Workflow Management Coalition

WfMC

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Scope of a Working Group Recoverability
(pwg_recov: draft version 0.1)

1 Authors

This proposal was prepared by a group of members of the Workflow Management Coalition (the so-called pre-working-group recoverability “pwg_recov”). Contributions were made so far by:

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Every member of the WfMC who is interested in recoverability is invited to send his or her comments to *schwenk@informatik.uni-stuttgart.de*.

2 Motivation

Users strongly request that workflow enactment services have a predefined behaviour in case of failures. Furthermore, a means should be provided which enables a workflow enactment service to “undo” executed parts of a process instance. Since both requirements have a common goal, to (automatically) establish a state of a process instance from which the execution can be continued, both cases are summarized under the term *recoverability.*

3 Objectives

Three major objectives of the recoverability working group have been identified so far:

1. Development of a recoverability model (define what (WfMC-)recoverability means)
2. Investigation of impacts on other working groups
3. Support of affected working groups in realizing proposed extensions.

4 Strategy

First, the working group should focus on a clear definition of recoverability. We propose that recoverability will not be introduced as a monolithic block. Instead, several classes of recoverability should be introduced. Starting with a layered model (briefly presented in this paper), a comprehensive model should be developed.This will result in an extension of the reference model of the WfMC. In parallel, it has to be worked out how the recoverability issues can be combined with existing results of the WfMC. It is mandatory, that none of the results of the recoverability group will invalidate results of other working group.

5 A layered model as a starting point

The model presented in this section is just a starting point and represents several facets of one aspect of recoverability: transactional access (REC-TA).

REC-TA Level 1:	Basic recoverability (of the engine) A WF-engine guarantees to reflect the status of a process consistently with the "real world". This criterion holds even after a crash of the engine.
REC-TA Level 2:	Simple transactions controlled by the engine The WF-engine can start and end transactions (EOT/BOT) to encapsulate a single work item, i.e. the WF-Engine is aware of transactional and non-transactional work items.
REC-TA Level 3:	Transactional groups of work items Several work items can be grouped such that they are protected by the same transactional spheres. This implies that a transaction manager is needed which coordinates the commit process of these work items.
REC-TA Level 4:	Long running transactions More sophisticated transaction models are supported. For example, a Saga or a ConTract can be used as a part of a workflow process.

Especially the last level introduces new features like e.g. compensation. From today's point of view it seems to be necessary to define a special class of recoverability for this property.

6 Terminology

Each important term of specifications of the recoverability working group will be clearly defined and cross-checked with the glossary.

7 Interested people (alphabetically)

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