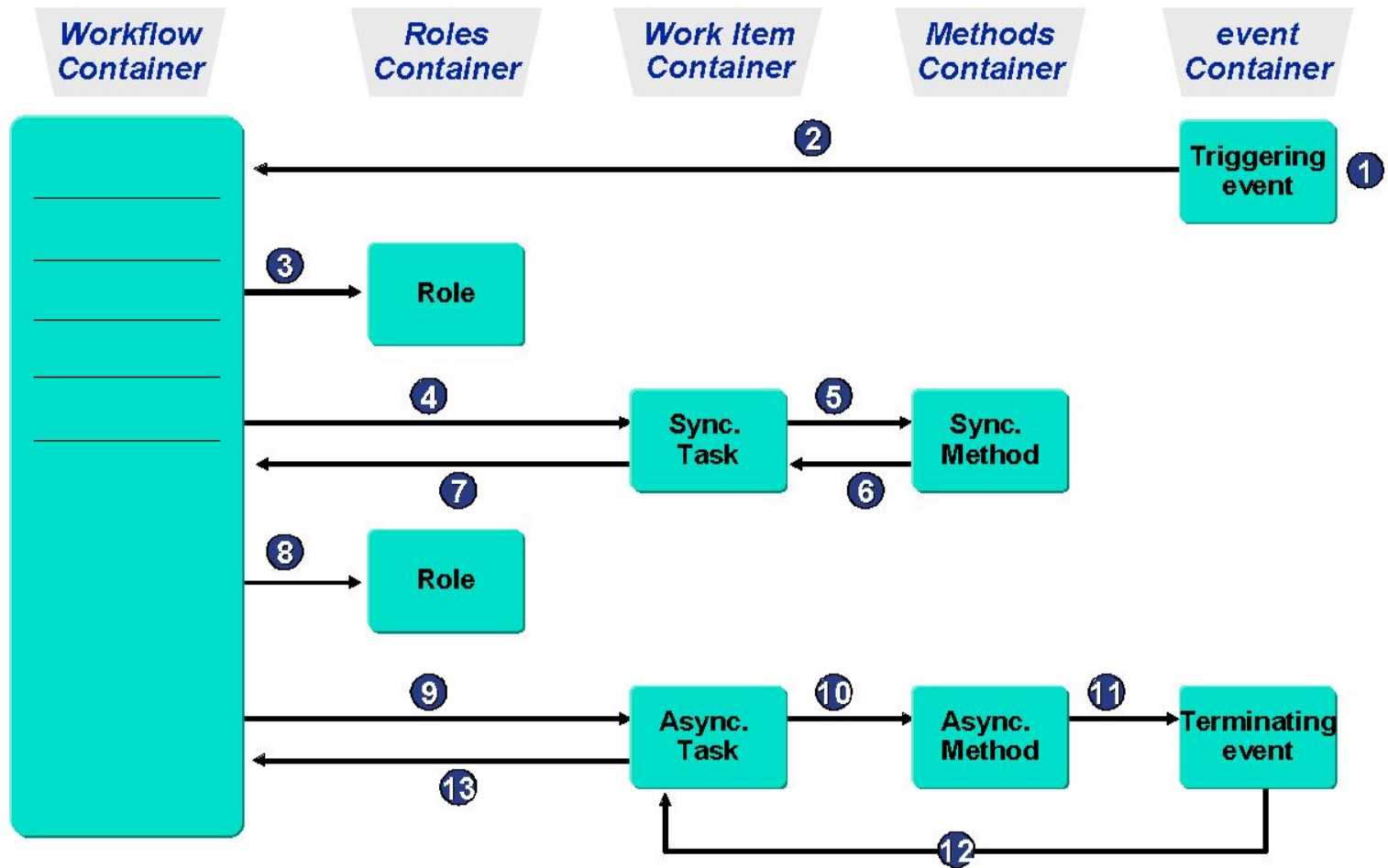
Type of Containers

- A workflow container for each workflow and subworkflow
 - **Only container elements classified as import can be filled when the workflow is started.**
- A task container for each task
 - **Import container elements are filled from the workflow container and export container elements are transferred back.**
- A method container for each method
 - **Import container elements are filled from task container and export container elements are transferred back.**
- An event container for each event
 - **All event containers are export container elements only.**
- A rule container for each rule
 - **The import container elements are filled from the workflow container (or task container). The `_RULE_RESULT` elements is the only export parameter and this is optional.**

Binding

- Data can be passed from one type to another using binding.
- At runtime, the bindings are executed at the appropriate point in the workflow.
 - For instance, for a synchronous task, the workflow-to-task binding is executed as part of work item creation and the task-to-workflow binding is executed as part of work item completion.

Containers and Bindings



WORKITEM

Work Item

- Object that represents a task or action in the workflow system at runtime.
- Work items are subdivided into a specific work item type according to their assignments. The internal processing procedures are controlled via this work item type. The work item type determines which statuses and transitions are valid.
- Depending on the work item type, some of these work items are displayed in a user's work list. Other work items, on the other hand, are only used and processed internally.

Work item Types

- **A Work item that represents a Work Queue**
- **B Work item for Background step**
- **C Work item that represents a container linkage**
- **D Deadline work item; Notification upon Missed Deadline**
- **E Workitem that waits for an Event (Wait step)**
- **F Workflow (Also subworkflow)**
- **N Notification Item (Obsolete)**
- **P Work item that Represents a Remote Work item (Proxy WI)**
- **R Work item that Represents a Remote Work item (http)**
- **W Dialog work item; Represents a Single-step Task**
- **X Work item that Represents a Block**

Work item Status

- **WAITING: Waiting (Also: Work items in Resubmission)**
- **READY**
- **SELECTED: Reserved**
- **STARTED: In Process**
- **ERROR**
- **COMMITTED: Executed (Only If Expl. End Confirmation Is Expected)**
- **COMPLETED**
- **CANCELLED: Logically Deleted**
- **CHECKED: In Preparation**
- **EXCPCAUGHT: Exception caught**
- **EXCPHANDLR: Exception Being Handled**

Deadline Monitoring

Deadlines for Workflow Steps

- Deadlines have individual time references and agents
- Possible deadlines
 - Requested start
 - Requested end
 - Latest start
 - Latest end
- Simple deadlines versus modeled deadlines



SU	MO	TU	WE	TH	FR	SA
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

Deadlines for Workflow Steps

- Requested start
 - **Earliest possible point in time for the commencement of processing**
 - **The requested start is not a monitored deadline in the strict sense. It is when a work item first appears in an agent's inbox.**
- Requested end
 - **Requested end deadline for processing a step**
- Latest start
 - **Latest start deadline for processing a step**
- Latest end
 - **Deadline by which the processing of a step must be completed.**

Note:

All deadlines are monitored using the background job SWWDHEX with job class A. The job calls the report RSWWDHEX.

Business Objects

Creation of Object type

- New Object type
- Sub-type of an existing Object type
- Adv of sub-type: It automatically inherits all the components (methods, attributes, and events) of the original object type including its implementation.

Sub-type

- Tools->Business Workflow -> Development -> Definition Tools -> Business Object Builder
- In the field object type enter the object type you want to extend.
- Choose subtype.
- Enter a unique name, object name, name, short description and name of the program.
- Save it.

Object Type Definition

- Transaction Code : **SWO1**
- Basic data
 - General: Super Type , Release , Generation
 - Change & Transport
 - Default : Method & Attribute

» Contd.

Object Type Definition (contd..)

- Key Fields
 - Determines which application table (s) the data is saved
 - One or more key fields can be used
 - Combined key field values provide unique identification for an object instance.
 - Can refer to a database table or a view.

Contd...

Creation of Key fields

- Position the cursor on the entry Key fields and choose the “create” button.
- If you want to create the key field with a database table then enter ‘yes’.
- Enter the table name e.g.: VBAK
- The list of key fields will be displayed, select the respective ones, e.g.: VBLEN.

Object Type Definition (contd...)

- Attributes

- Property of an Object
- Source of Information

- Database Field
- Virtual
- Object

- Multi Line:

- A multiple-line attribute corresponds to
ABAP

» Contd.

A database attribute is defined with reference to a column (not a key column) of the related application table.

