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Subject: basic idea of the signal/panel enhancement  
Posted by on Wed, 24 Oct 2012 18:39:02 GMT  
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This is about some current discussions on RailML infrastructure - Signals vs panels, Speed Panels: types and reference to <speedChange>, and especially on Christians newly created trac ticket [1].

Dear Christian and dear all,

> I created a trac ticket [1], which summarizes the basic idea of the  
> signal/panel enhancement.

there are some very interesting aspects in that suggestion which will help clarifying and generalisation.

I think it is a good approach not generally to distinguish between "switchable" and "non-switchable" signals. I agree we should follow this approach.

> A signal aspect may refer to a certain functionality. It is proposed to  
> group these functionalities into speed, etcs, levelCrossing, gsm,  
> catenary and signalingSystem and to refer to these groups using the  
> parameter type.

These "functionality groups" might have to be discussed. They seem to me a little bit arbitrary and not very general. While "speed" and "levelCrossing" seem to be basic railway elements, "etcs" and "gsm" can probably be more generalised. Also, we have to be aware that in some cases the "grouping" of the function may not be generally agreed. So, a speed change signal (panel) near a level crossing may fall into the groups "speed" and "levelCrossing" as well, and the grouping points of view may depend on the usage of the RailML files...

So we probably should be "flexible" (diplomatic?) in such cases.

There are two general points of view on infrastructure: The "building" and the "functional" view (meaning "orientating on what is built outside" and "orientating on how a railway functions").

The <signal> element and the grouping of its functionalities should not force the usage too much in one of the both views - especially not into the more obvious "building" view. There are some easily deductible consequences of this thesis:

- A <signal> may possibly be "virtual".
- A <signal> may have more than one "functionality" and even more

"functionalities" than obvious ("touchable") signs on it.

- The functions of some complex railway elements such as level crossings, stations, train protection are possibly too complex to be assigned or described as a sub-structure of a <signal>. For these functions, we should consequently create own structures (as <speedProfiles> structure or even the "Interlocking" scheme) and make cross-references between the <signals> and the function describing structures. So please be careful not to create too complex sub-structures for the "functionality" of <signals> which should better (or may be later) be extracted into an own structure.
- It should be possible to define "functional links" - cross references - between <signals> and other infrastructure elements and vice versa.

Christian already showed an example by mentioning a signal referring a speed change. Also, most <signals> of "execution" aspect should refer to one or more other <signals> or infrastructure elements which do the appropriate pre-signalisation ("announcement" aspect). A main signal (semaphore or colour light signal) refers to all other signals which may act as distant signals to it, an "execute speed reduction" panel refers to all responsible "speed reduction announcement" panels a. s. o.

With best regards,  
Dirk.

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