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Subject: Clustering of location information

Posted by [Martin Zien](#) on Thu, 30 Jun 2022 12:02:51 GMT

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The currently recommended approach to provide multiple location data of an infrastructure element is, to have a list of multiple related location entries. This would look similar to the example below:

```
<spotLocation id="sloc01" netElementRef="ne_02" applicationDirection="normal"
pos="1698.421">
  <geometricCoordinate positioningSystemRef="geops01" x="104105.74771934206"
y="1254522.1541942309" z="313.62441070564091" />
</spotLocation>
<spotLocation id="sloc02" netElementRef="ne_02" applicationDirection="normal"
pos="1698.421">
  <linearCoordinate positioningSystemRef="lps01" measure="65599.693" />
</spotLocation>
<spotLocation id="sloc03" netElementRef="ne_02" applicationDirection="normal"
pos="1698.421">
  <linearCoordinate positioningSystemRef="lps02" measure="55699.69" />
</spotLocation>
```

Now we are challenged to make clear, that two of the coordinate-information lps02 & geops01 would belong contextually together. This is necessary, because they are derived from the same source.

The other location reference system "lps01" is referring to another domain with its own reference. This other domain must be provided in the data exchange via railML.

Is there already an established / recommended best practice for such a scenario?

If there is nothing available yet, what does the railML-community think about the collection of two different coordinate-entries collected below one location-element? The example above would then look like this:

```
<spotLocation id="sloc01" netElementRef="ne_02" applicationDirection="normal"
pos="1698.421">
  <geometricCoordinate positioningSystemRef="geops01" x="104105.74771934206"
y="1254522.1541942309" z="313.62441070564091" />
  <linearCoordinate positioningSystemRef="lps02" measure="55699.69" />
</spotLocation>
<spotLocation id="sloc02" netElementRef="ne_02" applicationDirection="normal"
pos="1698.421">
  <linearCoordinate positioningSystemRef="lps01" measure="65599.693" />
</spotLocation>
```

I'm looking forward to your answers.

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