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Subject: Question towards different use of @pos and @absPos attributes

Posted by [Torben Brand](#) on Wed, 19 Dec 2018 12:43:08 GMT

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In the norwegian sector we need to cater both for the high precision level of ETCS and for the old more vague mileage values in the kilometration system stored in the asset database. As we are currently using railML2.4, we cannot use the different linear reference systems of railML3. So we have to make use of @pos and @absPos in railML2.4. We therefore choose to use @pos for the precise measurement of the objects along a track measured from the trackBegin. And we use the @absPos for the more "fuzzy" official values in the asset database. When transfroming the pos into an mileage value this value can then be different to the @absPos value.

We find documentation on this approach in the wiki page

<https://wiki.railml.org/index.php?title=IS:trackBegin>:

Quote:

pos: This is the position on a track defined as distance from its start (trackBegin) regardless the "absolute mileage" in

absPos. DE:Das ist die Position des Elements auf einem Track i.S. der realen Entfernung zum trackBegin. Sie ist damit unabhängig von der mit absPos modellierten Strecken-Kilometrierung.

absPos: This is the position on a track as absolute mileage/chainage. DE:Das ist die Position des Elements im Referenzsystem der Strecken-Kilometrierung.

The wiki page for mileageChange has a similar, but not identical definition

(<https://wiki.railml.org/index.php?title=IS:mileageChange>):

Quote:

pos: Virtual mileage for computer data modelling reasons, which always has to be continuously raising (but not necessarily starting with zero), normally not visible at stations or mileposts. Could be equal to absPos in some cases.

absPos: Official, often historical, mileage (written e.g. at mileposts or in drivers timetables) and used for most daily practical usage in railway operation. DE:Offizieller, oft historischer, Kilometer (z.B. an Hekto-/Kilometertafeln oder in Dienst-/Buchfahrplänen) und wird für die meisten praktischen Anwendungen im Bahnbetrieb verwendet.

The Notes:

Due to historical reasons, the mileage (or "metering") of the tracks of a line often is not continuous. It can have any points of discontinuity (jumping with missing parts or overlength of tracks) for instance by geographical corrections / repositioning of a line. In railML®, the practical, historical mileage (written e.g. at mileposts) is named "absolute mileage". On the contrary, there is the "relative mileage" (attribute pos) which always has to be continuously raising (but not necessarily starting with zero). The relative mileage normally is virtual, i.e. not visible at stations or mileposts. It is referred to in railML® as relative mileage. The relative kilometer of a track (railML®: attribute pos) is always continuously rising, but not necessarily starting at Zero. To calculate distances, the relative mileage shall be used. Note: The term "mileage" here is used in a very general sense and in spite of its measurement unit is defined at kilometers in railML®.

Due to these documentations we view our modelling approach as documented and therefore validated.

Any views on this in the community?

Further we suggest to consolidate the currently different pos and abspos definitions into one. We suggest to use the definition for @pos and @absPos used under IS:trackBegin also in IS:MileageChange. This as this is the most clear and consise definition. Also the identical definition is placed on all other elements, apart from in IS:MileageChange.

The extra information contained in the IS:mileageChange will not be lost as the same information is also written in the Notes section of IS:mileageChange.

Furthermore delete the pos/abspos description under the Note section in IS:Switch as this is a similar but nevertheless a third description variant.