Subject: [railML3] Suggested extension for RBC
Posted by Karl-Friedemann Jerosch on Wed, 13 May 2020 16:06:32 GMT

Dear all,

first let me introduce myself: I am Karl Jerosch and I am working in the ETCS trackside
engineering department of Siemens Mobility Germany and I am participant of the railML
workgroup "ETCS Track Net".

To extend the schema of railML.interlocking for RBC (Radio Block Center),
the work group "ETCS Track Net" suggests to add the following information to be implemented in
railML 3.2:

1.) new element <RBCs> as container for elements of kind <RBC>

2.) new element <RBC> providing information of one RBC with attributes:
- NID_C [integer 0, ..., 1023] according to UNISIG SUBSET-026 Section 7.5.1.86
- NID_RBC [integer 0, ..., 16382] according to UNISIG SUBSET-026 Section 7.5.1.96
- NID_RADIO [16 digits, each digit is a hex value with range of 0 to 9 or F] to provide the
telephone number according to UNISIG SUBSET-026 Section 7.5.1.95
- NID_MN [6 digits, each digit is a hex value with range of 0 to 9 or F] to provide the GSM-R
network id according to UNISIG SUBSET-026 Section 7.5.1.91.1

To detect automatically the RBC controlled area by sofware tools, information about the RBC
border shall be provided in railML 3.2,
either as new elements <RBCborders> and <RBCborder> or by using (and extending) the already
existing infrastructure elements <borders> and <border>.

3.) a new element <RBCborders> as container for elements of kind <RBCborder> (or use of
exisiting element <borders>)

4.) new element <RBCborder> with attributes (or use of extension of existing element <border>):
- reference to an element <RBC>
- location (relativ position in relation to a netElement)
- direction
- kind of transition with a list of 4 different values: "entry/exit/handover/accepting"

See also the following attachment which illustrates the suggestion:
https://forum.railml.org/userfiles/2020-05-08_siemens-railml 3-illustration-rbc-border.pdf

Does the community agree with the suggested extension of the data model in railML 3.2?

best regards

Karl Jerosch
Siemens Mobility GmbH
SMO RI ML PE ENG HW&SW

Subject: Re: [railML3] Suggested extension for RBC
Posted by Henrik Roslund on Thu, 14 May 2020 13:11:24 GMT

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Hello,

Very good inputs, Karl.

I agree with your suggestions, but I would like to have an optional attribute connected to "NID_RBC", "RBC Name", and there is the real name of the RBC written, e.g. "Gotthard".

Unfortunately doesn't the link work for me.

Kind regards,

Henrik Roslund
Senior Consultant ETCS, MIRSE
TÜV SÜD Schweiz AG

Member of the Workgroup «ETCS Track NET»

Subject: Re: [railML3] Suggested extension for RBC
Posted by Jörg von Lingen on Tue, 19 May 2020 07:29:44 GMT

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Hi,

I would see the suggested new element <radioBlockCentre> in the interlocking part of railML as it is a more functional item of train control which has not a representation at a particular track.

If derived from class "SystemAsset" it would inherit @id for any railML internal referencing (not NID_RBC), <designator> and <assetName>. The latter one can be used to store the real name even in different languages. In that way it would be in parallel to the elements of <controllers> (HMI, TMS) and <signalboxes> (interlocking module).

The proposed additional attributes (NID_C, NID_RBC, NID_RADIO, NID_MN) can be attached to the <radioBlockCentre> element. However, the naming should be more reflect their function than the ETCS variable name. In XML they would be of type NonNegativeInteger but the limitations as coming from ETCS spec is not that straight forward. Are there any suggestions as to how model this?

The proposed element <radioBlockCentreBorder> I would see as a new entry in the list <assetsForInterlocking>. Although there is the issue of defining a position on a netElement for it. If placed only in IS part the referencing between IS and IL elements might become a little bit weird, refer post "[railML3]: Referencing

between IS and IL".

Best regards,
Joerg v. Lingen - Interlocking Coordinator
Am 14.05.2020 um 15:11 schrieb Henrik Roslund:
> Hello,
>
> Very good inputs, Karl.
>
> I agree with your suggestions, but I would like to have an
> optional attribute connected to "NID_RBC", "RBC Name", and
> there is the real name of the RBC written, e.g. "Gotthard".
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> Unfortunately doesn't the link work for me.
>
> Kind regards,
>
> Henrik Roslund
> Senior Consultant ETCS, MIRSE
> TÜV SÜD Schweiz AG
>
> Member of the Workgroup «ETCS Track NET»

Subject: Re: [railML3] Suggested extension for RBC
Posted by christian.rahmig on Mon, 06 Jul 2020 14:28:11 GMT
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Dear all,

railML 3.2 shall contain an option to model Radio Block Centers (RBC). After we discussed required parameters in the ETCS use case working group, we now face the central question: shall we add RBC in infrastructure or interlocking/signalling domain? What does the community think about it?

Any comments are highly appreciated...

Best regards
Christian