A virtual attribute is calculated with ABAP code.

in

Creation of Attribute

Attribute Sales_Group

Attribute	Sales_Group
Object type	ZTEST_03
Release	640
Status	modeled

Texts

Name	Sales_Group
Description	Sales_Group

Source

Virtual
 Database field

Attribute properties

Multiline
 Mandatory
 Instance-independent

Data type reference

ABAP Dictionary
Reference table
Reference field

Object type
TVKGR Sales group
Inverse attribute

✓ ↻ ✕

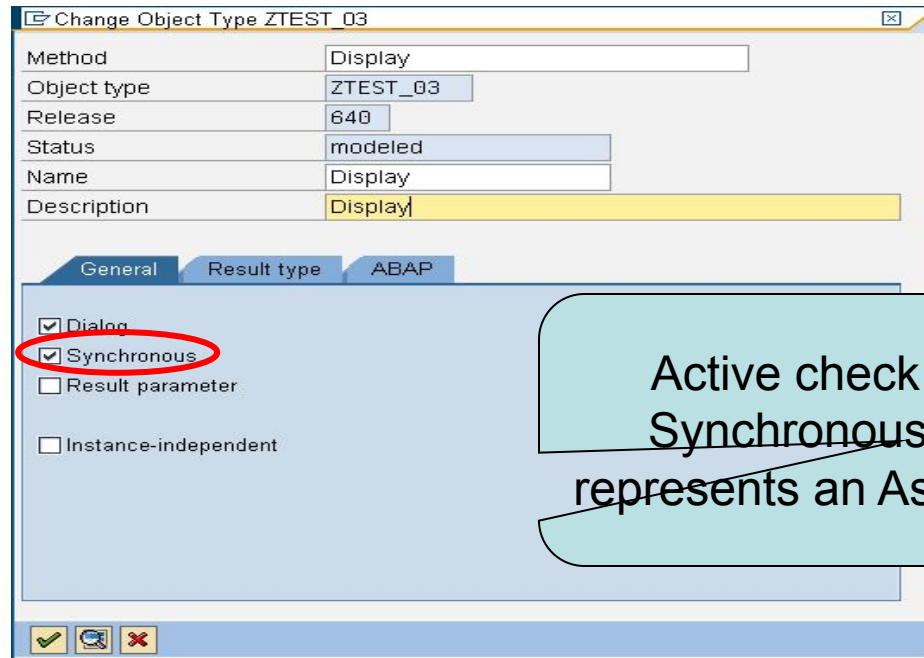
```
18 include <cntn01>.
19 parameters: sales_order_key like vbak-vbeln.
20
21 data: sales_order type swc_object,
22       sales_group type swc_object.
23
24 * create object(-reference)
25   swc_create_object
26     sales_order 'Z_BUS2032' sales_order_key.
27     if sy-subrc ne 0.
28       "Do your own error handling.
29     endif.
30
31 * read attribute SalesGroup of Order
32   SWC_SET_ELEMENT CONTAINER 'Sales_Group' OBJECT-SALES_GROUP.
33
```

Object Type Definition contd.

- Methods
 - Dialog/Background
 - Synchronous/Asynchronous
 - Function Module
 - BAPI
 - Transaction Code
 - Report
 - Other

» Contd.

Types of methods



- Synchronous methods:
 - Export parameters are returned directly to the calling program.
 - Exceptions may be triggered.
- Asynchronous methods:
 - Method execution consists of a synchronous part and subsequent update.
 - Export parameters are not authorized.
 - Exceptions are only possible in the synchronous part.

Parameter calls from methods

- Import parameters
- Export parameters
- Result (special export parameter)
- Exceptions:
 - Temporary error
 - Application error
 - System error

Object Type Definition Contd...

- Events
 - System wide message about a change in state of an Object
- Events should be used only in conjunction with SAP Object
- The SAP application must raise the event and not the Object type.

Release Status

- Modeled : **Not accessible at runtime.**
- Implemented: **Only in test or internal use, possibly unstable.**
- Released: **Released for use by the customer.**
- Obsolete:
The functionality has been replaced. The old functionality is still supported for two releases.

Macros used during SAP Object Programming

- Include <cntn01> OR Include <object>
- Container Declaration :
SWC_CONTAINER <container>
- Container Initialization :
SWC_CREATE_CONTAINER
<container>

» Contd.

Macros used during SAP Object Programming contd.

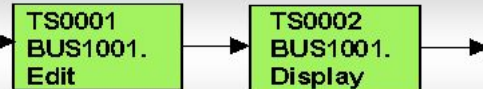
- Writing a Field value :
SWC_SET_ELEMENT <container>
<element> <value>
- Reading a Field value :
SWC_GET_ELEMENT <container>
<element> <value>
- Writing a Multi Line field value:
SWC_SET_TABLE <container>
<element> <value>
- Reading a Multi Line field Value:
SWC_GET_TABLE <container>
<element> <value>

DELEGATION

Delegation

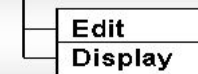
Process definition

SAP
Standard



BOB

BUS1001



Inheritance



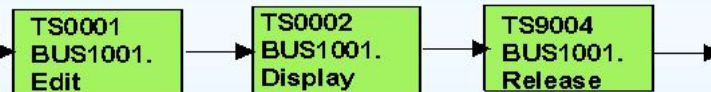
BUS1001



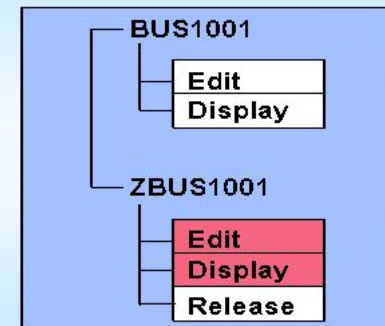
ZBUS1001



Delegation



BUS1001



Delegation

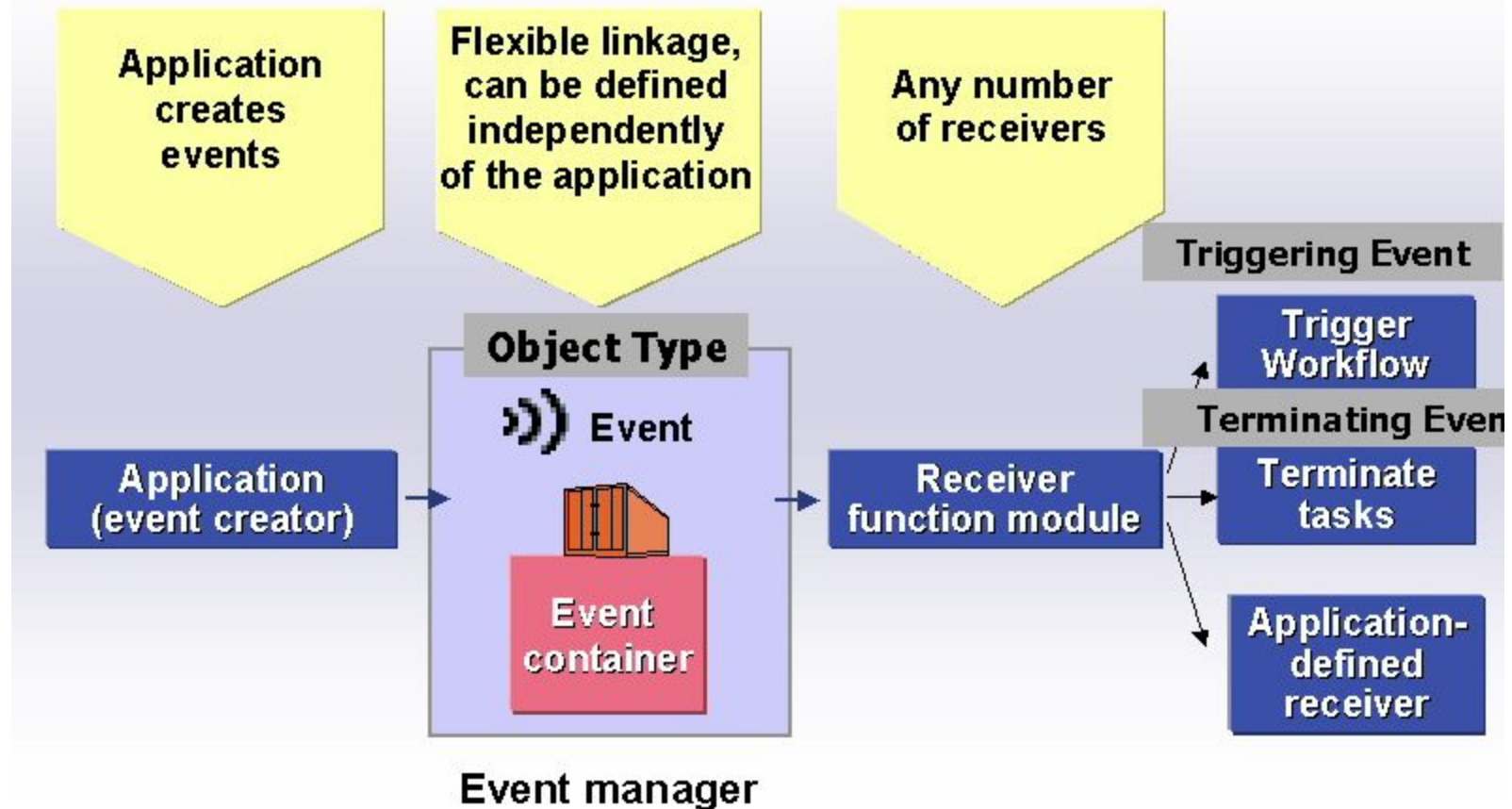
- If you create a subtype of an object type, you can choose to delegate the superior type to the subtype. Delegation means that wherever the super type is referenced throughout workflow, the subtype will actually be used instead.
- Delegation lets you use all the existing tasks and workflows based on the SAP object type as if they were using your own subtype.
- Customers use their own object extensions with the tasks, events, etc. supplied by SAP
- Without having to redefine existing tasks, you can use standard objects with customer extensions

