

(English version follows after the German text; when answering or quoting choose the language you prefer)

Hallo railMLer,

auf dem letzten railML-Treffen (am 21.09.05 in Dresden) haben wir ein paar alte und noch offene Punkte wieder aufgegriffen.

Eines davon sind die von Matthias Hengartner vor einiger Zeit angesprochenen "SpeedChangeGroups" (siehe auch den alten Beitrag vom 15.03.05).

Es wurde vorgeschlagen, das Element <speedChange> in einen Container umzuwandeln, der statt einer einzelnen Höchstgeschwindigkeit für unterschiedliche Zuggattungen unterschiedliche Maximalgeschwindigkeiten vorgibt:

```
<speedChangeGroup elemID="SC009" pos="12.039" absPos="46.132" dir="up">  
  <aSpeedChange vMax="90" trainCategory="R"/>  
  <aSpeedChange vMax="135" trainCategory="A"/>  
  <aSpeedChange vMax="160" trainCategory="D"/>  
  <aSpeedChange vMax="200" trainCategory="N"/>  
</speedChangeGroup>
```

Meine Fragen an die Gruppe:

- 1) Soll das Feature "Zugartabhängige statische Geschwindigkeitsprofile" in das Schema aufgenommen werden?
- 2) Wie bleiben wir zur Version 1.0 kompatibel? Soll das alte <speedChange>-element weiterhin beibehalten werden?
- 3) Soll das Feature wie im Beispiel gezeigt implementiert werden, oder gibt es Änderungswünsche oder Ergänzungen?
- 4) Wo wird die "trainCategory" definiert? Wäre die Verwendung einer Referenz (via ID) auf einen entsprechenden Eintrag im RollingStock-Schema sinnvoll (so es denn einen gibt)?

Bitte um zahlreiche Beiträge! Ich schlage vor, das Thema drei Wochen zur Diskussion zu stellen. Danach sollte die Community zu einer Entscheidung gekommen sein!

Gruß,  
Volker Knollmann

----- ENGLISH VERSION -----

Hello railML-fans and developers,

during the last railML-meeting (on 2005-09-21 in Dresden) some old but so far open points came up.

One of these open points is the introduction of a element called `<speedChangeGroup>`. Matthias Hengartner suggested this in his posting on 2005-05-13.

He proposed to convert `<speedChange>` into a container element that holds a set of maximum speeds for various train types insted of a single static speed for all kinds of trains. He suggested a implementation like this:

```
<speedChangeGroup elemID="SC009" pos="12.039" absPos="46.132" dir="up">
  <aSpeedChange vMax="90" trainCategory="R"/>
  <aSpeedChange vMax="135" trainCategory="A"/>
  <aSpeedChange vMax="160" trainCategory="D"/>
  <aSpeedChange vMax="200" trainCategory="N"/>
</speedChangeGroup>
```

What I want you to think about is:

- 1) Should the feature "train-type dependant static speed profile" be introduced to the schema?
- 2) How to keep comptability with the version 1.0? Should the old `<speedChange>`-element be kept untouched?
- 3) Should the feature be implemented as shown above or are there remarks, comments, extensions?
- 4) Where is the "trainCategory" to be defined? Does it make sense to reference (via ID) to a definition in the rollingStock-scheme, for example? Does a suitable entry or branch exist in RS?

I hope for many postings! I think, we should keep the discussion up for three weeks. After that time, the community should have made a decision!

Best regards,  
Volker Knollmann

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<http://pgpkeys.pca.dfn.de/pks/lookup?op=get&search=0xEE4EB9525CDB6396>

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Subject: Re: Introduction of speedChangeGroups required?  
Posted by [Matthias Hengartner](#) on Mon, 10 Oct 2005 09:29:49 GMT  
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Hello,

> 2) How to keep comptability with the version 1.0? Should the old  
> <speedChange>-element be kept untouched?

