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Subject: Questions about networkResource

Posted by [Mathias Vanden Auweele](#) on Fri, 27 Jun 2025 12:14:02 GMT

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Hello community,

I've generated a railML 3.3 file and tried validating it in railVIVID. I get validation issues such as these:

```
"Reference ",
24372,
Your file is not referentially correct.,
Error,
'//infrastructure/topology/networks/network/level/networkResource/@ref' did not match the
reference register. Expected targets are '//netElement/@id' '//netRelation/@id',
',
122779,
<networkResource ref=""_bufferstop_8ffbef56-32a9-41f7-b64c-9f20b9a26870"/>
```

The referenced id is as the id suggests, a IS:BufferStop.

I am confused with this error and with the text "Expected targets are '//netElement/@id' '//netRelation/@id'," because:

- According to RTM 1.5, NetEntity is a subclass of NetworkResource. And BufferStop is a subclass of NetEntity
- There are no limits specified in <https://wiki3.railml.org/wiki/Generic:networkResource#3.3-0>
- The ontology defines isNetworkResourceOf with the domain NetworkResource which in itself is the superclass of NetEntity that has BufferStop as child.

So my question is: is the documentation + ontology wrong, or is railVIVID wrong, or am I missing something?

Thanks!

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Subject: Re: Questions about networkResource

Posted by [Mathias Vanden Auweele](#) on Tue, 22 Jul 2025 11:43:04 GMT

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To add to this discussion, there seems to be the networkLocation <https://wiki3.railml.org/wiki/IS:networkLocation> element that makes the link between a functionalInfrastructure element and the topology networkLevel. It's a bit strange to see this relationship in two different locations and two different schema structures.

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Subject: Re: Questions about networkResource  
Posted by [Thomas Nygreen](#) on Wed, 23 Jul 2025 11:29:08 GMT  
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Dear Mathias,

Thank you for pointing out this issue! There may be a mismatch between the intended relationships, how it has been documented and possible gaps in the documentation. It relates to a topic that we have already scheduled for discussion among the coordinators when everyone is back after the summer.

Best regards,  
Thomas

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Subject: Re: Questions about networkResource  
Posted by [Milan Wölke](#) on Tue, 23 Sep 2025 14:40:29 GMT  
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Hi Mathias,

Thanks again for bringing this issue to our attention.

It seems that the intended usage and the existing documentation are not aligned with each other.

The way I understand it, the idea is, that describing the topology is possible without the need to depend on anything other than the topology and the positioning systems. The direction of dependency is that all `FunctionalInfrastructureEntities` are dependent upon the topology whereas the topology is not dependent on them.

`FunctionalInfrastructureEntities` are placed on topology elements and thereby may implicitly be related with the network level of the topology elements they are placed on. However, they are not directly assigned a network level. From my point of view this is due to the fact that the elements as physical objects exist independently of the network levels that are of a more abstract nature.

It is our goal to improve the documentation of this aspect in the upcoming version 3.4 of railML.

Best regards, Milan

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Subject: Re: Questions about networkResource  
Posted by [Milan Wölke](#) on Tue, 23 Sep 2025 14:54:48 GMT  
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Regarding your question about `networkLocation`. The `networkLocation` of a `FunctionalInfrastructureEntity` is used to reference a `Network`, not a `NetworkLevel`. This is useful if a `FunctionalInfrastructureEntity` actually applies to the whole network. A typical example of this would be the element `etcsArea`.

Best regards, Milan

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Subject: Re: Questions about networkResource  
Posted by [Mathias Vanden Auweele](#) on Wed, 24 Sep 2025 09:15:22 GMT  
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Ok, thank you Milan. I'm looking forward to the improved documentation in railML 3.4 :)

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