EVENT

Events

- Events are part of business object, are triggered for changes in the state of the object, which can cause other processes to begin.
- Used for Triggering the Workflow
- Necessary information needs to be entered on “Triggering Events” tab of the Workflow Builder.
- Workflow Engine will automatically generate the binding. You can change it afterwards.
- Events can also be defined in Classes. Their behavior is similar to the events declared in Objects.

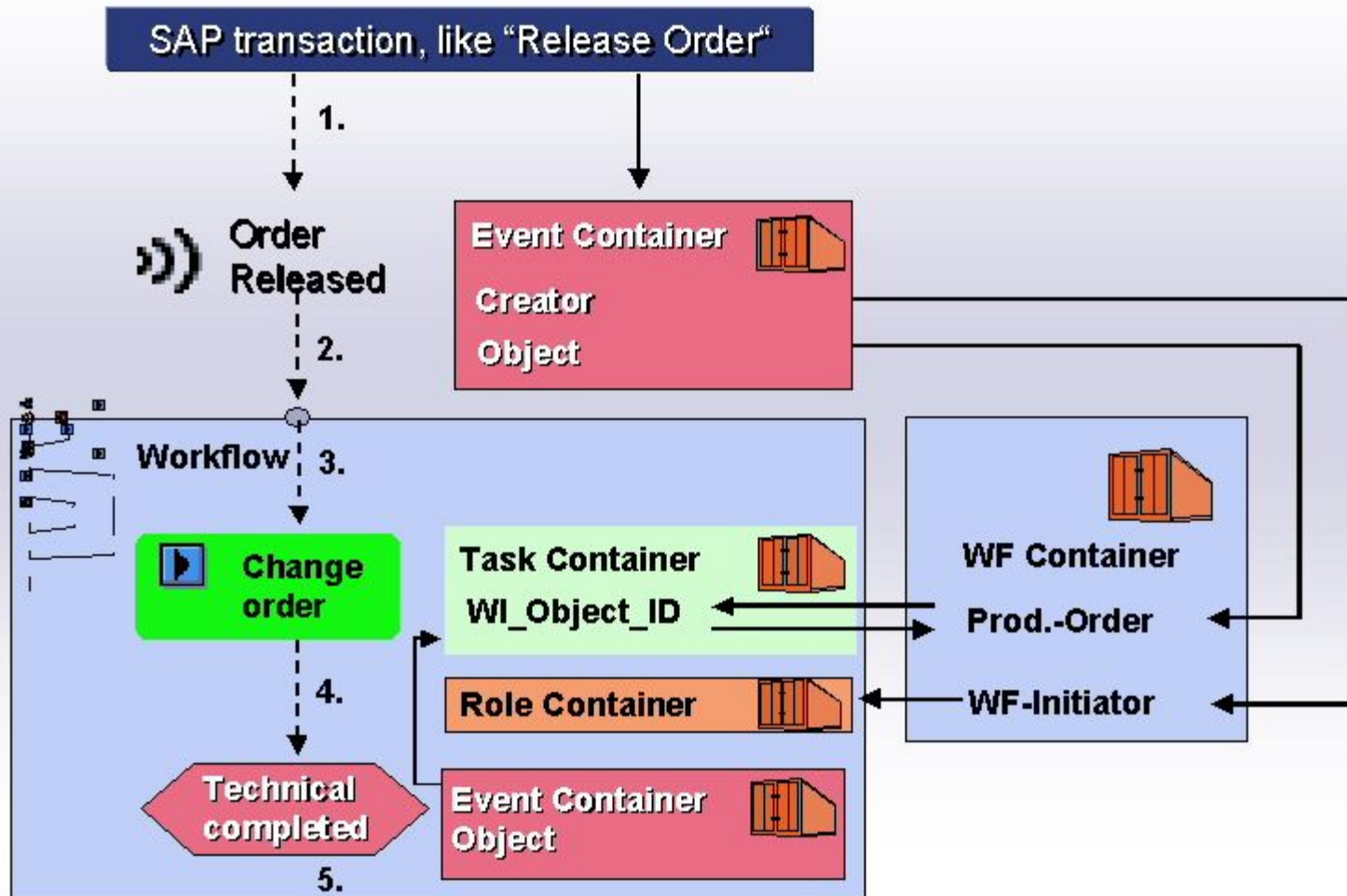
Event Creators & Receivers



Event Creation and Triggering

- Define Object in Business Object Builder
- Trigger Event:
 - Implicitly via generic tools, for example change documents, status management, message control etc
 - Explicitly via function module
 - SWE_CREATE_EVENT

