



## Re: Issue logged: Sentry behavior for OnParts referring to Repeating PlanItems is unclear

Mike Marin to: Thijs Petter

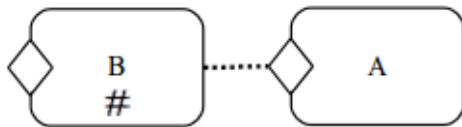
06/25/2014 05:59 PM

Cc: Henk de Man, Ralf Mueller

Thijs,

Sorry for the late response, and I think I still have some of your emails in my backlog. Let me see if I understand your question first, you are referring to a situation where B is repeatable and A's entry criteria depends on an event from B (in this case A's onPart is listening to B's complete transition). So, there are two use cases, but notice that in both situations, the onPart of A is listening to a specific instance of B (no multiple Bs).

1- A is not repeatable.



In this situation, the first instance of B (the one in the original plan) is being monitored by the onPart of A (which was added to the plan at the same time than B). The repetition rule is evaluated when B is created and the resulting Boolean value is maintained for the current scope. So, let assume it evaluates to TRUE, meaning B is repeatable in this scope.

Now, B entry criteria is satisfied and it transition from Available to Enable or Active (let assume transitions to Active). Eventually, when B transitions to Completed, A's onPart is triggered, and A start executing (assuming the entry criteria stage only has the onPart). Note that at any moment a second instance of B maybe created because B's entry criteria is satisfied a second time, let call it B'. Note that B' immediately transitions to Enable or Active. Again, at any moment B's entry criteria is satisfied a third time, and now you have B". Eventually, B' and B" will transition to Completed or Terminated (let assume Completed). But, note that there is no corresponding A for B' or B", because A is not repeatable. So, at the end you will have B, A (depended on B), B', and B".

2- A is repeatable.



In this situation, similar to before, A depends on B. The repetition rule for both A and B are evaluated whe the scope is entered and they are created. Note that if B repetition rule evaluates to TRUE and A repetition rule evaluates to FALSE, we have the situation I described in #1 above. But assuming that both repetition rules evaluates to TRUE, this is what happens:

As before, eventually B transition to Complete and that triggers A. at any moment the entry criteria of B is satisfied a second time and now you get a B', and let assume that happens one more time and so you get B". Eventually B' and B" transition to Complete, and at that moment the entry criteria of A is satisfied again and a new instance of A is created and transition to either Enable or Active. Let call that A', and the same happens for A".

Note that there is some magic going on in here. You are totally correct in that the specification is silent in several aspects of the execution semantic. In particular the magic that is going on here is the fact that a onPart of a repeatable plan item that has not been created "is listening" for the event and then creating the plan item if needed. We noticed that while writing the specification, but decided to leave it as an implementation detail. We planned to create another document describing an execution semantic (note that there could be multiple) but has been unable to complete it.

Regards,

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Thijs Petter    [Henk, I have started logging various issue...](#)    06/17/2014 08:48:36 AM

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Date: 06/17/2014 08:48 AM  
Subject: Issue logged: Sentry behavior for OnParts referring to Repeating PlanItems is unclear

Henk,

I have started logging various issues on the OMG site. Curious to know when they reach the RTF.

But I am also too impatient on the below issue that i logged just now. I believe this is the most urgent issue in the current CMMN specification, and I would appreciate if I can get somehow involved when the RTF will discuss the topic.

The notion of repetition is crucial and really valuable, but it also seems somewhat conflicting with the notion of sentry. Or at least it itches.

I am just too curious to get your views on this.

Regards,

Thijs

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Issue Title: Sentry behavior for OnParts referring to Repeating PlanItems is unclear

Issue Text:

Suppose we have a plan item A that has an entry criterion and the onPart refers to a Complete transition of a plan item B that is repeatable.

This referenced plan item B obviously has it's own lifecycle.

The plan item A remains Available until the entry criterion is satisfied.

But when is the entry criterion satisfied if multiple instances of B get added to the plan? Is it upon the first plan item A that is completed, or should all instance of A be completed?

This is especially intriguing if the referenced planitem is a milestone.

Evaluation of the RepetitionRule is clear, it should happen on create. Repeating the plan item is clear for Task and Stage, see 7.6.4: Whenever a Task or Stage becomes Active, a new

instance of the plan item is added to the plan in state Available, triggering same cycle of evaluation of the repetition rule and potentially adding a new plan item if the plan item becomes Active.

However, for Milestones this behavior of adding the repeated plan item is not specified in 7.6.4. But it seems rather intuitive to do this when the milestone Occurs.

However, now comes the problem with sentries listening to this repeating milestone: when the sentry listens to the "Occur" of the milestone, then the entry criterion gets satisfied, and the listening plan item can go to Active ... However, at the time of the Occur transition of the milestone to Complete, a new plan item for the milestone is added to the plan, making immediately the transition Create (to have it go from Null to Available state) ... the listening sentry now immediately gets dissatisfied because of the new plan item's transition ...

I guess this is a place to reconsider or make more explicit what the intended execution semantics should be.