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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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