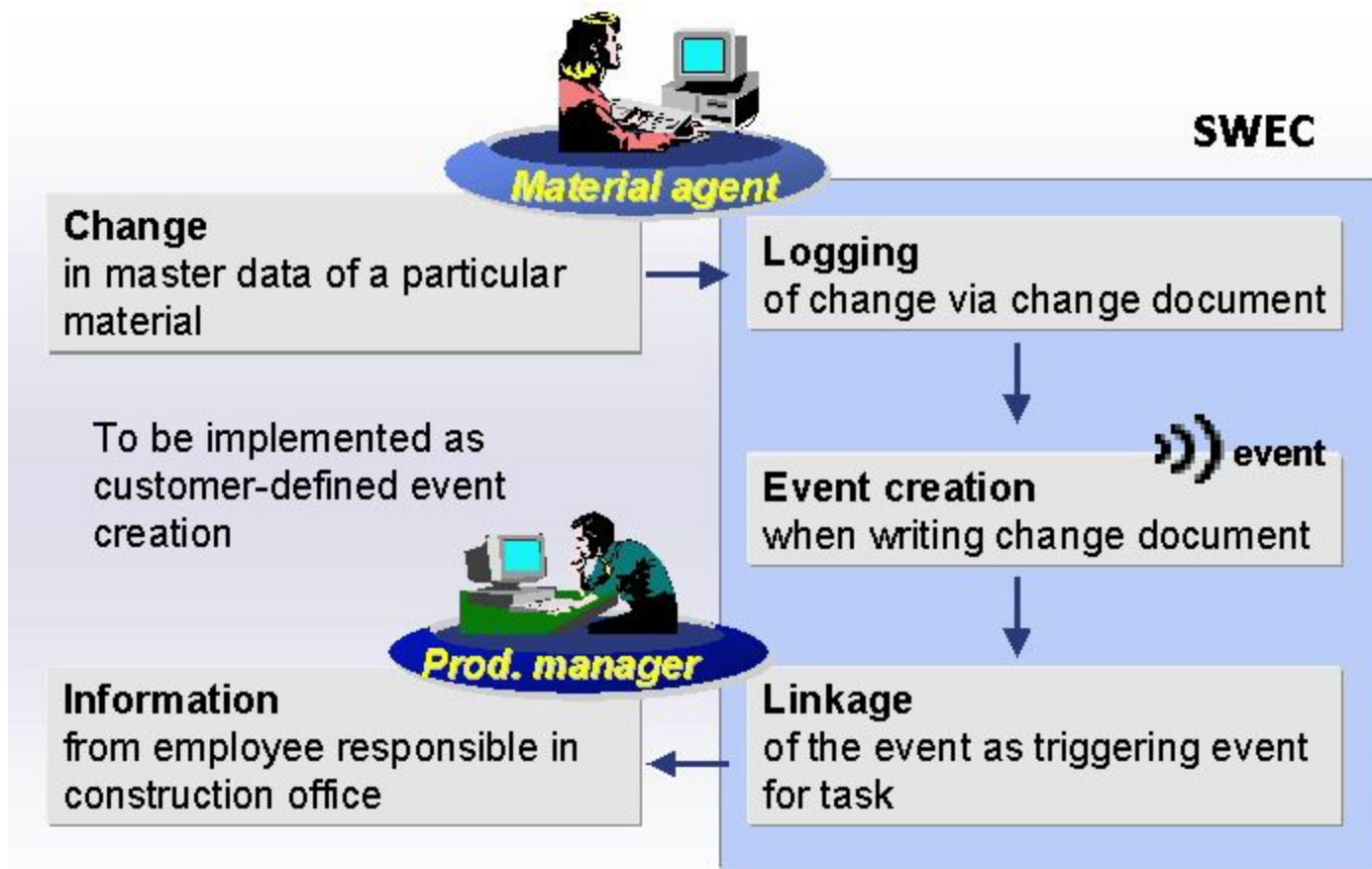
Event Triggering: Status Change



Event Triggering: Message control

- Create a separate output type and declare 9 (workflow event) as transmission medium
- Create a condition table
- Create a access sequence
- Assign the access sequence to the defined output type for a workflow event
- Define condition records and declare the event
- Assign the output type to a procedure

Event Triggering: Change Documents



Event Triggering: ABAP Code

- Fill event container with event parameters
- Compose object key for triggering object
- Call SWE_EVENT_CREATE
- FM Call error handling
- Trigger event with explicit commit work

```
include <CNTN01>.

data: begin of asset_key,
      company_code like anla-bukrs,
      asset_no     like anla-anln1,
      sub_number   like anla-anln2,
      end of asset_key.
data: object_key   like sweinstcou-objkey.
      swc_container like evt_container.

* Write parameters into event container
swc_set_element evt_container 'flag_equi_aendern' 'X'.

* Compose object key
asset_key-company_code = '0001'.
asset_key-asset_no     = '000000123456'.
asset_key-sub_number   = '0100'.
object_key = asset_key.

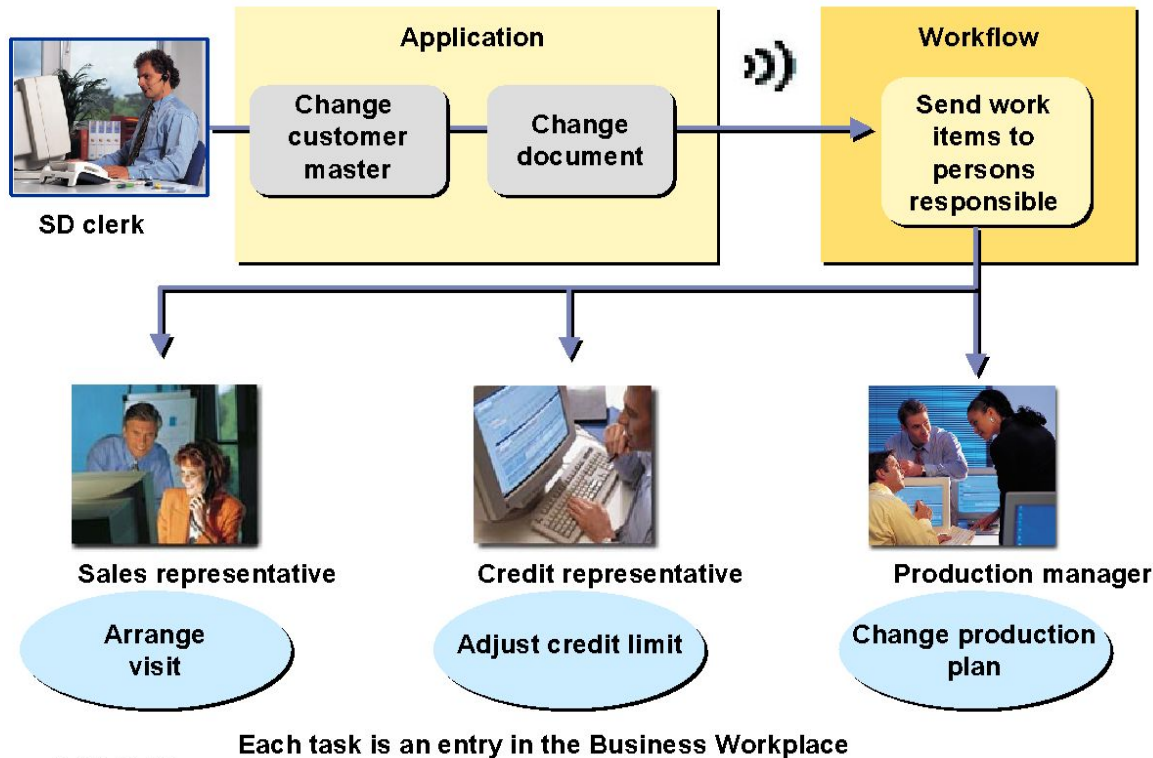
* Trigger the event
call function 'SWE_EVENT_CREATE'
  exporting
    objtype = 'BUS1022'
    objkey  = object_key
    event   = 'changed'
  tables
    event_container = evt_container
  exceptions
    others = 01.

if sy-subrc ne 0.
  " do your own error handling
endif.

* start tRFC processing
commit work.
```

Business Workplace

Worklist as Interface for End User



- The Business Workplace is part of the SAP Business Workflow runtime environment. The employees responsible receive the documents and work items for processing in the Business Workplace. Once a task (= a work item) has been executed and completed, the process can be continued.
- The worklist contains all the work items (all the activities to be processed) assigned to this user. The Business Workplace is therefore the most important interface for an employee in their day-to-day work.

Business Workplace in SAP R/3

The screenshot shows the SAP Business Workplace interface for Dr. Carsten Brennecke. The interface is divided into three main areas: an Overview tree on the left, a Worklist in the center, and a Work item preview on the right. The Worklist displays a table of workflow items with columns for Title, Status, Created on, and Time cre... The Work item preview shows a task description and related objects.

Callouts in the image identify the following features:

- Automatic grouping
- Worklist
- Work item text
- Special work items
- Tips/Tricks
- Work item preview
- Your logo and text
- Task description
- Related objects
- Overview tree

