
Subject: Re: Steckenunterbruch/line blocking
Posted by [Christian Rahmig](#) on Mon, 03 Dec 2012 13:50:24 GMT
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*** English version below ***

Hallo Renato,

vielen Dank für das Posting. Die darin angesprochene Thematik der (zeitweisen) Sperrung von Strecken bzw. Streckenabschnitten wurde im Trac ticket [1] bereits gedanklich festgehalten und kann in einer ersten Version noch in railML 2.2 berücksichtigt werden. Auf Grund der Kürze der Zeit werden wir uns dabei auf die minimalen Anforderungen beschränken.

[1] <https://trac.assembla.com/railML/ticket/156>

Viele Grüße

*** English version ***

Dear Renato,

thank you very much for your posting. The topic of a (temporary) closing of a track or track part has been thought about within Trac ticket [1]. We can implement a first version within the upcoming railML 2.2. Since time-to-release is getting short, we will focus on the main aspects only.

[1] <https://trac.assembla.com/railML/ticket/156>

Regards

--

Christian Rahmig
railML.infrastructure coordinator

Am 03.12.2012 17:25, schrieb Kluser Renato:

- > ENGLISH SUMMARY: The MGB railway uses railML 2.0
- > for data exchange from our timetabling system to
- > our disposition system. Currently we need an
- > extension of the standard to transfer line
- > blockings from one system to another.
- >
- > Hallo railML-Partner,
- >
- > wir, die Matterhorn Gotthard Bahn (MGB),
- > betreiben ein 144 km langes Meterspurnetz im
- > SÄ¼den der Schweiz. Zum Datenaustausch zwischen

- > unserem Fahrplansystem FBS und dem
- > Kundeninformations- und Dispositionssystem KIS nutzen wir railML 2.0.
- >
- > Nun möchten wir auch noch die in FBS verwalteten
- > Streckenunterbrüche an das Dispositionssystem
- > übergeben und schlagen daher eine Erweiterung des
- > railML-Standards vor. Die Abbildung folgende
- > Arten von Unterbrüchen wäre für uns unerlässlich:
- >
- > - Strecke von Betriebsstelle BRMG (Brig) bis Visp
- > (VISP) gesperrt vom 15. Juli 2012 22.00 Uhr bis
- > 29. Juli 2012 4.00 Uhr; Grund: Bauarbeiten am Gleis
- > - Strecke von Oberwald (OBW) bis Realp (REAL)
- > gesperrt im Zeitraum vom 3. Oktober 2012 bis 16.
- > Oktober 2012; jeweils zwischen 22.45 Uhr bis 3.45
- > Uhr am Folgetag; Grund: Fahrleitungsrevision
- > - Strecke 140 von km 22,790 bis 26,186 gesperrt
- > bis 3. Dezember 2012; 16.00 Uhr
- >
- > Eine Erweiterung der Eigenschaften eines
- > Unterbruchs (z.B. 'nur für elektrische
- > Fahrzeuge', 'nur für Fahrzeuge des Typs ...'
- > usw.) und zusätzliche Informationen wie Busersatz
- > usw. wäre denkbar, ist aber für uns nicht dringlich.
- >
- > Beste Grüsse,
- >
- > Renato Kluser
- > Betrieb
- > Verkehrsplanung und Sicherheit
- >
- > Matterhorn Gotthard Bahn
- > Bahnhofplatz 7
- > CH-3900 Brig
- > <http://www.mgbahn.ch>
- >
- >
- >

Subject: Re: Steckenunterbruch/line blocking
Posted by _____ on Mon, 03 Dec 2012 15:39:00 GMT
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Dear Renato,

thank you for your post, too, from my side.

I think the line blockings are a matter of <timetable> rather than <infrastructure>. We should move there with the discussion.

I can provide a recommendation of a RailML structure for these blockings very soon if the community is interested.

Best regards,
Dirk.