My original idea was to leave the original <speedChange>-element and add the <speedChangeGroup>-element as an additional possibility (similar to signal/balise groups).

```
>  
> <speedChangeGroup elemID="SC009" pos="12.039" absPos="46.132" dir="up">  
>   <aSpeedChange vMax="90" trainCategory="R"/>  
>   <aSpeedChange vMax="135" trainCategory="A"/>  
>   <aSpeedChange vMax="160" trainCategory="D"/>  
>   <aSpeedChange vMax="200" trainCategory="N"/>  
> </speedChangeGroup>
```

```
>  
> 3) Should the feature be implemented as shown above or are there  
> remarks, comments, extensions?
```

--> Where should we place the attribute "dir"? As an attribute of <speedChangeGroup> (as above) or as an attribute of the single <aSpeedChange>-elements?

--> Is there any idea for a better name for <aSpeedChange>?

Best regards,  
Matthias Hengartner

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\*\*\*\*\*

Matthias Hengartner

hengartner@ivt.baug.ethz.ch  
++ 41 44 633 68 16  
\*\*\*\*\*

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Subject: Re: Introduction of speedChangeGroups required?  
Posted by [Volker Knollmann](#) on Thu, 13 Oct 2005 11:49:22 GMT  
[View Forum Message](#) <> [Reply to Message](#)

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On 10.10.2005 11:29, Matthias Hengartner wrote:

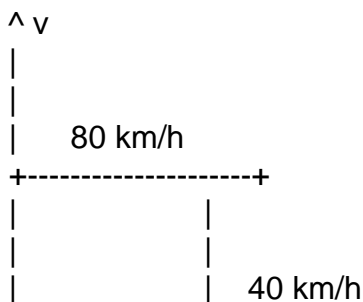
>> 2) How to keep comptability with the version 1.0? Should the old  
>> <speedChange>-element be kept untouched?  
>

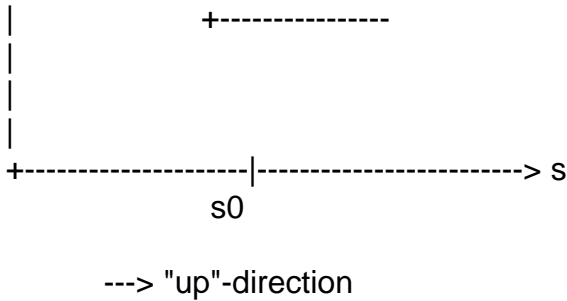
> My original idea was to leave the original <speedChange>-element and add the  
> <speedChangeGroup>-element as an additional possibility (similar to  
> signal/balise groups).

Hmmm... two different elements for almost the same purpose?

> --> Where should we place the attribute "dir"? As an attribute of  
> <speedChangeGroup> (as above) or as an attribute of the single  
> <aSpeedChange>-elements?

That points me to a slightly more general question. Image the following static speed profile for a train of an arbitrary train category:





Which railML-elements would you introduce at position s0?

A speed change to 40 km/h valid in up-direction?  
 Plus a speed change to 80 km/h in down-direction?

A speed change to 40 km/h with implicit assumption of a speed change to 80 km/h in opposite direction? (Attention: speed changes are often not "symmetrically"!)

An extended <speedChange>-element with two v-attributes: vMaxUp, vMaxDown? This would be incompatible to V1.0, btw!

Anything else?

The more I think about this example, the more I guess we need not only a clear definition and documentation of the SYNTAX, but also of the SEMANTICS...

What do you think?

Remember: Answers to this posting in German are as welcome as answers in English! Don't hesitate to tell us your opinion!