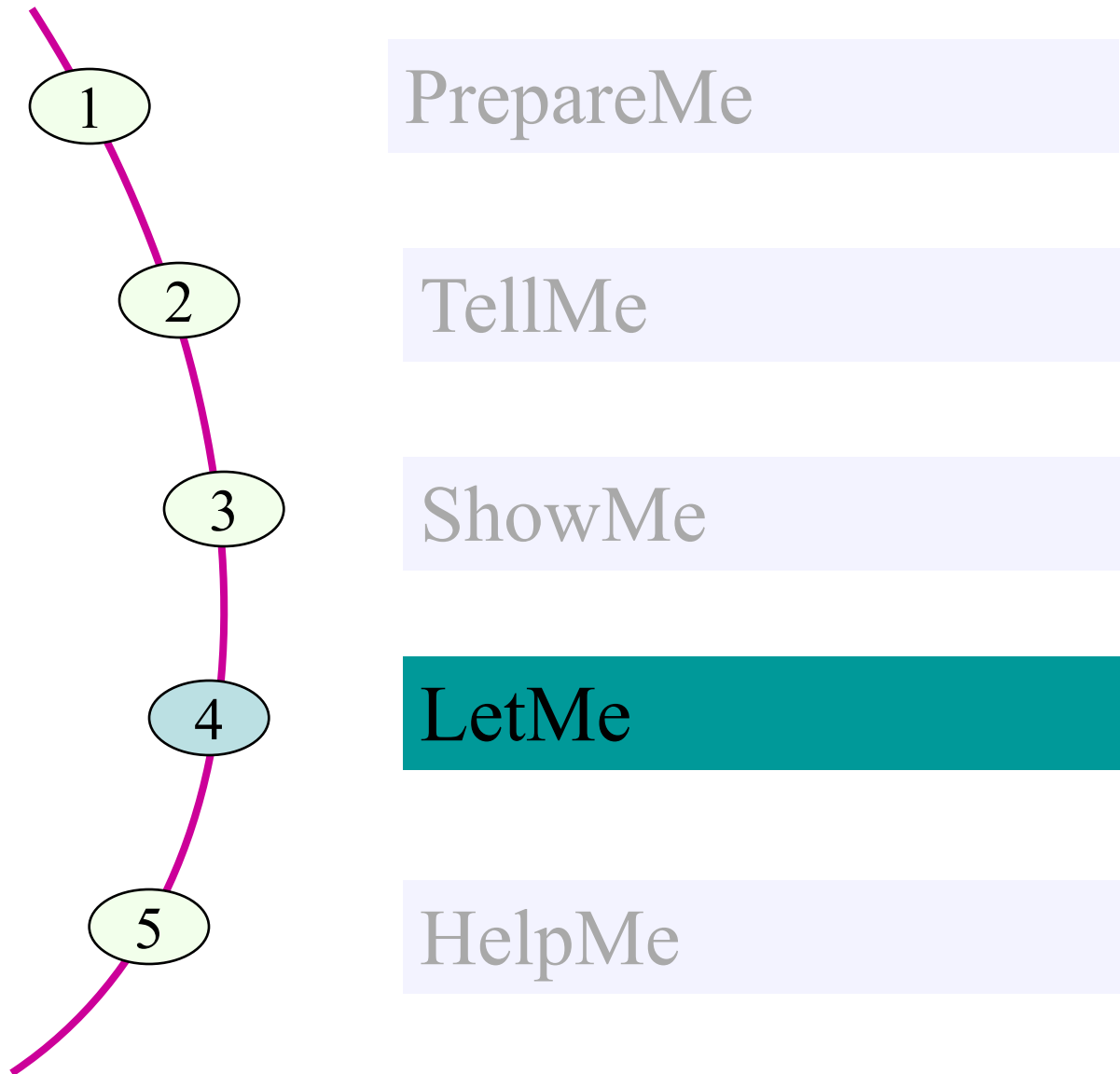
Ex...	Title	Status	Created on	Time cre...
	Demo user exit preview of 10.11.1999 16:28:44 : User-defined ...		10.11.1999	16:28:44
	Demo user exit preview of 10.11.1999 16:28:44 : Logo and text		10.11.1999	16:28:44
	Demo user exit preview of 10.11.1999 16:28:43 : Only text		10.11.1999	16:28:44
	Demo user exit preview of 10.11.1999 16:28:43 : Only logo		10.11.1999	16:28:43
	Edit m...		08.11.1999	17:26:05

Description
Choose one of the decision options given. This will complete processing of this step.

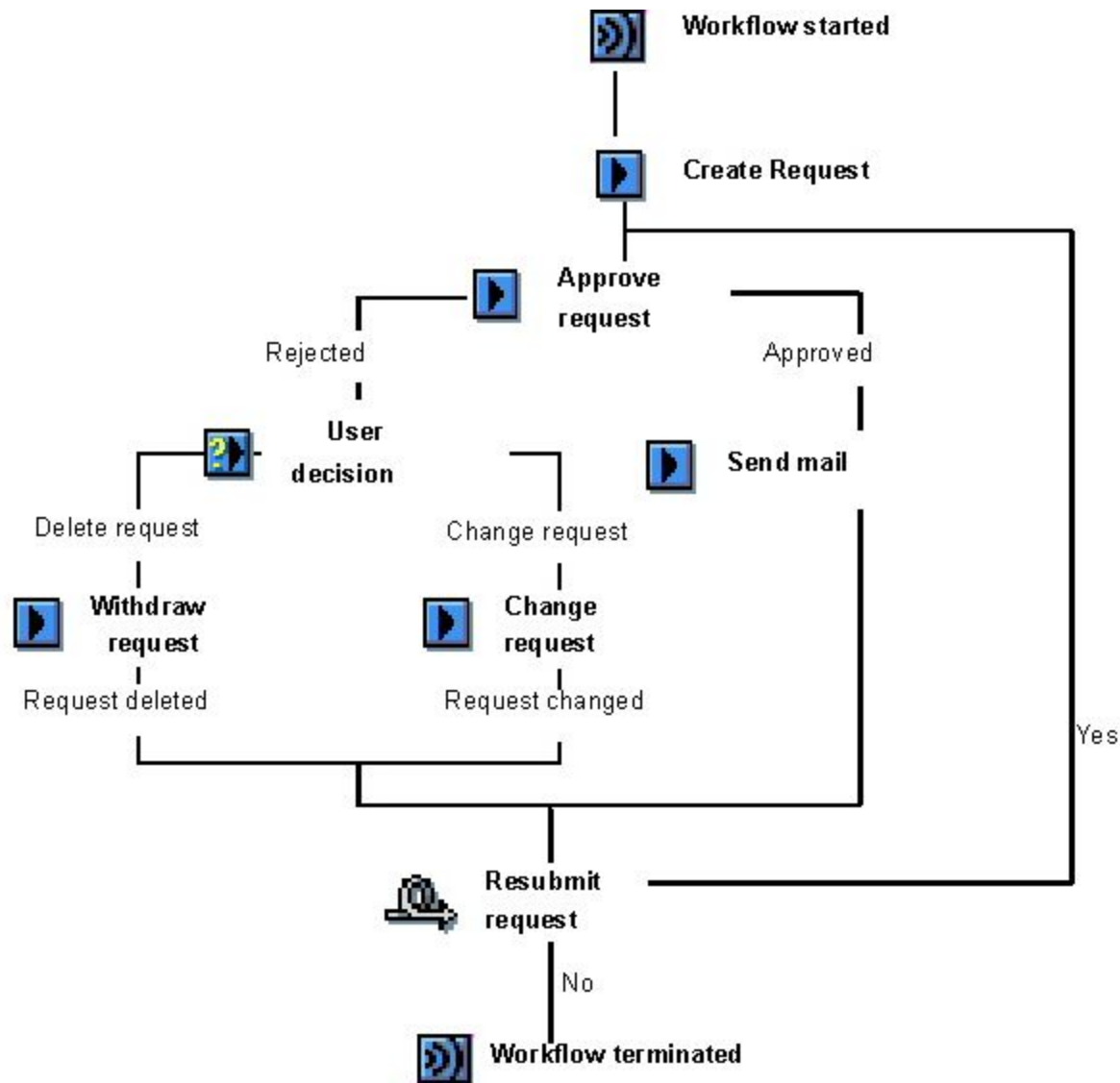
Objects and attachments
• Office document: Note

- The Business Workplace has three screen areas:
 - Overview tree
 - Worklist
 - Work item preview

