I propose these semantic rules for the loadingGauge element:
1. Define at least one kinematicProfile subelement, or one staticProfile subelement, or set the @code value.
2. For the ETCS use case, define one loadingGauge element per supported loading gauge profile.
3. For the ETCS use case, set one of these @code values: "GA", "GB", "GC", "G1"

Rationale:
The code attribute may only take one value, such as "GB", but the ETCS variable M_LINEGAUGE can specify a combination of profiles, such as 0b00000110 meaning "GA" and "GB" .
Hence, one loadingGauge element is needed for each profile that is suitable for the linear extension.

Background:

This documentation exists in the schema and on the wiki
<https://wiki3.railml.org/wiki/IS:loadingGauge>:
code: code name of the train loading gauge; use value from the separate codelist file
'TrainClearanceGauges.xml'/trainClearanceGauge (optional; xs:string)

At least these trainClearanceGauge elements are in 'TrainClearanceGauges.xml':

```
<trainClearanceGauge code="GA">
 <description>stucture gauge GA according European standard</description>
 <validFor>interoperable</validFor>
</trainClearanceGauge>
<trainClearanceGauge code="GB">
 <description>stucture gauge GB according European standard</description>
 <validFor>interoperable</validFor>
</trainClearanceGauge>
<trainClearanceGauge code="GC">
 <description>stucture gauge GC according European standard</description>
 <validFor>interoperable</validFor>
</trainClearanceGauge>
<trainClearanceGauge code="G1">
 <description>Multilateral gauge or international gauge G1 other than GA, GB and GC as
defined in European standard.</description>
 <validFor>interoperable</validFor>
</trainClearanceGauge>
...
```

Those profile types are also the ones that are supported by ETCS and defined in SUBSET-026,

v360 (see below).

7.5.1.67.1 M_LINEGAUGE
Name   Line gauge
Description Defining which loading gauge(s) are permitted on a line (refer to TSI INF)
Length of variable 8 bits
Resolution/formula Bitset
Special/Reserved Values
 xxxx xxx1 G1
 xxxx xx1x GA
 xxxx x1xx GB
 xxxx 1xxx GC
 00000000 Spare
 xxx1 xxxx Spare
 xx1x xxxx Spare
 x1xx xxxx Spare
 1xxx xxxx Spare

Subject: Re: [railML3] loadingGauge element and definition of profile
Posted by christian.rahmig on Fri, 20 Jan 2023 08:17:33 GMT
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Dear Jorgen,

thank you very much for your input on semantic rules for usage of
loadingGauge element. Following your detailed reasoning, everyone
understood the proposed rules and there have been no objections or
requests for modification. Following the approval, the semantic rules
will be incorporated in the wiki page of the loadingGauge element.

Regarding the rules 2 and 3, your focus on the ETCS use case can be also
extended to other use cases, e.g. Network Statement. Dear developers of
the Network Statement working group, please comment here if you have a
different opinion.

Thank you very much and best regards
Christian
--
Christian Rahmig - Infrastructure scheme coordinator
railML.org e.V. (Registry of Associations: VR 5750)
Altplauen 19h; 01187 Dresden; Germany

Am 05.07.2022 um 00:22 schrieb Jörgen Strandberg:
> I propose these semantic rules for the loadingGauge
> element:
> 1. Define at least one kinematicProfile subelement, or one
> staticProfile subelement, or set the @code value.

> 2. For the ETCS use case, define one loadingGauge element
> per supported loading gauge profile.
> 3. For the ETCS use case, set one of these @code values:
> "GA", "GB", "GC", "G1"
>
> Rationale:
> The code attribute may only take one value, such as "GB",
> but the ETCS variable M_LINEGAUGE can specify a combination
> of profiles, such as 0b00000110 meaning "GA" and "GB" .
> Hence, one loadingGauge element is needed for each profile
> that is suitable for the linear extension.
>
>
> Background:
>
> This documentation exists in the schema and on the wiki
> <https://wiki3.railml.org/wiki/IS:loadingGauge>:
> code: code name of the train loading gauge; use value from
> the separate codelist file
> 'TrainClearanceGauges.xml'/trainClearanceGauge (optional;
> xs:string)
>
>
> At least these trainClearanceGauge elements are in
> 'TrainClearanceGauges.xml':
>
>   <trainClearanceGauge code="GA">
>   <description>stucture gauge GA according European
> standard</description>
>   <validFor>interoperable</validFor>
>   </trainClearanceGauge>
>   <trainClearanceGauge code="GB">
>   <description>stucture gauge GB according European
> standard</description>
>   <validFor>interoperable</validFor>
>   </trainClearanceGauge>
>   <trainClearanceGauge code="GC">
>   <description>stucture gauge GC according European
> standard</description>
>   <validFor>interoperable</validFor>
>   </trainClearanceGauge>
>   <trainClearanceGauge code="G1">
>   <description>Multilateral gauge or international gauge
> G1 other than GA, GB and GC as defined in European
> standard.</description>
>   <validFor>interoperable</validFor>
>   </trainClearanceGauge>
> ..

>
>
> Those profile types are also the ones that are supported by
> ETCS and defined in SUBSET-026, v360 (see below).
>
> 7.5.1.67.1   M_LINEGAUGE
> Name   Line gauge
> Description   Defining which loading gauge(s) are permitted
> on a line (refer to TSI INF)
> Length of variable   8 bits
> Resolution/formula   Bitset
> Special/Reserved Values
>   xxxx xxx1   G1
>   xxxx xx1x   GA
>   xxxx x1xx   GB
>   xxxx 1xxx   GC
>   00000000   Spare
>   xxx1 xxxx   Spare
>   xx1x xxxx   Spare
>   x1xx xxxx   Spare
>   1xxx xxxx   Spare