Best regards,  
 Volker Knollmann

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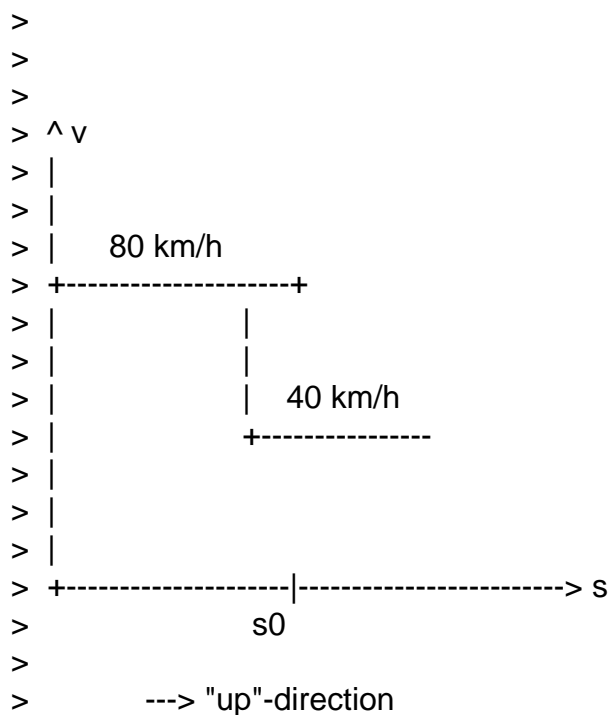
Subject: Re: Introduction of speedChangeGroups required?  
 Posted by [Matthias Hengartner](#) on Fri, 14 Oct 2005 14:33:15 GMT  
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Hello,

>> My original idea was to leave the original <speedChange>-element and add the  
 >> <speedChangeGroup>-element as an additional possibility (similar to  
 >> signal/balise groups).  
 >  
 > Hmm... two different elements for almost the same purpose?

So it would be compatible to V1.0. And the case where vMax of only one train category changes could be modelled a bit simpler... But I agree, it's not urgently necessary to have both elements.

> That points me to a slightly more general question. Image the following  
 > static speed profile for a train of an arbitrary train category:



> Which railML-elements would you introduce at position s0?  
 >  
 > A speed change to 40 km/h valid in up-direction?  
 > Plus a speed change to 80 km/h in down-direction?  
 >  
 > A speed change to 40 km/h with implicit assumption of a speed change to  
 > 80 km/h in opposite direction? (Attention: speed changes are often not  
 > "symmetrically!")  
 >  
 > An extended <speedChange>-element with two v-attributes: vMaxUp,  
 > vMaxDown? This would be incompatible to V1.0, btw!

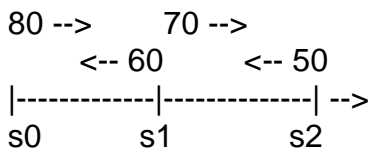
>  
> Anything else?

[[Sorry, no time at the moment to answer this question in English...]]

<german>  
Ja daran habe ich auch schon rumstudiert...

der Geschwindigkeit relativ zur Gleisrichtung (A) oder auf die Fahrtrichtung, in welche die Geschwindigkeit gilt, (B) bezieht - oder

Eine Strecke mit zwei Abschnitten mit pro Richtung verschiedenen vMax (am



modelliert [1]:  
s0: <speedChange vMax="80" dir="up">  
s1: <speedChange vMax="70" dir="up">  
s1: <speedChange vMax="60" dir="down">  
s2: <speedChange vMax="50" dir="down">

auch die Fahrtrichtung (B).

s0: <speedChange vMax="80" dir="up">  
s0: <speedChange vMax="60" dir="down">  
s1: <speedChange vMax="70" dir="up">  
s1: <speedChange vMax="50" dir="down">

Version [1] ist meiner Meinung nach etwas "sauberer" (da das dir-Attribut hier gleich gebraucht wird wie bei anderen xxChange-Elementen [\*\*\*]).  
Version [2] ist bringt wohl bei der Implementierung von Import/Export-Filtern einige Vorteile.

[\*\*\*] Wobei <speedChange> soweit mir jetzt gerade bewusst ist das einzige xxChange-Element ist, das asymmetrisch sein kann!

