Subject: Why is Or-Split (Implicit) is limited only to 2 inwards arcs?
Posted by lucas on Fri, 05 Jul 2013 09:45:34 GMT
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Hi Tony,

Is there any fundamental reason for not being able to use more than 2 inwards arcs Or-Split (Implicit)?

How do I model a workflow, if I have 3 possible paths from one place?

Thanks,
Lucas

Subject: Re: Why is Or-Split (Implicit) is limited only to 2 inwards arcs?
Posted by AJM on Sun, 07 Jul 2013 08:07:06 GMT
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There can only be two arcs on an Implicit OR split as one of the transitions must be on a timer. If the other transition does not fire within the time limit then the timed transition will fire.

If you want more than two arcs then you must use an Explicit OR split.

Please refer to Splitting and Joining within a Petri Net

Subject: Re: Why is Or-Split (Implicit) is limited only to 2 inwards arcs?
Posted by kong on Tue, 04 Oct 2016 19:00:31 GMT
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I would like to learn more about the reason for such a limitation in Implicit Or split.
Is this a rule inherent in Petri Net based workflows, or is it to keep the implementation simple, or some other reasons?

Subject: Re: Why is Or-Split (Implicit) is limited only to 2 inwards arcs?
Posted by AJM on Wed, 05 Oct 2016 08:14:51 GMT
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This is a rule for Petri Nets. Take a look at http://www.project-open.com/en/workflow-petri-nets

Subject: Re: Why is Or-Split (Implicit) is limited only to 2 inwards arcs?
Posted by kong on Wed, 05 Oct 2016 16:43:02 GMT
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Thanks for the link.

After reviewing the information and some further digging, I have the impression these constraints put on the Implicit Or split (namely: 1. The number of arcs coming out must be two and 2. One of the outgoing arcs must go to a Timed Fired transition.) are more of a design decision that the folks at project-open made for their implementation of workflow engine rather than hard Petri Net rules.

Found a nice reference website http://www.workflowpatterns.com/ by the professors who did a lot of the research on this topic. The Implicit-Or Split is referred to as Deferred Choice http://www.workflowpatterns.com/patterns/control/state/wcp16.php and described as follows:Quote:A point in a process where one of several branches is chosen based on interaction with the operating environment. Prior to the decision, all branches represent possible future courses of execution. The decision is made by initiating the first task in one of the branches i.e. there is no explicit choice but rather a race between different branches. After the decision is made, execution alternatives in branches other than the one selected are withdrawn.
It even gives this exampleQuote:Once a customer requests an airbag shipment, it is either picked up by the postman or a courier driver depending on who can visit the customer site first.

Subject: Re: Why is Or-Split (Implicit) is limited only to 2 inwards arcs?
Posted by AJM on Wed, 05 Oct 2016 22:25:47 GMT
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There are two kinds of split in a Petri Net - and Explicit OR split and an Implicit OR split. The Implicit OR split MUST have only two arcs, and one of them must be triggered by a timer. If you don't want a timer then your only alternative is an Explicit OR split.

Subject: Re: Why is Or-Split (Implicit) is limited only to 2 inwards arcs?
Posted by AJM on Sat, 08 Oct 2016 11:02:32 GMT
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I have removed the limitation of only two arcs on an Implicit-OR-splt. See http://radicore.org/fud/index.php?t=msg&goto=5952&#m sg_5952 for details.