Subject: Steckenunterbruch/line blocking
Posted by [renato.kluser](#) on Mon, 03 Dec 2012 16:25:37 GMT
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ENGLISH SUMMARY: The MGB railway uses railML 2.0 for data exchange from our timetabling system to our disposition system. Currently we need an extension of the standard to transfer line blockings from one system to another.

Hallo railML-Partner,

wir, die Matterhorn Gotthard Bahn (MGB), betreiben ein 144 km langes Meterspurnetz im SÄ¼den der Schweiz. Zum Datenaustausch zwischen unserem Fahrplansystem FBS und dem Kundeninformations- und Dispositionssystem KIS nutzen wir railML 2.0.

Nun mÄ¼chten wir auch noch die in FBS verwalteten StreckenunterbrÄ¼che an das Dispositionssystem Ä¼bergeben und schlagen daher eine Erweiterung des railML-Standards vor. Die Abbildung folgende Arten von UnterbrÄ¼chen wÄ¼re fÄ¼r uns unerlÄ¼sslich:

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- Strecke 140 von km 22,790 bis 26,186 gesperrt bis 3. Dezember 2012; 16.00 Uhr

Eine Erweiterung der Eigenschaften eines Unterbruchs (z.B. 'nur fÄ¼r elektrische Fahrzeuge', 'nur fÄ¼r Fahrzeuge des Typs ...' usw.) und zusÄ¼tzliche Informationen wie Busersatz

usw. wäre denkbar, ist aber für uns nicht dringlich.

Beste Grüsse,

Renato Kluser
Betrieb
Verkehrsplanung und Sicherheit

Matterhorn Gotthard Bahn
Bahnhofplatz 7
CH-3900 Brig
<http://www.mgbahn.ch>

--

----- posted via PHP Headliner -----

Subject: Re: Steckenunterbruch/line blocking
Posted by [Christian Rahmig](#) on Mon, 03 Dec 2012 19:31:01 GMT
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Dear Dirk,

Am 03.12.2012 16:39, schrieb Dirk Bräuer:

> Dear Renato,

>

> thank you for your post, too, from my side.

>

> I think the line blockings are a matter of <timetable> rather than
> <infrastructure>. We should move there with the discussion.

I think, the blocking of a track or parts of lines fulfills both aspects: it is situated somewhere between infrastructure and timetable. In general, I want to define a certain part of the infrastructure to be not available for any operational usage. Therefore, it is set to be disabled. From the timetable perspective I want to tell the train an operation schedule, which, of course, takes the closed infrastructure into consideration.

In summary: we need both, a direct reference to the infrastructure, which is disabled, and a reference to the timetable or the operating period, during which the infrastructure is disabled.

Thank you for your offer anyway. Probably you can give a short sketch of an example in order to clarify the timetable perspective towards closed infrastructure?

Regards

--

Christian Rahmig
railML.infrastructure coordinator

Subject: Re: Steckenunterbruch/line blocking
Posted by on Mon, 03 Dec 2012 20:13:19 GMT
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please follow me to:

[1]
<http://www.railml.org/forum/ro/index.php?group=2&offset=0&thread=93&id=350>

Dirk.

Subject: Re: Steckenunterbruch/line blocking
Posted by [Christian Rahmig](#) on Wed, 05 Dec 2012 10:24:53 GMT
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Dear Dirk,

Am 03.12.2012 21:13, schrieb Dirk Bräuer:

> please follow me to:

>

> [1]

> <http://www.railml.org/forum/ro/index.php?group=2&offset=0&thread=93&id=350>

for getting a connection to another forum, it is better to use the followup-tag. However, I still think, that we are talking about an infrastructure aspect and I hope the next lines can clarify my opinion:

> First, the easy things:

>

> <trackBlockings>

> <trackBlocking id=... name=... description=... remarks=... />

> - further properties see below -

> </trackBlocking>

> </trackBlockings>

Your idea limits the blocking to tracks, which is quite a static approach and, furthermore, need to be extended very soon. Despite a certain track, also a signal or a balise or a switch etc. can be

disabled in the sense of "is not available for operation". Therefore, I suggest to define the "disabled" feature as a child element for all the relevant infrastructure objects, e.g. tracks, switches, signals.