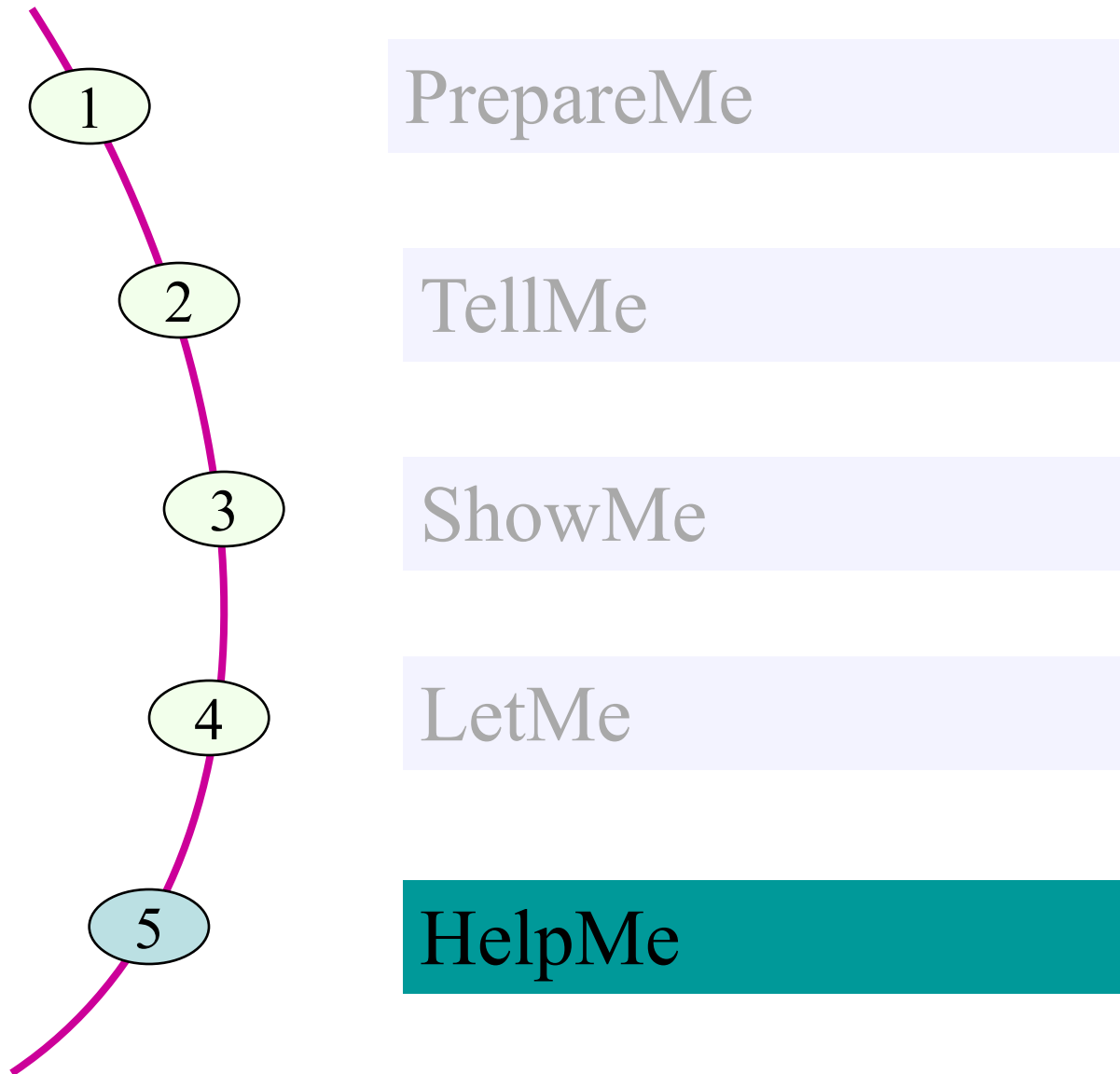
Business Workflow



Demo: Notification of Absence



Business Workflow



MONITORING & ANALYSIS

Monitoring & Analysis

- Reporting
 - Work Item Monitoring
 - Work Item Analysis
 - Work load Analysis
- Workflow Diagnostic Tool



Reporting

- Reporting on Workflow Progress
- Work Items by Processing Duration
- Work Items with Monitored Deadlines
- Work Items per Task
- Reporting on Agent Behavior


Reporting on Workflow Progress

- Transaction code: **SWI1**
 - This report shows all the work items of the particular task in a particular time period.
 - This report is also used for monitoring the Workitem







Selection Report for Work Items


Selection Using Work Item ID

Identification to 

Selection Using Work Item Properties

Type	<input type="text"/>	to	<input type="text"/>	
Status	<input type="text"/>	to	<input type="text"/>	
Priority	<input type="text"/>	to	<input type="text"/>	
Deadline Status	<input type="text"/>	to	<input type="text"/>	
Task	<input type="text"/>	to	<input type="text"/>	
Task Group	<input type="text"/>			

Selection Using Time Period

Creation Date	<input type="text" value="10.04.2007"/>	to	<input type="text"/>	
Creation Time	<input type="text" value="06:10:08"/>	to	<input type="text" value="23:59:59"/>	


Output Options (+Version, +Administrator)


Switch On


Reporting on Workflow Progress

- Workflows for Object
 - Transaction code: **SWI6**.
 - This report shows all workflow instances linked to a particular object instance.
 - Example: Particular Purchase Order


Display Workflows: Select an Object





Object Type Category: BOR Object Type 


Object Type: 


Key:

Selection variant: Active Instances (Running, Ready, Committed,...) 

Task: 

Task group: 


Component: 

Selection Period: Last 7 days 

Reporting on Workflow Progress

- Workflows for Object type
 - Transaction code **SWI14**
 - This report shows all the work items and workflow instances for all object instances of a business object type.
 - Example: Workflows related to all Purchase Orders

Display Workflows: Please Select an Object Type



Object Type Category

Object Type

Selection variant

Task

Task group



Component

Selection Period

Work Items by Processing Duration

- Transaction code: **SWI2_DURA**
 - This report gives list of work items based on their processing duration for specified type or for a specified tasks.
 - This report is also used to analyze a Work item.

Work Items by Processing Duration

Monitoring period

Today

Last 7 days

Last 30 days

Last 365 days

Time on

Interval From To

Work item type

Dialog

(Sub-)Workflow

Background

Block

Task filter

Task

Task group (T)



Task group (TG)

Application Component

Work Items with Monitored Deadlines

- Transaction Code: **SWI2_DEAD**
 - This report displays work items with their deadline information, if they are set.
 - For each missed deadline, the current status of the work item is shown.
 - This report is also used to analyze a Work item.

Work Items with Monitored Deadlines


Monitoring period

Today

Last 7 days

Last 30 days

Last 365 days

Time on 

Interval From To

Work item type

Dialog

(Sub-)Workflow

Background

Block

Task filter

Task	<input type="text"/>
Task group (T)	<input type="text"/>
Task group (TG)	<input type="text"/>
Application Component	<input type="text"/>

Work Items per Task

- Transaction code: **SWI2_FREQ**
 - This report shows the number of work items created in the specified period.
 - This report is also used to analyze a Work item.

Work Items per Task

Monitoring period

Today

Last 7 days

Last 30 days

Last 365 days

Time on

Interval From To

Work item type

Dialog

(Sub-)Workflow

Background

Block

Task filter

Task

Task group (T)

Task group (TG)

Application Component

Reporting on Agent Behavior

- Transaction Code: **SWI5**
 - With the help of this report , you can monitor how quickly agent act on their work items
 - This report is useful for assessing workload over particular time period.
 - This report is useful for reporting on the type and frequency of tasks being sent to an agent.
 - This report is also used to analyze a Work load.



The screenshot shows a web-based interface for "Workload Analysis". It features a blue header bar with a refresh icon. Below the header, there are four main sections: "Responsibility", "Period", and "Task filter".

Responsibility

Type 
ID

Period

Complt'd since
 To be processed by

Task filter

Task
Task group
Application Component


Workflow Diagnostic Tool









- Transaction Code: **SWUD**
 - A primary diagnostic tool.
 - Analyze workflow definition.
 - Following are the options available:
 - Verify workflow customizing
 - Perform Workflow Customizing
 - Problem: Task does not start
 - To track down the exact cause of an error
 - Problem: Workflow is hanging
 - Choose this option when workflow starts but stops before completion, due to some error.
 - Test Environment
 - Choose this option when you want to access the complete suite of test tools from one place.
 - This option will also display all the components (subworkflow, tasks, business objects, delegated business objects)

Workflow Diagnosis

Section 1: The current workflow definition to be analyzed.





Workflow Diagnosis

Task type: WS
Task: 99900260  travel expenses

-  Verify Automatic Customizing 
-  Problem: Task not started 
-  Problem: Workflow is hanging 
-  Test environment Including parts 

Section 2:
The list of
test
options

List of most recently used tasks

	WS99900260	travel expenses	Ztrp_exp	
	WS30100051	Workflow system verification	Verify	

Section 3: A list of last term
workflow definitions.

