
Subject: Re: Question from T. Graffagnino from SBB
Posted by [Volker Knollmann](#) on Thu, 05 Oct 2006 07:40:46 GMT
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On 29.09.2006 10:24, GRAFFAGNINO THOMAS wrote:
> In the document of Mr Fries are the following elements described:
>
> Element <signal>
> Element <disposition>
> Element <clearTrackContrElements>
> Element <trackCircuitBorder>
> Element <axleCounter>
>
> I would like to use them in a correct manner but I didn't find any
> further description of these elements- Could you help ?

The elements <disposition>, <clearTrackContrElements> and <axleCounter> are not part of the current infrastructure schema. IIRC they were part of a former version, which was used at the time Mr. Fries wrote his thesis.

The <trackCircuitBorder> describes a joint of two track circuits: one track circuit ends, the next one starts. Since railML intends to use loooong <track>-elements, one <track> can span multiple track circuits and therefore, an element is required to define the joint (or the border) between two track circuits. That's <trackCircuitBorder>.

It uses the common attributes of every element (ID, relative position along the <track>, absolute position, etc) and has an additional attribute describing the electrical isolation between the rails at the position of the joint. The isolation joint position can be "none", "left", "right" or "both". As usual, "left" and "right" are seen in nominal direction (rising mileage).

By the way: axle counters can be modeled using the sibling element of <trackCircuitBorder>, which is <trainDetector>. Just set "axleCounting" to "True" and (optionally) set "detectionObject" to your specific needs and you're done.

The <signal>-element is a little bit more complex. I'll just give you a typical example to start with. If you need more information about specific attributes or details of <signal>, please send a more specific query to the news group. Here's an example for a signal:

```
<signals>  
  <signal elemID="21004" pos="0.100" dir="down" type="combined"  
function="home" sigSystem="Ks" virtual="false"/>  
  <signal elemID="21005" pos="3.100" dir="up" type="combined"
```

```
function="blocking" sigSystem="Ks" virtual="false"/>
  <signal elemID="21006" pos="3.100" dir="down" type="combined"
function="blocking" sigSystem="Ks" virtual="false"/>
  <signal elemID="21007" pos="4.100" dir="down" type="distant"
function="blocking" sigSystem="Ks" virtual="false"/>
  <signal elemID="21008" pos="8.900" dir="up" type="distant"
function="home" sigSystem="Ks" virtual="false"/>
  <signal elemID="21009" pos="9.900" dir="up" type="combined"
function="home" sigSystem="Ks" virtual="false"/>
</signals>
```

All signals use the Ks-System ("Kombinationssignal", similar to the swiss N-Signals), which is indicated by 'sigSystem="Ks"'. None of the signals is virtual (virtual signals can belong to shadow stations, for example. Or they represent the start or end signal of a trainroute, where no physical signal exists).

"pos" indicates the relative position along the parent <track>. Most of the signals are combined main and distant signals ('type="combined"'), but two are pure distant signals ('type="distant"'). The attribute "function" defines whether a signal is normal block signal, an entry signal ("home") or an exit signal ("exit").

- > Would you have any document describing the Infrastructure Schema a
- > little more in depth ? Do you have any .xml example where these
- > elements are used ?

Yes and no ;-)

I'm planning for months to make some internal documentations and specifications containing railML-data suitable and available for public, but I didn't manage to really DO that up to now... (shame on me).

But I hope, that this posting will ease your start with railML a little bit. Don't hesitate to ask more questions! ;-)

Best regards from Braunschweig,
Volker Knollmann

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