Subject: railML3: vehicle vs. vehiclePart - needed attributes
Posted by Joerg von Lingen on Tue, 25 Aug 2020 03:32:38 GMT
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Dear all,

in the previous post I have introduced the definition of a single vehicle which resulted in the need of having
vehicleParts. Now we have to determine which of the attributes (or child elements) formerly used for vehicle shall be
part of the vehiclePart.

It is clear that attributes like "speed" or "loadingGauge" or "trackGauge" will not vary for the individual
vehicleParts. Thus they shall remain at vehicle.

There might be attributes like "length" or "mass" which may be used for vehicleParts and vehicle. Even the numbering
might be used for both levels.

There are attributes like passenger seats which are clearly at vehicleParts only.

Finally we have attributes like "axleLoad" which vary in some cases for the vehicleParts and are needed to be specifyied
per vehiclePart.

So please tell me your needs, which information has to be at vehicle level and which per vehiclePart.
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Regards,
Jörg von Lingen - Rollingstock Coordinator

Subject: Re: railML3: vehicle vs. vehiclePart - needed attributes
Posted by on Wed, 26 Aug 2020 12:13:43 GMT
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Dear Jörg,

concerning properties of vehicle parts vs. vehicles: We can make it generic, can't we? To avoid one-part-vehicles, allow all these properties to remain at the vehicle if there is no need to "part" it.

Therefore, in case of multi-part vehicles, the properties of the vehicle would be the sum (aggregation) of the properties of it's parts. In case of any discrepancy, we clearly define that the higher level (vehicle) overwrites the lower level (vehicle part), as we already have it concerning places and such at <formation>s and <trainPart>s. (A number of places at a <trainPart> overwrites the number of places of its vehicles/formation, mainly to tell the reader that some places have been locked.)

> It is clear that attributes like "speed" or "loadingGauge" or "trackGauge" will not vary for the individual
> vehicleParts. Thus they shall remain at vehicle.

Sure that the maximum permitted speed does not vary? Somebody could want to express that towing a "half MU" (e. g. a single ICE1 power car) is only allowed with reduced speed, not with 280 kph...

> Finally we have attributes like "axleLoad" which vary in some cases for the vehicleParts and are needed to be specifyied
> per vehiclePart.

That doesn't take into account why at all we exchange axle loads. For many use cases, it is only necessary to exchange the maximum possible axle load (to check route availability) or the minimum axle load of driven axles (concerning adhesion). If you force us to encode axle loads at vehicle parts instead of vehicles, we may not know at which part the minimum or maximum occurs.
--> Again I opt for a possibility to encode "aggregated" values for the whole vehicle.

> So please tell me your needs, which information has to be at vehicle level and which per vehiclePart.

You should ask that certain use cases which need vehicle parts. We do not actually have such a use case up to now.
But we have several values which would need to refer to vehicle parts instead of vehicles, like booking numbers (<formationTT>.reservationInfo>.booking) - the vehicle parts of ICEs and all other "longer" (long-distance) vehicles have different and train-dependant reservation numbers.

This is one more reason why I would opt for a rather generic solution, allowing "higher vehicles" to be split into "lower vehicles", for my sake at theoretically unlimited levels. Then it wouldn't matter (from general railML/XML) if a reference from <timetable> or from wherever refers to a low-level or high-level vehicle.

Best regards,
Dirk.