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Subject: Re: Formation versus TrainParts

Posted by on Mon, 09 Mar 2020 11:47:19 GMT

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Dear Stefan,

I hope I understand your problem right.

Which vehicles should be grouped into formations and which into several block[Parts] of circulations depends on the use case and is not defined by railML.

The general intention behind is:

- What operates separately, should be an own formation and have an own block in a circulation.
- What always operates coupled, should be grouped in the same formation and circulation block.

If you have two Multiple Units which operate coupled most of the time, but operate separated even only one single trip, they are should be separated into different formations, trainParts and blocks.

If you have a Rail Car consisting of a driven motor unit and a non-driven driving trailer, which naturally operate always together (between two overhaul periods at least), they should share the same formations, trainParts and blocks.

However, this is no strict rule. This rather refers to the traditional practice of timetabling and not to strict software practice.

For instance it would also be possible to define a formation, consisting of a locomotive and several coaches, including a dining car:

```
<formation id='fmt_1'>
  <trainOrder>
    <vehicleRef orderNumber='1' vehicleRef='veh_Engine' vehicleCount='1'/>
    <vehicleRef orderNumber='2' vehicleRef='veh_A' vehicleCount='2'/>
    <vehicleRef orderNumber='3' vehicleRef='veh_WR' vehicleCount='1'/>
    <vehicleRef orderNumber='4' vehicleRef='veh_B' vehicleCount='6'/>
  </trainOrder>
</formation>
```

whereas veh\_A are first-class coaches, veh\_B are second-class coaches and veh\_WR is the dining car.

This is one <formation>, used by <train>s which have only one <trainPart> consisting of that one <formation>. But, there may be a <rostering> element with the attribute @vehicleRef="veh\_WR" and referencing the <trainPart>s (by @trainPartRef) with the full formation:

```
<rostering id='rost_1' ... vehicleRef='veh_WR' ...>
  ...
</rostering>
```

therefore "picking" only one vehicle out of the whole formation. This rather "wild" usage is

currently not forbidden by railML. But, it may be forbidden by a certain use case.

I am afraid the problem can only be harmonised by defining special use cases for one or the other solution. It is up to you to suggest such a use case based on the current solution needed by your customers.

Best regards,  
Dirk.

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