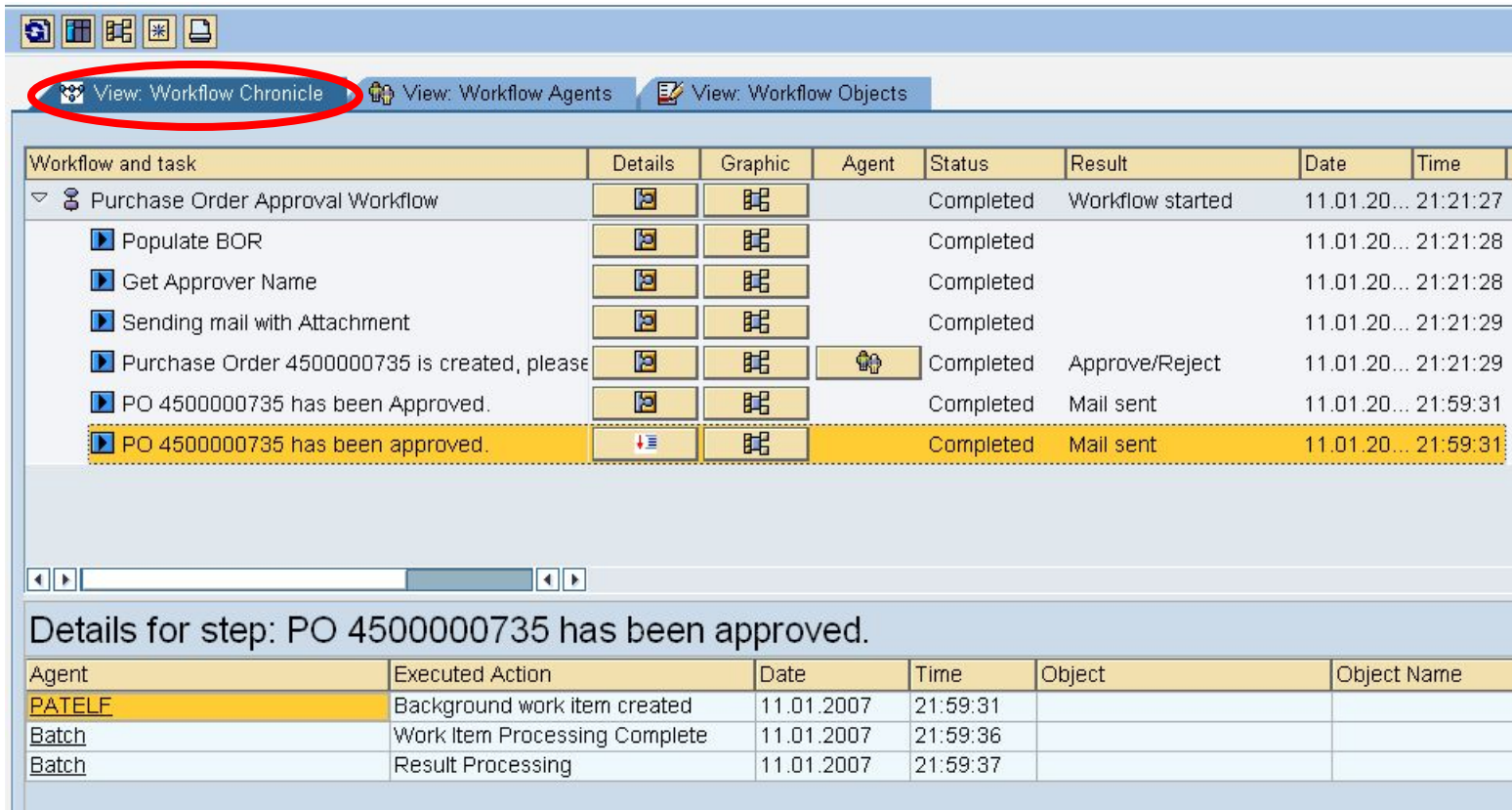
Working with the Workflow Log

- At runtime, a workflow has its own work item (type F) that represents the workflow instance.
- The workflow log formats all the information created during the execution of the business process
 - Standard view
 - Intended for agents and process owners who want to get an overview of the steps processed.
 - Technical view
 - Intended for developers and workflow administrator

Standard View

- Workflow Chronicle (What processed when?)
- Workflow Agents (Who Processed what?)
- Workflow Objects (What was processed?)

Workflow Chronicle



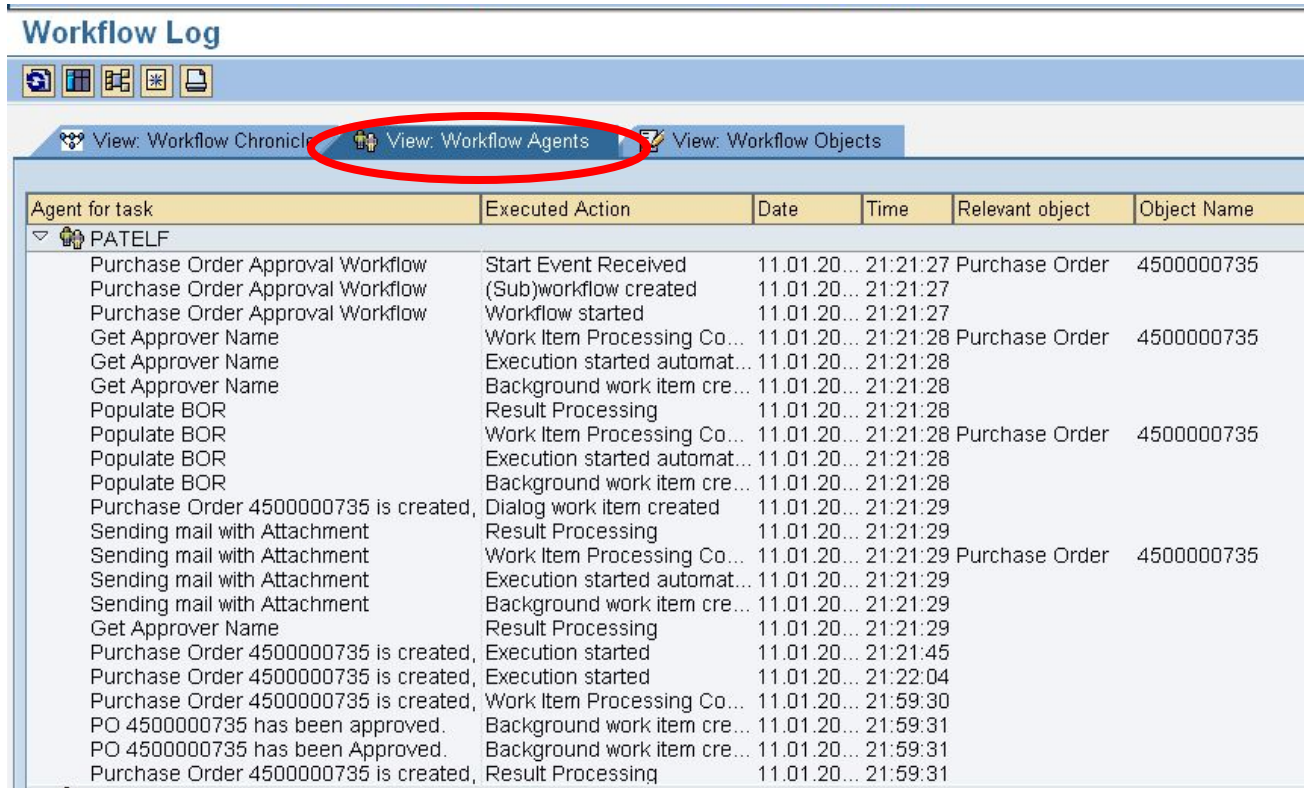
The screenshot displays the Workflow Chronicle application interface. At the top, there are three tabs: "View: Workflow Chronicle" (highlighted with a red circle), "View: Workflow Agents", and "View: Workflow Objects". Below the tabs is a table with columns: "Workflow and task", "Details", "Graphic", "Agent", "Status", "Result", "Date", and "Time". The table lists several workflow steps, including "Purchase Order Approval Workflow" and its sub-steps like "Populate BOR", "Get Approver Name", "Sending mail with Attachment", and "Purchase Order 4500000735 is created, please...". The last row, "PO 4500000735 has been approved.", is highlighted in yellow. Below the table is a navigation bar with left and right arrows. Underneath, a section titled "Details for step: PO 4500000735 has been approved." contains a smaller table with columns: "Agent", "Executed Action", "Date", "Time", "Object", and "Object Name".

