
Subject: Re: Double switch crossing: 'crossingRef' attribute for the fictive switches
Posted by [Christian Rahmig](#) on Sun, 07 Oct 2012 14:28:14 GMT

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Dear Dirk and dear railML community,

>> But still I am a big fan of the idea of grouping infrastructure
>> elements. Therefore I want to suggest an alternative approach, which
>> defines macroscopic infrastructure elements such as diamond crossings
>> or turntables and let them refer to microscopic elements.
>
> In general, I totally agree with you.
>
> In particular, I would prefer not to force it to very special (limited)
> macroscopic elements.
>
> The theory is in my opinion:
> 1. There is a limited number of natural microscopic elements: tracks,
> points, may be crossings (but even not necessarily crossings - could be
> two tracks). We should be able to enumerate all allowed microscopic
> elements.
> 2. There is a much more greater possible number of macroscopic elements,
> and may be we do not even know all possible macroscopic elements.
>
> That's why I would prefer to use your 'grouping' idea in a very much
> generic way:
>
> - No pre-defined macroscopic element type
> 'doubleSwitchCrossing'/'diamondCrossing' or 'turntable' or such.
> - Macroscopic elements can refer to other macroscopic elements - there
> can be a hierarchy just as we have allowed it with OCPs (which I think
> is very good generic).

in the discussion about the macroscopic infrastructure elements I set up
a first version regarding Dirk's good idea of generally allowing for a
grouping of (microscopic and macroscopic) infrastructure elements.

Here are the details of the concept, which can be also found in trac
ticket [1]:

1. The concept of macroscopic modelling of infrastructure elements is
not limited to switches and crossings. In particular, the following
elements might be of interest:

- simple switch crossing (de: Einfache Kreuzungsweiche)
- double switch crossing (de: Doppelte Kreuzungsweiche)
- three way switch
- crossover (de: Gleisverbindung)

- double crossover (de: Doppelte Gleisverbindung)
- turntable (de: Drehscheibe)

2. For an implementation of the macroscopic infrastructure element feature in railML 2.2 the following solution is suggested:

- In the type `tInfrastructure` a new container element `<macroscopicInfrastructureElements>` is defined.
 - This element contains a list of `<macroscopicInfrastructureElement>` objects.
 - A macroscopic infrastructure element is defined by a list of references to other (microscopic and macroscopic) infrastructure elements.
 - The type of the macroscopic infrastructure element is specified in the parameter "elementType", which offers an (extendable) enumeration list of infrastructure elements, e.g. 'track', 'ordinarySwitch', 'threeWaySwitch', 'simpleCrossing', 'simpleSwitchCrossing', 'doubleSwitchCrossing' and 'turntable'.
 - The `<macroscopicInfrastructureElement>` inherits the parameters "id", "name" and "code" from the type `tElementWithIDAndName`.
 - The macroscopic infrastructure element contains several (at least one) `<infrElementRef>` reference objects.
 - Each `<infrElementRef>` element provides the required parameters "elementType" for specifying the type of the referenced infrastructure element and "ref" for referencing the ID of the more detailed infrastructure element.
 - Since macroscopic infrastructure elements may include not only microscopic, but also other macroscopic infrastructure elements, the attribute "elementType" provides the same enumeration list for the infrastructure element's type as described above for the element type of the `<macroscopicInfrastructureElement>` object.

[1] <https://trac.assembla.com/railML/ticket/168>

Regards

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