- > Now to the real properties. These could be simple attributes of
- > `<trackBlocking>` from my side but could also be sub-elements.
- > Sub-elements may be preferred to declare constraints but from my side,
- > the constraints are not too much difficult so Wiki should be enough for
- > them.
- >
- > `<trackRefs>`, `trackRef=...`
- > - reference to one or more `<track>.id`
- > - at least one must be given
- > - more than one is typical for a blocking of all tracks of a
- > multiple-track line ("line blocking" was original intended)
- >
- > `fromOcpRef=...`, `toOcpRef=...`
- > - compulsory attributes
- > - references to `<ocp>.id`

Again, the attributes that you propose here, are only valid for track blockings. We may think about allowing for definition of points on tracks, from where on the track is blocked. However, since the "disabled" sub-element will be available for all relevant tracks, there is no need to define a length of the blocking section in form of a "from-to" attribute group.

- > validity Period: should be a "choice" of exactly one of the following
- > two options:
- >
- > a) `<repeating operatingPeriodRef=... startTime|startAfterTrainRef =... endTime|untilBeforeTrainRef=... />`
- > - `operatingPeriodRef` is compulsory
- > - `startTime/startAfterTrainRef` and `endTime/ untilBeforeTrainRef` are to
- > be used "disjunctive"
- > - `startAfterTrainRef/untilBeforeTrainRef` are references to `<train>.id`
- > - The blocking is to be repeated at each of the days of the
- > `<operatingPeriod>` from start time to end time or trains. The trains must
- > operate at the given days.
- >
- > b) `<non-stop startDate= endDate= startTime|startAfterTrainRef =... endTime|untilBeforeTrainRef=... />`
- > - `startDate` and `endDate` are compulsory
- > - `startTime/startAfterTrainRef` and `endTime/ untilBeforeTrainRef` are to
- > be used "disjunctive"
- > - `startAfterTrainRef/untilBeforeTrainRef` are references to `<train>.id`
- > - The blocking happens one time non-stop throughout from
- > `startDate+startTime/train` until `endDate+endTime/train`. The trains must

> operate at the given days.

The definition of time periods during which the infrastructure is disabled is not the task of the infrastructure schema. Here, I suggest to just implement a reference from the <disabled> element to an operating period.

Further comments appreciated...

Regards

--
Christian Rahmig
railML.infrastructure coordinator

Subject: Re: Steckenunterbruch/line blocking
Posted by on Wed, 05 Dec 2012 19:55:46 GMT
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> for getting a connection to another forum, it is better to use the
> followup-tag.

I don't know what a follow-up tag is.

> Your idea limits the blocking to tracks

That was my intention. The original question was on blocking of lines only. I do not want to solve problems we don't have now.

Some days ago, somebody wrote
> we will focus on the main aspects only.

> However, since the "disabled" sub-element will be available for all
> relevant tracks, there is no need to define a length of the blocking
> section in form of a "from-to" attribute group.

But then there would be no possibility do "block a part of an <element>" such as part of a track (sub-section of a track). In the world of timetabling, we do normally not always know the exact elements which are disabled or which are the reasons for a blocking.

A typical problem (to solve here) is "line/track is blocked from ... to" with from/to being mileages or stations. Since trains can operate between stations only, the only relevant aspect for timetabling is between which stations a track is closed.

Anyway, I think we have two very different views of the problem with each

one being entitled. So I do not want to say that a possibility to declare any infrastructure element as disabled wouldn't be useful. But currently, the problem was something else on the much less detailed level of timetabling.

> Here, I suggest to just implement a reference from the <disabled>
> element to an operating period.

