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Subject: InfraAttributes and InfraAttrGroups

Posted by [Christoph Jobmann](#) on Mon, 15 Aug 2016 10:12:38 GMT

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Greetings,

I recently started looking into the infrastructure subschema.

As far as I can tell the element InfraAttrGroup and thereby the underlying InfraAttributes elements can only be references by track elements. That makes sense considering that most infraAttributes children are strongly connected to tracks.

Are there similar elements that can be used for the elements of type ocp? If not - are there plans to add them?

For now I see three ways to add information I would rather wrap up in some kind of attribute Containers:

Use the regular extension Point and add an element for referencing infraAttributes Element Use the "other" extension point and add references as user-defined attributes or elements. Add a trackref pointing to a dummy track that contains an appropriate attributeGroupRefs element

I prefer the first option, even though it has the downside that it enables connecting an ocp with attributes that only make sense for tracks.

The second option has the downside that the generalInfraAttribute Elements can not be used anymore.

The third option is not really an option from my point of view - but it is the only way I see without adding new user-defined elements or attributes.

I made up an example where the options are demonstrated and hope that they help understanding my point. Extensions are marked by a NEW: prefix.

```
<railml>
  <metadata>
    <infrastructureManager id="im1" name="DB Netz AG"/>
  </metadata>
  <infrastructure id="i">
    <infraAttrGroups>
      <infraAttributes id="ia1">
        <owner infrastructureManagerRef="im1"/>
      </infraAttributes>
      <infraAttributes id="ia2">
        <generalInfraAttributes>
          <generalInfraAttribute>
            <attributes>
              <attribute name="myNewAttribute" value="42"/>
            </attributes>
          </generalInfraAttribute>
        </generalInfraAttributes>
      </infraAttributes>
    </infraAttrGroups>
  </infrastructure>
</railml>
```

```
</infraAttributes>
</infraAttrGroups>
<tracks>
  <track id="dummy1">
    <infraAttrGroupRefs>
      <infraAttrGroupRef ref="ia1"/>
      <infraAttrGroupRef ref="ia2"/>
    </infraAttrGroupRefs>
  </track>
</tracks>
<operationControlPoints>
  <ocp id="ocp1">
    <!-- Option 1 -->
    <NEW:infraAttrGroupRefs>
      <NEW:infraAttrGroupRef ref="ia1"/>
      <NEW:infraAttrGroupRef ref="ia2"/>
    </NEW:infraAttrGroupRefs>
  </ocp>
  <ocp id="ocp2" NEW:OwnerRef="im1">
    <!-- Option 2 -->
    <NEW:myNewAttribute value="42"/>
  </ocp>
  <ocp id="ocp3">
    <!-- Option 3 -->
    <propEquipment>
      <trackRef ref="dummy1">
    </propEquipment>
  </ocp>
</operationControlPoints>
</infrastructure>
</railml>
```

Am I missing something? Which way is considered as best, are there other ways?

Kind regards  
Christoph Jobmann

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