</german>

- > The more I think about this example, the more I guess we need not only a
- > clear definition and documentation of the SYNTAX, but also of the
- > SEMANTICS...

I fully agree with you in this point, totally, extremely, without any restrictions, ... :-)

I hope, there are not more questions than before?!

Have a nice weekend everybody,  
Matthias

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\*\*\*\*\*

Matthias Hengartner

hengartner@ivt.baug.ethz.ch

++ 41 44 633 68 16

\*\*\*\*\*

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Subject: Re: Introduction of speedChangeGroups required?  
Posted by [Volker Knollmann](#) on Wed, 19 Oct 2005 09:34:27 GMT  
[View Forum Message](#) <> [Reply to Message](#)

On 14.10.2005 16:33, Matthias Hengartner wrote:

>> Hmm... two different elements for almost the same purpose?

>

- > So it would be compatible to V1.0. And the case where vMax of only one train
- > category changes could be modelled a bit simpler... But I agree, it's not
- > urgently necessary to have both elements.

What if we add an additional attribute like "trainGroups", which is optional. Without this attribute, the speed change is valid for all trains and otherwise for the mentioned group only.

Advantage: Compatible with V 1.0 and only one element for one purpose



Disadvantage: Multiple elements needed for multiple train groups.

Example 1 (Speed change for all trains):

```
<speedChange vMax="42.0" dir="up" pos="1.234" elemID="9876">
```

Example 2 (Speed change for two groups only):

```
<speedChange vMax="42.0" dir="up" pos="1.234" trainCategory="R"
elemID="9876">
```

```
<speedChange vMax="42.0" dir="up" pos="1.234" trainCategory="A"
elemID="9877">
```

As you can see from example 2, there is lots of redundant information and additional IDs.

> Eine Strecke mit zwei Abschnitten mit pro Richtung verschiedenen vMax (am  
> Besten mit einer Courier-ähnlichen Schriftart zu betrachten):

```
>
> 80 -->      70 -->
>      <-- 60      <-- 50
> |-----|-----| -->
> s0      s1      s2
```

> Also nach meiner bisherigen Auffassung hätte ich dies folgendermassen  
> modelliert [1]:

```
> s0: <speedChange vMax="80" dir="up">
> s1: <speedChange vMax="70" dir="up">
> s1: <speedChange vMax="60" dir="down">
> s2: <speedChange vMax="50" dir="down">
```

> Hier bezieht sich also das dir-Attribut sowohl auf die Gültigkeit (A) wie  
> auch die Fahrtrichtung (B).

> Andere Möglichkeit [2]:

```
> s0: <speedChange vMax="80" dir="up">
> s0: <speedChange vMax="60" dir="down">
> s1: <speedChange vMax="70" dir="up">
> s1: <speedChange vMax="50" dir="down">
```

> Hier bezieht sich das dir-Attribut auf die Fahrtrichtung (B). Die Gültigkeit  
> ist hier implizit bestimmt durch die Gleisrichtung (also immer aufwärts).

Sehen wir das ganze mal aus Sicht einer Simulation. Da muß man am zweckmäßigsten den Geschwindigkeitswechsel an der Stelle speichern, ab der er wirksam wird. Ansonsten müßte man immer "vorausschauen", und das ist unschön.

Nehmen wir also an, wir fahren von s2 über s1 nach s0. Dann muß ich an Stelle s2 erfahren, dass ab hier 50 km/h vorgegeben sind. So als würde dort ein "echtes" Schild stehen. Das ist in [1] der Fall.

Bei [2] müßte ich bis s1 vorausschauen um die Begrenzung zu bekommen, die de facto ab s2 gilt. \*brrrr\* ;-)

Ich würde mich daher eher für [1] aussprechen.

> Version [1] ist meiner Meinung nach etwas "sauberer" (da das dir-Attribut  
> hier gleich gebraucht wird wie bei anderen xxChange-Elementen [\*\*\*]).