Such a reference would - as far as I know - the first time we would create such a "forward-reference". Forward in the meaning of "from infrastructure to timetable". We already have many references from timetable to infrastructure which are "natural" since one `_first_` needs infrastructure `_before_` one can operate a train.

To have both directions, I would think is like "circular references" which sometimes can become problematic in informatics. In my opinion, a software first has to import <infrastructure> before it can import <timetable>. So it wouldn't be able to dissolve the references from infrastructure to timetable when importing.

But this is my opinion only.

Dirk.

Subject: Re: Steckenunterbruch/line blocking
Posted by [horst.naujoks](#) on Fri, 07 Dec 2012 17:01:20 GMT
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Hi Renato

I'm a developer at Qnamic AG
(<http://http://www.railml.org//index.php/entwickler.html?show=35>) and we using RailML in different contexts in our products.

I've have some questions regarding your request:

1. Do you think the information about disabled tracks or lines is more related to the infrastructure or the time timetable part of RailML? I assume that you answer depends on what exactly is transfered from FBS to your KIS system.

2. In one of the project I'm working on, we encountered also some limitations of RailML, but we were able to bypass them by using schema extensions based on any attribute/element which most RailML elements offers. Did you consider to use such a kind of extension?

Kind Regards,

Horst Naujoks

Kluser Renato wrote:

- >
- > ENGLISH SUMMARY: The MGB railway uses railML 2.0
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- > our disposition system. Currently we need an
- > extension of the standard to transfer line
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- > unserem Fahrplansystem FBS und dem
- > Kundeninformations- und Dispositionssystem KIS nutzen wir railML 2.0.
- >
- > Nun mÄ¼chten wir auch noch die in FBS verwalteten
- > StreckenunterbrÄ¼che an das Dispositionssystem
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- >
- > Beste GrÄ¼sse,
- >
- > Renato Kluser
- > Betrieb
- > Verkehrsplanung und Sicherheit

>
> Matterhorn Gotthard Bahn
> Bahnhofplatz 7
> CH-3900 Brig
> <http://www.mgbahn.ch>

>
>
>

--

----- posted via PHP Headliner -----

Subject: Re: Steckenunterbruch/line blocking
Posted by [Susanne Wunsch railML](#) on Thu, 17 Jan 2013 17:20:16 GMT
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Dirk Bräuer <dirk.braeuer@irfp.de> writes:

>> for getting a connection to another forum, it is better to use the
>> followup-tag.
>
> I don't know what a follow-up tag is.

Better to call it "Followup-To":

<http://en.wikipedia.org/wiki/Crossposting>
<http://de.wikipedia.org/wiki/Crossposting>

>> However, since the "disabled" sub-element will be available for all
>> relevant tracks, there is no need to define a length of the blocking
>> section in form of a "from-to" attribute group.
>
> But then there would be no possibility do "block a part of an
> <element>" such as part of a track (sub-section of a track).

I just implemented the new element <state> with an attribute 'disabled' of type xs:boolean. It may be constrained with the attribute 'operatingPeriodRef' referring to an operatingPeriod/@id from the timetable subschema. Furthermore it may be constrained to a part of a <track> by relative positions.

Example (assume 'operatingPeriod' are defined in the same file):

```
<track id="t1">  
  <states>  
    <state disabled="true" operatingPeriodRef="op1" remarks="blah">
```

```

    <from pos="250"/>
    <to pos="1340"/>
  </state>
  <state disabled="true" operatingPeriodRef="op2">
    <from pos="8900"/>
  </state>
</states>
<trackTopology>
  <trackBegin id="tb1" pos="0">
    <macroscopicNode ocpRef="o1"/>
  </trackBegin>
  <trackEnd id="te1" pos="10000">
    <macroscopicNode ocpRef="o2"/>
  </trackEnd>
</trackTopology>
</track>

```

There are some assumptions, that should be documented in the wiki:

- * If no "from" is defined, it begins at the "trackBegin".
- * If no "to" is defined, it begins at the "trackEnd".
- * If no "operatingPeriodRef" is defined, it is valid for all data of the railML file.
- * For all other times (out of the referred operating period) the defined track (section) is enabled/disabled depending on the "disabled" value.
- * If no "state" element is defined, the "track" is usable. That means 'disabled="false"'.

