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Subject: Missing attributes in the element <switch>

Posted by [Martin Lehmann](#) on Mon, 23 Nov 2009 10:02:49 GMT

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(German version below)

Hi everybody,

my name is Martin Lehmann. I am studying Transport Engineering at the TU Dresden, Faculty of Transportation and Traffic Sciences "Friedrich List". I'm working on my diploma thesis. The task is to implement an interface in existing software for reading railML infrastructure data. Here I noticed the following:

Missing attributes in the element <switch>:

The element <switch> should have the attributes: "stationOcpRef" and "signalBoxOcpRef". The element <signal> supports these two attributes already. So why does not the element <switch>, too? Consequently, the two attributes should also appear in the element <switch> because a switch belongs to a station and a signalbox in the same way like a signal does.

Maybe there's chance to complement before the version 2.0 will be released.

Best regards

Martin Lehmann

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German version:

Hallo alle zusammen,

mein Name ist Martin Lehmann und ich studiere Verkehrsingenieurwesen an der  
Diplomarbeit, in der es unter anderem darum geht: Eine Schnittstelle zum  
Einlesen von RailML Infrastruktur Daten in eine bestehende Software zu  
implementieren. Dabei ist mir folgendes aufgefallen:

Fehlende Attribute im Element <switch>

Das Element <switch> sollte die Attribute: "stationOcpRef" und

Attribute. Konsequenterweise sollten die beiden Attribute ebenfalls beim  
Element <switch> auftauchen, da eine Weiche in gleicher Weise wie ein Signal  
einem Bahnhof und einem Stellwerk zugeordnet ist.

freigegeben wird.

Martin Lehmann

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Subject: Re: Missing attributes in the element <switch>  
Posted by [Dr. Volker Knollmann](#) on Wed, 25 Nov 2009 18:46:10 GMT  
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On 23/11/09 11:02, Martin Lehmann wrote:

> The element <switch> should have the attributes: "stationOcpRef" and  
> "signalBoxOcpRef". The element <signal> supports these two attributes  
> already. So why does not the element <switch>, too?

Hmmm... I think you've made a very good point here...

I guess there is definitely an inconsistency between signals and switches.

At a quick glance an easy solution would be to just add the attributes  
as you proposed in your posting. Right.

But a closer look reveals some concerns:

- \* There is a possibility to map tracks to OCPs. This is done via  
<trackRef> in the OCP's <propEquip>, IIRC. If implicitly all of the

track's elements are controlled by the linked OCP then we may NOT ADD the attributes to <switch> but we must REMOVE them from <signal> as they are redundant to the linking via <trackRef>.

- \* In case we accept the redundancy: are there any other (controlled) elements that need a tuple of [station, signalBox] to be fully specified? If yes, we should find a common data structure for this and find a clean way to implement it. Adding those attributes one by one to each element sequentially is NOT a good solution... ;-)
- \* What is planned for the Interlocking Sub-Schema? Isn't that a better place to store the information? I currently don't know...

Right now I can't say what the best solution would be. Do you have any ideas, Martin? This direct question is not meant to be a punishment for showing some initiative and sending a query to the newsgroup! ;-)

I'd just like hear your (and of course other) opinion since you seem to be currently working with that part of RailML.

Best regards,  
Volker

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Subject: Re: Missing attributes in the element <switch>  
Posted by [Martin Lehmann](#) on Sat, 09 Jan 2010 13:19:30 GMT  
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The starting point of this discussion:  
>> The element <switch> should have the attributes: "stationOcpRef" and  
>> "signalBoxOcpRef". The element <signal> supports these two attributes

>> already. So why does not the element <switch>, too?

Dr. Volker Knollmann agrees with that point:

> I guess there is definitely an inconsistency between signals and switches.

The simplest solution would be to add the attributes "stationOcpRef" and "signalBoxOcpRef" to the element <switch>.

But Dr. Volker Knollmann came up with some concerns:

> \* There is a possibility to map tracks to OCPs. This is done via  
> <trackRef> in the OCP's <propEquip>, IIRC. If implicitly all of the  
> track's elements are controlled by the linked OCP then we may NOT  
> ADD the attributes to <switch> but we must REMOVE them from <signal>  
> as they are redundant to the linking via <trackRef>.

In my opinion, there is a problem in situations similar to the following example.

Example1:

```
      area OCP1      |  area OCP2
                      |  o- (entry signal to OCP1)
-----track1-----|----track2-----
(entry signal to OCP2) -o |
```

The entry signal to OCP2 is controlled by the OCP2. In railML the track element <signal>, which represents the entry signal to OCP2, is located in the track1. The Problem is the track1 is linked with the OCP1.

Next of Dr. Volker Knollmann concerns:

> \* In case we accept the redundancy: are there any other (controlled)  
> elements that need a tuple of [station, signalBox] to be fully  
> specified? If yes, we should find a common data structure for this  
> and find a clean way to implement it. Adding those attributes one by  
> one to each element sequentially is NOT a good solution... ;-)

Basicly I do agree. However, it should be considered that some users might want to reflect only station affiliations but no interlocking affiliations.

> \* What is planned for the Interlocking Sub-Schema? Isn't that a better  
> place to store the information? I currently don't know...

I do not know what is planned for the Interlocking Sub-Schema, too. Of course it should be possible to reference the signals and switches from the interlocking elements. In terms of the regular use of cross-referencing in RailML the points and signals should link their affiliate signalboxes and train station, too.

As a conclusion in my opinion the best solution is that the elements

<switch> and <signal> should have the attributes "stationOcpRef" and "signalBoxOcpRef".

Best regards,  
Martin Lehmann

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