Ack.

> Version [2] ist bringt wohl bei der Implementierung von  
> Import/Export-Filtern einige Vorteile.

Äääähem... wirklich? ;-)

>> The more I think about this example, the more I guess we need not only a  
>> clear definition and documentation of the SYNTAX, but also of the  
>> SEMANTICS...

>  
>

> I fully agree with you in this point, totally, extremely, without any  
> restrictions, ... :-)

Okay, I'll set up a new posting for this in order not to mix the topics.

Best regards,  
Volker Knollmann

--

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Please use encryption and electronic signatures for secure data exchange. You can download my public key here:  
<http://pgpkeys.pca.dfn.de/pks/lookup?op=get&search=0xEE4EB9525CDB6396>

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Subject: Re: Introduction of speedChangeGroups required?  
Posted by [Matthias Hengartner](#) on Tue, 25 Oct 2005 14:53:37 GMT  
[View Forum Message](#) <> [Reply to Message](#)

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Hi again,

- > What if we add an additional attribute like "trainGroups", which is
- > optional. Without this attribute, the speed change is valid for all
- > trains and otherwise for the mentioned group only.
- >
- > Advantage: Compatible with V 1.0 and only one element for one purpose
- > Disadvantage: Multiple elements needed for multiple train groups.
- >
- >
- > Example 1 (Speed change for all trains):
- >
- > <speedChange vMax="42.0" dir="up" pos="1.234" elemID="9876">
- >
- >
- > Example 2 (Speed change for two groups only):
- >
- > <speedChange vMax="42.0" dir="up" pos="1.234" trainCategory="R"
- > elemID="9876">
- > <speedChange vMax="42.0" dir="up" pos="1.234" trainCategory="A"
- > elemID="9877">
- >
- >
- > As you can see from example 2, there is lots of redundant information
- > and additional IDs.

This would help us only in the case where ALL train groups change to the SAME speed. But I'm convinced that it'd be more helpful when we have a point on the track (same ID + positioning data), where we could define SEVERAL speeds for SEVERAL train groups.

It's ok with me if we agree, that a <speedChange>-element WITHOUT a trainCategory is valid for ALL train categories - but it doesn't substitute the suggested <speedChangeGroups> in my opinion.

>  
>> Eine Strecke mit zwei Abschnitten mit pro Richtung verschiedenen vMax  
(am

```
>>  
>> 80 -->      70 -->  
>>      <-- 60      <-- 50  
>> |-----|-----| -->  
>> s0      s1      s2  
>>  
>>
```

```
>> modelliert [1]:  
>> s0: <speedChange vMax="80" dir="up">  
>> s1: <speedChange vMax="70" dir="up">  
>> s1: <speedChange vMax="60" dir="down">  
>> s2: <speedChange vMax="50" dir="down">  
>>
```

wie  
>> auch die Fahrtrichtung (B).  
>>  
>>

```
>> s0: <speedChange vMax="80" dir="up">  
>> s0: <speedChange vMax="60" dir="down">  
>> s1: <speedChange vMax="70" dir="up">  
>> s1: <speedChange vMax="50" dir="down">  
>>  
>> Hier bezieht sich das dir-Attribut auf die Fahrtrichtung (B). Die  
>> ist hier implizit bestimmt durch die Gleisrichtung (also immer
```

>

>

> dort ein "echtes" Schild stehen. Das ist in [1] der Fall.  
>

> die de facto ab s2 gilt. \*brrrr\* ;-)

Hmnaja, kommt ein bisschen draufan... Wenn eine Applikation direkt auf der railML-Datenstruktur arbeitet, geb ich Dir recht. Wenn jedoch railML-Daten

importiert (und in eine andere Datenstruktur transformiert) werden, dann kann [2] durchaus von Vorteil sein (ich spreche aus eigener Erfahrung...)

Datenstruktur an.

Matthias Hengartner

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