For further constraints use the xs:any element or the anyAttribute.

Currently the <from> and <to> elements may additionally refer to an 'ocp' via an 'ocpRef' attribute. Maybe that should be dropped because of redundancy reasons.

But otherwise that may be helpful if the exact blocking locations (relative positions) are known but differ from the ocp locations. The ocp references may be used as a hint, not overwriting the exact locations.

See ticket [1] and last issue-related implementation [2].

Please test the new structure for your needs and give us a feedback.

> A typical problem (to solve here) is "line/track is blocked from
> ... to ..." with from/to being mileages or stations.

The 'line blocking' has to be defined through the 'track blocking'.

>> Here, I suggest to just implement a reference from the <disabled>
>> element to an operating period.

>
> Such a reference would - as far as I know - the first time we would
> create such a "forward-reference". Forward in the meaning of "from
> infrastructure to timetable". We already have many references from
> timetable to infrastructure which are "natural" since one `_first_`
> needs infrastructure `_before_` one can operate a train.

We already put such a "forward-reference" into the infrastructure subschema with the implementation of speed profiles.

The TSR (temporary speed restrictions, de:Langsamfahrstellen) also refer to an 'operatingPeriod' from the timetable subschema.

In most use cases a software has to multiply selectively import the railML file in order to semantically validate the data. Or the other way around, a software imports the whole railML file at once and cross-checks the internal data structures afterwards.

From this railML version on, the sequential selectively import does not work anymore, because of both reference directions (from TT to IS and from IS to TT).

> To have both directions, I would think is like "circular references"
> which sometimes can become problematic in informatics. In my opinion,
> a software first has to import <infrastructure> before it can import
> <timetable>. So it wouldn't be able to dissolve the references from
> infrastructure to timetable when importing.

For a future version we would like to move the operating periods to the common part of railML, in order to provide a better "straight-forward" structure. But this is a change for the next major release. ;-)

I created a ticket for this issue. [3]

[1] <http://trac.assembla.com/railML/ticket/156>

[2] <http://trac.assembla.com/railML/changeset/528>

[3] <http://trac.assembla.com/railML/ticket/215>

Kind regards...
Susanne

By the way, this need was already required three years ago. ;-)
<http://trac.assembla.com/railML/ticket/34>

--

Subject: Re: Steckenunterbruch/line blocking
Posted by on Fri, 19 Jul 2013 17:10:34 GMT
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Dear Susanne,

- > I just implemented the new element <state> with an attribute 'disabled'
- > of type xs:boolean. It may be constrained with the attribute
- > 'operatingPeriodRef' referring to an operatingPeriod/@id from the
- > timetable subschema. Furthermore it may be constrained to a part of a
- > <track> by relative positions.

Thank you, looks good.

- > There are some assumptions, that should be documented in the wiki

This is very important, thank you very much.

- > * If no "from" is defined, it begins at the "trackBegin".
- > * If no "to" is defined, it begins at the "trackEnd".

+1

- > * If no "operatingPeriodRef" is defined, it is valid for all data of
- > the railML file.

+1

- > * For all other times (out of the referred operating period) the
- > defined track (section) is enabled/disabled depending on the
- > "disabled" value.
- > * If no "state" element is defined, the "track" is usable. That means
- > 'disabled="false"'.

We both mean the same, but to avoid misunderstandings, I would prefer a more clear wording:

If there is no <state> element saying anything else, a track can be assumed to be enabled. Therefore, there is no need to create a <state> element with disabled="false".

Now, either you could leave it as you have designed it, or you could discard the attribute 'disabled' and name the element <state> to <disabled> or such.