Workflow and task	Details	Graphic	Agent	Status	Result	Date	Time
▼ Purchase Order Approval Workflow				Completed	Workflow started	11.01.20...	21:21:27
▶ Populate BOR				Completed		11.01.20...	21:21:28
▶ Get Approver Name				Completed		11.01.20...	21:21:28
▶ Sending mail with Attachment				Completed		11.01.20...	21:21:29
▶ Purchase Order 4500000735 is created, please				Completed	Approve/Reject	11.01.20...	21:21:29
▶ PO 4500000735 has been Approved.				Completed	Mail sent	11.01.20...	21:59:31
▶ PO 4500000735 has been approved.				Completed	Mail sent	11.01.20...	21:59:31

Agent	Executed Action	Date	Time	Object	Object Name
PATELF	Background work item created	11.01.2007	21:59:31		
Batch	Work Item Processing Complete	11.01.2007	21:59:36		
Batch	Result Processing	11.01.2007	21:59:37		

The tab page Workflow Chronicle shows a hierarchical display of all the steps in the workflow. If workflow has a subworkflow structure, the subworkflow are also displayed.

Workflow Agents



Workflow Log

View: Workflow Chroni... **View: Workflow Agents** View: Workflow Objects

Agent for task	Executed Action	Date	Time	Relevant object	Object Name
▼ PATELF					
Purchase Order Approval Workflow	Start Event Received	11.01.20...	21:21:27	Purchase Order	4500000735
Purchase Order Approval Workflow	(Sub)workflow created	11.01.20...	21:21:27		
Purchase Order Approval Workflow	Workflow started	11.01.20...	21:21:27		
Get Approver Name	Work Item Processing Co...	11.01.20...	21:21:28	Purchase Order	4500000735
Get Approver Name	Execution started automat...	11.01.20...	21:21:28		
Get Approver Name	Background work item cre...	11.01.20...	21:21:28		
Populate BOR	Result Processing	11.01.20...	21:21:28		
Populate BOR	Work Item Processing Co...	11.01.20...	21:21:28	Purchase Order	4500000735
Populate BOR	Execution started automat...	11.01.20...	21:21:28		
Populate BOR	Background work item cre...	11.01.20...	21:21:28		
Purchase Order 4500000735 is created,	Dialog work item created	11.01.20...	21:21:29		
Sending mail with Attachment	Result Processing	11.01.20...	21:21:29		
Sending mail with Attachment	Work Item Processing Co...	11.01.20...	21:21:29	Purchase Order	4500000735
Sending mail with Attachment	Execution started automat...	11.01.20...	21:21:29		
Sending mail with Attachment	Background work item cre...	11.01.20...	21:21:29		
Get Approver Name	Result Processing	11.01.20...	21:21:29		
Purchase Order 4500000735 is created,	Execution started	11.01.20...	21:21:45		
Purchase Order 4500000735 is created,	Execution started	11.01.20...	21:22:04		
Purchase Order 4500000735 is created,	Work Item Processing Co...	11.01.20...	21:59:30		
PO 4500000735 has been approved.	Background work item cre...	11.01.20...	21:59:31		
PO 4500000735 has been Approved.	Background work item cre...	11.01.20...	21:59:31		
Purchase Order 4500000735 is created,	Result Processing	11.01.20...	21:59:31		

The Tab page Workflow Agents shows the agents involved in the workflow.

Following options are displayed for each agent:

- **What action was carried out in what step**
- **When this action was carried out**
- **The objects involved**

Workflow Objects

Workflow Log



View: Workflow Chronicle

View: Workflow Agents

View: Workflow Objects

Object in task	Agent	Executed Action	Date
▼ Purchase Order 4500000735			
Purchase Order Approval Workflow	PATELF	Start Event Received	11.01.20.
Populate BOR	PATELF	Work Item Processing Complete	11.01.20.
Get Approver Name	PATELF	Work Item Processing Complete	11.01.20.
Sending mail with Attachment	PATELF	Work Item Processing Complete	11.01.20.

The tab page **Workflow Objects** lists the objects related to the workflow. This view shows what objects were created and processed.

Technical View

Workflow Log (View With Technical Details)

The screenshot displays a workflow management interface. At the top right, a window titled "Selected agents: Amend rejected Service Entry Sheet" shows a list of agents: "TS 90000040 Service Entry Sheet Rejected" and "US AA9GRID Danielle Griffiths".

The main window is titled "Workflow Log (View With Technical Details)". It features a toolbar with "Agent", "Object", "Choose", "Save", and "Definition" buttons. A dialog box titled "Which Agents Do You Want To Display?" is open, showing a list of agents: "Agents", "Possible agents", and "Excluded agents".

The workflow log table is as follows:







Error	Status	ID	Node Number	Task
Error	Agent			Executed Action
		415484	1	Purchase Order Appr
		415485	286	Populate BOR
			257	Check Change Statu
		415486	16	Get Approver Name
			281	Container operatio
		415487	154	Sending mail with
			46	Check Forwarding s
		415488	4	Purchase Order 450
			98	Check Approval Sta
			110	Clear Flag
			170	Beginning of Fork
		415503	104	PO 4500000735 has been Approved.
		415504	178	PO 4500000735 has been approved.
			171	End of Fork
			284	Delivery Date
			31	CHECK_FLAG

Technical details windows include "Display Container Instance for Work Item 000000415486" showing expressions like "Ad Hoc Objects", "Attachments", "Agent", "Grouping Charact.", "Step", "Agents", "Wl_Object_ID", "ZEKORG", "ZEKGRP", "ZFLAG", "ZApproverUserID", "ZApproverMailID", "ZApproverList", "ZFRGCO", "ZFRGGR", "ZFRGSX", and "ZEINDT".

A flowchart in the bottom right corner shows the workflow logic, including steps like "Workflow Start", "Create notification of absence sheet", "Approval notification of absence sheet", "Send link with other approval", "Notification instance created", "Print notification of absence", and "Send notification of absence".

- The technical view shows technical nodes and control structures, container elements, agent data and workflow data.

Workflow Status

Ready  <p>The work item has been released for execution and appears in the workflow inbox of all recipients.</p>	In Progress  <p>The work item is currently being processed by a different recipient or in a different mode.</p>	Executed  <p>The work item is waiting explicit confirmation of its completion.</p>
Completed  <p>The execution of the work item is completed.</p>	Logically Deleted  <p>Execution of the work item is no longer meaningful or required by the workflow logic.</p>	Error  <p>Execution of the work item was terminated with an error.</p>

Workflow Log

The image shows a screenshot of the SAP Workflow Log interface. The main window displays a table of workflow tasks. A callout points to the table, stating it is a 'Chronological view of the process'. Another callout points to the 'Agent' column, stating it 'Shows all participants and agents involved'. A blue callout on the right identifies the entire window as the 'Workflow log'. Below the table, a 'Details for step: Employee Peter Smith : Approve notification' section is shown, with a callout pointing to it as the 'Detail section'. A red arrow points from this detail section to a larger 'Graphical workflow' diagram on the right. A callout points to a green line in the diagram, indicating 'Green line shows process progress'. The diagram shows a flow from 'Workflow started' to 'Create notification of absence (Peter)', then to 'Approve notification of absence (Dr.)', which branches into 'Send long text after approval' and 'Notification of absence rejected'. The 'rejected' path leads to 'Raise notification of absence' and 'Delete notification of absence'.

Workflow and task	Details	Graphic	Agent	Status	Result	Date	Time
▼ Demo workflow for notification of absence				In process	Workflow started	23.11.1999	14:35:06
▶ Create notification of absence				Completed		23.11.1999	14:35:06
▶ Employee Peter Smith : Approve notification				Executed		23.11.1999	14:35:09

Agent	Executed action	Date
Peter Smith	Dialog work item created	23.11.1999
Dr. Carsten Brennecke	Work item reserved	23.11.1999
Carsten Brennecke	Execution started	23.11.1999
Carsten Brennecke	Attachment appended	27.11.1999

List of Transaction Code

- **SWO1**: Business Object Builder
- **SWDD**: Workflow Builder
- **SWUD**: Workflow Diagnosis
- **SBWP**: Business Workplace
- **SWU3**: Automatic Workflow Customizing
- **PFTC**: Maintain Task
- **SWO3**: Business Object Repository Browser
- **SWE2**: Event Linkage
- **SWI1**: Report for Work items
- **SWI2_FREQ**: Work Items per Task
- **SWI2_DEAD**: Work Items with monitored Deadlines