

Note Language: English**Version:** 2**Validity:** Valid from 02.12.1999

Summary

Symptom

This note offers advice on how to modify a workflow definition in the development system when the flow has already gone live in the production system.

There are different aspects which you have to take into account when changing a workflow, because the workflow instances live for a long time and the changes that you make may affect instances that are already running.

Additional key words

pftc

Cause and prerequisites

You have transported a workflow into a production system and workflow instances have been started. You now wish to improve it.

Solution

The course of action that you take will depend on whether the changes are compatible or incompatible with the production workflow.

There are three types of changes to consider:

1. Changing an internal component of the workflow without the need to modify the workflow itself.
2. Creating a new version of the workflow so that the old workflow instances continue to use the old definition, but new workflow instances use the new version.
3. Copying the workflow and transporting it along with the necessary event linkages so that new workflows will use the new workflow definition. This is the safest method but may require additional changes to reports that rely on the hard coded workflow id. This method will also have consequences for the workflow reporting tools.

This note is divided into three main sections:

- o Safety tip
- o The types of changes and the course of action to take
- o Technical background information.

This note is intended for installations where the test and production clients are in separate systems. Bear in mind that WS and TS tasks are client-independent, so changes made in a test client will immediately affect the productive client if they are on the same system.

Safety first

1. A good safety precaution to ensure the stability of your production workflow is to create a new version of the workflow in your development system, immediately after the flow has gone productive. Similarly, you should create a new version of the flow immediately after importing a

modified workflow definition into a production system.

This ensures that you don't accidentally overwrite the productive flow version after reengineering a workflow. The versioning of SAP business workflows avoids inconsistencies in the runtime environment.

Explanations follow later in this note.

2. Ideally, before creating the new version you should start several flows with the old workflow version and let them run to different points in the flow. If you do make changes, you can use these flows later to check the consistency of the modifications.

3. Before making major changes to a workflow, make a temporary copy of it. Make the changes to the copy and only modify the original workflow once you have tested the changes on the copy. This is necessary because you will find that although you set off to make just one type of change, you are sometimes forced to make additional changes.

Types of change

Changing the agent assignment in an ideal setup

Compatible change.

No additional action necessary. In an ideal workflow definition, jobs will be assigned to the tasks, and roles perform the fine selection at the workflow step level. In this constellation, you will not need to change the workflow at all when new users are added or removed from the system.

Everything is taken care of in pd-org.

Changing the agent assignment when users are assigned directly to a task

Usually compatible: No additional action necessary.

In this situation, you will need to change the users assigned to a task and check that the task is not used in other workflows. If it is, ensure that the new agent assignment is correct in the other workflows.

You will not need to modify, generate or transport the workflow definition. Flows in the production system will automatically use the new agent assignment when the relevant step is reached.

This is a compatible change unless the task is used in other workflows.

Changing the agent assignment when agents or pd-org objects are assigned at the step level

Incompatible change: Create a new workflow version.

If you modify the agent at the step level, for example you substitute one organization for another (type "O"), you will need to activate and transport the workflow.

Strictly speaking, you will not need to create a new version of the flow, but if you don't there is a danger that other modifications will be performed on the flow at the same time, which could make the production workflows inconsistent. When in doubt, play safe and create a new version. Make sure that the organization exists in the production system or is transported with the workflow definition.

Modifying the Process Definition

Incompatible change: Create a new workflow version.

If you are removing/adding or changing the order of steps in the workflow, you must ensure that you create a new version before making the changes.

Changing Workflow Container Elements

Incompatible change. Create a completely new flow by copying the original flow.

The definition of the container elements is NOT included in the workflow version so it is dangerous deleting or renaming container elements. If you do this, you should check your flow very carefully first.

Adding container elements is not as critical, but you should make sure that they are only used in the new version. This ensures that the elements have been filled properly before they are used.

Changing the data repository references of a container element can affect the consistency of the workflow definition.

Changing the multi-line flag of the element will have consequences for the workflow. This is an incompatible change.

The binding between the workflow and a task is version-dependent. The binding between task and method is not.

Modifying a Task

Often an incompatible change. Read on.

Changing the task description or work item text is not version dependent and can be done without regenerating the workflow. This is a completely compatible change. Changing the import or export parameters of a task (the container definition) will require changes in the binding to the workflow. This can cause inconsistencies, because the task is used in the old version and the new version. If in doubt, create a new task and a new workflow. (see "Changing Container Elements").

Modifying a Business Object Method

Usually an incompatible change.

When in doubt, create a new method, encapsulate it in a new task which is called from a new workflow version.

If the method's implementation has changed (ABAP code), but neither the method's interface nor the properties have changed, the workflow and task do not need to be changed.

Modifying a Business Object Attribute

Sometimes this is an incompatible change. Read on.

Changing the algorithm behind an attribute will not affect the workflow definition.

Changing the attribute's data repository reference could affect the task container and consequently the workflow container and binding. Create a new workflow.

Changing the multi-line flag of the attribute will have consequences for the workflow and its container, so you need to create a new workflow.

Technical Background

Workflow Versions

When you save or activate a workflow you are asked whether or not to create a new version. This is because the lifetime of a workflow instance may be several months, which makes a change in the flow definition critical to workflow instances that are already in progress (to understand the complexity, contrast this with the lifetime of an ABAP report execution). SAP business workflows allow you to create different versions of the same flow. The new active version will only take effect for the freshly created workflow instances. This ensures that workflow instances already in progress in the production system will continue along defined paths and not run into dead ends or inconsistencies. The old flow instances follow the path defined by the old version, but the instances triggered after the import of the workflow definition follow the path governed by the new version. The key issue is whether the flow has gone live and when the last import into the production system took place. You can select and modify an old version of a workflow. You must activate this version before transporting it (or reactivate it in the production system), in order for the changes to take effect in the production system. This is dangerous but may sometimes be necessary.

Prior to release 4.5, all versions of a workflow are added to the transport file. In release 4.5, only the active version is transported. This has no direct consequences on the workflow behavior.

From Release 4.0 onwards, you can see the workflow version by running transaction `swil` with the extended flag on. In earlier releases, the version can be read by inspecting the element `_WF_DEFINITION_VERS` in the workflow container.

For a full description of workflow versioning, refer to the online documentation.

Copying a workflow

After you have copied and modified a workflow, you will need to disable the triggering event for the old flow and enable the trigger for the new flow. The safest way to do this is to

1. Transport the flow definition into the production system first
2. check that it has been activated properly, and then
3. transport the new event activation and old event deactivation in the same transport file.

Future developments

In release 4.6 it is planned that a new version will automatically be created in the production system to avoid the possibility of accidentally overwriting an active workflow version.

Source code corrections

Header Data

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The note is not release-dependent.