With the attribute disabled="false", there would be several possibilities to express the same sequence of blockings:

```
<state disabled="true" operatingPeriodRef="op_May">  
<state disabled="true" operatingPeriodRef="op_July">
```

or

```
<state disabled="true" operatingPeriodRef="op_May-July">  
<state disabled="enabled" operatingPeriodRef="op_June">
```

may both be treated as the same. With the second solution, there may be again the problem of sequence: The different order of the two rows may result in a difference meaning. Therefore, we possibly would need a 'sequence' or 'priority' attribute or such again.

To avoid this redundancy, and to avoid the 'sequence' attribute, I would prefer to discard the attribute 'disabled' and to rename the element <state> into <disabled> or such.

- > Currently the <from> and <to> elements may additionally refer to an
- > 'ocp' via an 'ocpRef' attribute. Maybe that should be dropped because of
- > redundancy reasons.
- >
- > But otherwise that may be helpful if the exact blocking locations
- > (relative positions) are known but differ from the ocp locations. The
- > ocp references may be used as a hint, not overwriting the exact
- > locations.

I think this is not redundancy:

To refer to ocp's says: The writing software does not know the exact positions. Any movement between theses ocp's is not allowed; anyway where exactly the reason for that is situated.

To refer to exact positions says: The writing software knows the exact positions. The track between theses positions is not available.

The difference lies in the question "how much of the stations at the beginning/end of the blocking is usable": An <ocp> element normally is situated at the mileage position of the _middle_ of the corresponding station (middle of the platforms). Can you use the "half" of the station from the middle of the platforms into the direction of the blocking?

Let's assume ocp 'ABC' lies at relative position km 15.432.

```
<state disabled="true">  
<from pos="15432"/>  
<to pos="23456"/>
```

```
</state>
```

means: You cannot move even one meter behind km 15.432 (the middle of the station), so you cannot enter this station from below 15.432 at the normal kind. (Even half of the platform seems to be closed. There is a "Schutzhalttafel" exactly at the middle of the station.)

```
<state disabled="true">  
  <from ocpRef='ABC'/>  
  <to ocpRef='DEF'/>  
</state>
```

means: The track section between ABC and DEF is blocked. There is here no information on a blocking inside the station of ABC. You can assume it is normally usable.

I would prefer to keep this difference in any kind: In some cases, we do need the possibility to name the exact positions of the "Schutzhalttafeln" either for reasons of the "building trade" (BETRA) or to allow shunting movements. In many other cases (e. g. timetabling), we do not know the exact positions but we have to describe that a section of track is closed.

Of course there would be other, more explicit solutions to express this difference. May be "more explicit" would be better. Anyway, I am satisfied if it is possible at least in any kind.

> The 'line blocking' has to be defined through the 'track blocking'.

+1

>> Such a reference would - as far as I know - the first time we would
>> create such a "forward-reference". Forward in the meaning of "from
>> infrastructure to timetable". We already have many references from
>> timetable to infrastructure which are "natural" since one `_first_`
>> needs infrastructure `_before_` one can operate a train.

>

> We already put such a "forward-reference" into the infrastructure
> subschema with the implementation of speed profiles.

>

> The TSR (temporary speed restrictions, de:Langsamfahrstellen) also
> refer to an 'operatingPeriod' from the timetable subschema.

Ok, good to have this clarified as a general question: Forward references are not forbidden.

> For a future version we would like to move the operating periods to the
> common part of railML, in order to provide a better "straight-forward"
> structure. But this is a change for the next major release.

But why? Some sentences before, you did clarify: Forward references are not forbidden, sequential reading is not possible. So anybody must accept and implement this to come from now to the next major release. Why should we change it afterwards?

I would welcome this to avoid forward references just to make things easier and to get a higher acceptance of RailML. But more importantly, I would prefer consequence and not to switch between the philosophies. A `_stable_` philosophy creates much more acceptance than one which is only theoretically better.

So if you do not want (or cannot) avoid forward references now and in general, you do not need to avoid them later.

Best regards,
Dirk.
