
Subject: NetRelation inconsistency for specific topology
Posted by [Fabiana Diotallevi](#) on Fri, 12 Jul 2019 16:24:23 GMT
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Dear all,

the topology shown in the image attached (but it is not the only case!), seems to bring to an inconsistency in the netRelation definition.

In particular, if we consider the netRelation joining netElements ne_02 and ne_03 (upper and lower central tracks), both of the following relations could be exported:

```
<netRelation id="nr_0203" positionOnA="0" positionOnB="0" navigability="None">  
  <elementA ref="ne_02"/>  
  <elementB ref="ne_03"/>  
</netRelation>
```

```
<netRelation id="nr_0203" positionOnA="1" positionOnB="1" navigability="None">  
  <elementA ref="ne_02"/>  
  <elementB ref="ne_03"/>  
</netRelation>
```

There is no way to decide which one is the preferred one, and I can't export both of them because they have the same id and railML does not allow for a duplicate.

Is there a way to solve this problem?

Thanks,

f.

File Attachments

1) [netRelationInconsistency.JPG](#), downloaded 580 times

Subject: Re: NetRelation inconsistency for specific topology
Posted by [Jörg von Lingen](#) on Fri, 19 Jul 2019 05:47:02 GMT
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Dear Fabiana,

I would suggest to collect netRelations always seen from connecting point clockwise. In your case you would get

```
<netRelation id="nr_0203" positionOnA="0" positionOnB="0" navigability="None">  
  <elementA ref="ne_02"/>  
  <elementB ref="ne_03"/>
```

</netRelation>

```
<netRelation id="nr_0302" positionOnA="1" positionOnB="1" navigability="None">
  <elementA ref="ne_03"/>
  <elementB ref="ne_02"/>
</netRelation>
```

Regards,

Jörg von Lingen - Interlocking Coordinator

Fabiana Diotallevi wrote on 12.07.2019 18:24:

```
> <netRelation id="nr_0203" positionOnA="0" positionOnB="0"
> navigability="None">
>   <elementA ref="ne_02"/>
>   <elementB ref="ne_03"/>
> </netRelation>
>
> <netRelation id="nr_0203" positionOnA="1" positionOnB="1"
> navigability="None">
>   <elementA ref="ne_02"/>
>   <elementB ref="ne_03"/>
> </netRelation>
```

Subject: Re: NetRelation inconsistency for specific topology
Posted by [christian.rahmig](#) on Mon, 26 Aug 2019 11:06:17 GMT
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Dear Fabiana,

Am 12.07.2019 um 18:24 schrieb Fabiana Diotallevi:

```
> [...]
> In particular, if we consider the netRelation joining
> netElements ne_02 and ne_03 (upper and lower central
> tracks), both of the following relations could be exported:
>
> <netRelation id="nr_0203" positionOnA="0" positionOnB="0"
> navigability="None">
>   <elementA ref="ne_02"/>
>   <elementB ref="ne_03"/>
> </netRelation>
>
> <netRelation id="nr_0203" positionOnA="1" positionOnB="1"
> navigability="None">
>   <elementA ref="ne_02"/>
>   <elementB ref="ne_03"/>
> </netRelation>
>
> There is no way to decide which one is the preferred one,
```

- > and I can't export both of them because they have the same
- > id and railML does not allow for a duplicate.
- >
- > Is there a way to solve this problem?

Yes, there is a way how to solve this problem:

In railML, IDs of elements must be unique (otherwise the parser will throw an error). Further, an ID must not be used to "carry" information. The ID must only be used for file internal identification (and referencing). Thus, the ID "aqwzdzq278fcas" is an even better ID than "nr_0203". However, for purpose of understanding, the Simple Example uses "readable" ID, but the used ID pattern is not mandatory. So, if I programmed your exporting interface, I would take IDs based on incrementing numbers (like a counter). Thus, although both netRelations would connect the same netElements, they would have different IDs (e.g. "e316" and "e317").

Best regards
Christian

--

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Subject: Re: NetRelation inconsistency for specific topology
Posted by [Fabiana Ditalle](#) on Tue, 17 Sep 2019 08:31:23 GMT
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Dear Jörg and Christian,

thank you very much for your feedback, the point is clear.
Since we need to export netElements and netRelations Ids from the drawing, we need a rule to automatically assign the Ids. At the same time, for sake of clarity, these Ids have to be "readable" for the user, in order to easily check the correctness of the exported xml file.

After some thoughts on this topic we have internally decided to define the rule that assigns the netRelation Id as follows:

nr_<ne1>_<ne2>_<connectingId>

where <ne1> and <ne2> are the ids of the involved netElements, while <connectingId> id the id of the connecting entity (switch/joint ...).

Therefore, the snippet of the exported railML file related to the attached figure shall be:

```
<netRelation id="nr_0203_swi01" positionOnA="0" positionOnB="0" navigability="None">  
<elementA ref="ne_02"/>  
<elementB ref="ne_03"/>  
</netRelation>
```

```
<netRelation id="nr_0203_swi02" positionOnA="1" positionOnB="1" navigability="None">  
<elementA ref="ne_02"/>  
<elementB ref="ne_03"/>  
</netRelation>
```

Hope this solution can help also other community members.

f.
