Subject: [railML3] Mandatory <length> element for <track>s
Posted by on Thu, 18 Jul 2019 14:15:43 GMT
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Dear all,

In the current railML schema of version 3.1, one <track> element must contain 1 or more sub-elements of type <length>. This allows different lengths (constructional, operational) to be mapped.
From my point of view it is awkward that at least one <length> element must be specified. For the exchange of timetable data, for example, the length of a <track> is irrelevant if the infrastructure in the source and target systems is known.
On the other hand, the scheme only defines that at least one length must be specified, but not which type (constructional, operational). A system that can only process one type of length does not benefit from this constraint.
From my point of view the specification of a <length> for a <track> element should be completely optional in the next version of the railML schema. If necessary, the specification of a specific length definition depending on the usecase can be forced by semantic constraints. What do you think about this?

Best regards,
Christian Rößiger

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Subject: Re: [railML3] Mandatory <length> element for <track>s
Posted by christian.rahmig on Mon, 26 Aug 2019 10:49:47 GMT
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Dear Christian,

Am 18.07.2019 um 16:15 schrieb Christian Rößiger:
> [...]
> From my point of view the specification of a <length> for a <track>
> element should be completely optional in the next version of the railML
> schema. If necessary, the specification of a specific length definition
> depending on the usecase can be forced by semantic constraints. What do
> you think about this?

thank you very much for sharing your idea about making the track length

optional with the community.

Indeed, the question is essential. When making <track><length> mandatory we followed discussion about the problem of locating elements (NetEntities) in the topology network without intrinsic coordinates, but with "positions". Without the information about the track's length, it is impossible to derive an intrinsic location of the element, which is being calculated as position/length and thus covers a range {0..1}. So, in order to make intrinsic coordinates optional, we decided to make <length> mandatory.

How to continue in future?
If there is a strong demand by the community, we have to think about the mandatory <length> once again. Everybody is invited to provide their thoughts on the topic...

Thank you very much and best regards
Christian

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Subject: Re: [railML3] Mandatory <length> element for <track>s
Posted by on Thu, 29 Aug 2019 15:16:18 GMT
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Dear Christian,

I haven't quite understood the background yet. Apparently the <length> element is necessary to calculate the position of elements. But aren't the positioning systems in the topology layer intended for this?
Apart from that, the scheme only specifies that I have to specify at least one <length> sub-element for a <track> element, but not which one. For example, it is possible to specify different <length> elements for both directions or to distinguish between operational and constructional length. This certainly makes sense for defining different operational effective lengths of a track, but is not suitable for calculating positions and distances.
If the <length> property must actually be mandatory, because it is required for the calculation of positions, then it should also be forced in the scheme that it is the structural length of the <track>, which must also be identical for both directions.

Best regards Christian

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Subject: Re: [railML3] Mandatory <length> element for <track>s
Posted by christian.rahmig on Mon, 02 Sep 2019 10:05:30 GMT
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Dear Christian,

Am 29.08.2019 um 17:16 schrieb Christian Rößiger:
> [...]
> If the <length> property must actually be mandatory, because it is
> required for the calculation of positions, then it should also be forced
> in the scheme that it is the structural length of the <track>, which
> must also be identical for both directions.

Thank you for your input on this discussion.

I think it is not guaranteed that <length> is always ment to address physical lengths in each use case. For example, the RINF/NetworkStatement use case [1] will be more likely to work with usable lengths only.

So, considering these use case specific modelling issues I assume that you want to have <length> becoming optional?
@all: what is your opinion on this?

[1] https://wiki.railml.org/index.php?title=UC:IS:NetworkStateme nt

Best regards
Christian

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Subject: Re: [railML3] Mandatory <length> element for <track>s
Posted by Fabiana Diotallevi on Tue, 17 Sep 2019 07:38:49 GMT
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Dear all,
I also agree to make the track length optional.

As suggested by Christian, the position of all the involved elements should be derived from the topology layer defined by the netElements, which provide with their intrinsic coordinates a reference to the specific used positioning systems (linear or geometric).
I think that the netElements should be the "building blocks" that, alone, are able to define the link between the "logical" and the "real" world: any other element position should be derived from the reference system defined by the netElements network.

To check the stability of this assert we are currently implementing the automatic import/export of railML 3.1 data on our RaIL-AiD tool by making the intrinsic coordinate definition mandatory for all the netElements.

Subject: Re: [railML3] Mandatory <length> element for <track>s
Posted by christian.rahmig on Mon, 07 Oct 2019 19:33:49 GMT
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Dear Fabiana,

Am 17.09.2019 um 09:38 schrieb Fabiana Diotallevi:
> [...] I also agree to make the track length optional.

Thank you for your feedback!

> As suggested by Christian, the position of all the involved
> elements should be derived from the topology layer defined
> by the netElements, which provide with their intrinsic
> coordinates a reference to the specific used positioning
> systems (linear or geometric).
> I think that the netElements should be the "building blocks"
> that, alone, are able to define the link between the
> "logical" and the "real" world: any other element position
> should be derived from the reference system defined by the
> netElements network.

The answer to the question "What is the leading system for defining the location reference?" is somewhat use case specific. There are scenarios where the line kilometer system is the primary information and the intrinsic coordinates are derived from this, but the other scenario exists as well. railML shall suit all the different scenarios and related use cases. Therefore, its syntax provides elements/attributes for both, the intrinsic and the "extrinsic" location.

> To check the stability of this assert we are currently
> implementing the automatic import/export of railML 3.1 data

> on our RaIL-AiD tool by making the intrinsic coordinate
> definition mandatory for all the netElements.

That's a good idea! We at railML.org are interested in "real world examples" and data sets. So, if you can show that the concept of mandatory intrinsic coordinates works for your use case (SCTP - Schematic Track Plan), we may cross-check this approach with other use cases, too, and learn from the results. Probably, you can present first experiences at the next railML Conference taking place in Brussels on November 6, 2019?

Best regards
Christian

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Subject: Re: [railML3] Mandatory <length> element for <track>s
Posted by christian.rahmig on Thu, 07 Nov 2019 13:59:30 GMT
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christian.rahmig wrote on Mon, 07 October 2019 21:33Dear Fabiana,

Am 17.09.2019 um 09:38 schrieb Fabiana Diotallevi:
> [...] I also agree to make the track length optional.

Thank you for your feedback!

...
Dear active community,

in order not to forget about this issue to be solved with railML 3.2, I put the proposal into a new Trac ticket #369, see https://trac.railml.org/ticket/369.

Still, your feedback on the proposal is very much appreciated...

Best regards
Christian
