Subject: Re: Delay Causes Representation in RailML
Posted by Susanne Wunsch railML on Mon, 15 Oct 2012 14:47:32 GMT
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Hi Dirk, Matteo and others,

(I just filed a Trac-ticket for this topic [1]).

Dirk Bräuer <dirk.braeuer@irfp.de> writes:
>> I would presume there could be multiple causes to be defined for a
>> single delay. Am I right?
>
> Not basically. If you allow multiple reasons you should also create a
> possibility to note the basic (earliest) reason - the other's being
> caused by that one. Possibly a time-stamp per reason could be useful
> - time when the certain reason was added. The basic one is the one
> with the earliest time-stamp.
>
> I would suggest to allow multiple reasons in a kind they could easily
> be extended later (e. g. enumerable element).

It's a bit hard to find an lightweight way to define these interactions.

The delay cause could be defined very deep inside the railML tree:

timetable/trainParts/trainPart/ocpsTT/ocpTT/statistics/stati stic/...

...mean/@arrivalDelay ...mean/@departureDelay
...median/@arrivalDelay ...median/@departureDelay
...standardDeviation/@arrivalDelay ...standardDeviation/@departureDelay

I just realized that there is no position to define the
"real/actual/current" delays. Whereas the "real/actual/current" arrival and
departure times (and days) are categorized by 'scope="actual"'.

I would not recommend using the 'mean' element therefore, no matter that
the mean value of one value is the same as the value itself. ;-)

There is a similar situation for the "real/actual/current" stop time

timetable/trainParts/trainPart/ocpsTT/ocpTT/...
...stopDescription/stopTimes/@minimalTime

that is a clear planning value, not fitting the statistical point of
view.

How about extending the 'statistic' element by ...

...current/@arrivalDelay
...current/@departureDelay
...current/@stopTime

for the above discovered issues.

Coming back to the original purpose - proposing a position and structure for several more or less interdependent delay causes.

* new element 'delayCauses' as a container and sub-element to the newly proposed 'current' element

* one or more sub-elements 'delayCause' with basic railML attributes (id, description...) and a 'date' and 'time' attribute for the occurence history

* choice of the following sub-elements: 'infrastructureManagerResponsible', 'railwayUndertakingResponsible', 'otherResponsible' (following the code structure of UIC 450-2)

* depending on the '*Responsible' element there is a list of possible sub-elements with according cause attributes (also following the code structure of UIC 450-2 in an expandable matter)

The resulting structure may look like the following:

```
<current arrivalDelay="PT2M">
  <delayCauses>
    <delayCause id="dc1" time="17:12:00Z" date="2012-10-14"
      description="Something really special happened">
      <otherResponsible>
        <external subject="outsideInfluence"/>
      </otherResponsible>
    </delayCause>
  </delayCauses>
</current>
```

Further causes would be:

```
  <infrastructureManagerResponsible>
    <management
      subject="timetableCompilation"/
               "formationOfTrain"/
               "mistakesInOperationalProcedures"/
               "wrongApplicationOfPriorityRules"/
               "staff"/
               "other:foo"/>
    <infrastructureInstallations
```

```
    subject="signalling"/
            "signallingAtLevelCrossings"/
            "telecommunication"/
            "powerSupplyEquipment"/
            "track"/
            "structures"/
            "staff"/
            "other:foo"/>
   <civilEngineering
    subject="plannedConstructionWork"/
            "irregularitiesInExecutionOfConstructionWork"/
            "speedRestrictionDueToDefectiveTrack"/
            "other:foo"/>
   <otherInfrastructureManager
    subject="next"/
            "previous"/>
 </infrastructureManagerResponsible>
 <railwayUndertakingResponsible>
   <commercial
    subject="exceedingTheStopTime"/
            "requestOfTheRailwayUndertaking"/
            "loadingOperations"/
            "loadingIrregularities"/
            "commercialPreparationOfTrain"/
            "staff"/
            "other:foo"/>
   <rollingstock
    subject="rostering"/
            "formationOfTrainsByRailwayUndertaking"/
            "problemsAffectingPassengerCoaches"/
            "problemsAffectingFreightWagons"/
            "problemsAffectingEngines"/
            "staff"/
            "other:foo"/>
   <otherRailwayUndertaking
    subject="next"/
            "previous"/>
 </railwayUndertakingResponsible>
 <otherResponsible>
   <external
    subject="strike"/
            "administrativeFormalities"/
            "outsideInfluence"/
            "weatherAndNaturalCauses"/
            "nextNetwork"/
            "other:foo"/>
   <secondary
    subject="emergencySituation"/
```

"trackOccupation"/
"turnAround"/>
"connection"/>
"furtherInvestigationNeeded"/
"other:foo"/>
</otherResponsible>

Sorry for this longish posting.

Kind regards...
Susanne

[1] https://trac.assembla.com/railML/ticket/170

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