
Subject: compound values, notations

Posted by [Joachim Buechse](#) on Thu, 25 Sep 2003 14:25:51 GMT

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The RailML scheme currently uses compound values in some places. I.e. Kilometrierung [12.123 | 123.334+1.567] or arrivalTime [hh:mm | hh:mm:ss | hh:mm,d].

XML leaves a large degree of freedom for the definition of data types besides the standard XMLSchema data types. It is absolutely legitimate to define new types. From what I have seen so far it is however rather unusual to define compound types or allow different notations for the same semantical value.

As a general rule I want to suggest that different notations for the same attribute value should be discouraged as end-user representation should be within the scope of the application not the data transfer format.

Kilometrierung uses a compound type where the second 'attribute' is optional. While the notation is perfectly clear in a rail context it could as well be expressed with two separate 'attributes' which avoids the need to implement a special parser for the data type. From my stomachs feeling this would be cleaner XML (at least it allows easier processing with XSLT).

arrivalTime (or departureTime) allows different notations and uses a compound value in the case hh:mm,d. The notation implies a precision of 10th of a minute. Again I would argue that it would be a cleaner XML approach to have two 'attributes' both expressed as hh:mm:ss where 13:24,3 would be expressed as arrivalTime="12:34:30" arrivalPrecision="00:00:10".

There are some predefined XSDSchema types expressing points in time (i.e. a single unique point in stellar time) or recurring time (ie noon). Examples are time and timeInstant. Both use a time representation of hh:mm:ss.ddd where ddd are milliseconds. I cant currently give a clear recommendation whether we gain something (regarding existing toolkits) by sticking to the same format.

Best regards,
Joachim Buechse

PS: I believe there have been detailed discussion before in which format arrivalTime and departureTime should be expressed (ie time zones) so I will read the protocols and news messages before starting it again... Semantically they seem to me like a timeInstant (GMT time on first

scheduled day) + repetition rule. Of course daylight savings time needs some special consideration. I will have a chance to talk to the people from Hacon in about two weeks.

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Subject: Correction: timeInstant meant dateTime
Posted by [Joachim Buechse](#) on Mon, 29 Sep 2003 15:48:02 GMT
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Sorry for answering to myself, I want to correct 2 mistakes to avoid confusion:

- there is no XMLSchema timeInstant type, the type I meant is dateTime
- dateTime does not NOT contain milliseconds

XMLSchema defines dateTime identical to ISO8601. dateTime and time allow for the specification of a time zone, which makes them comparable (even though they do not require it).

Examples:

2000-01-20T12:00:00 (no time zone, not comparable)
2000-01-20T12:00:00-13:00 (with time zone)
2000-01-20T12:00:00Z (notation for UTC ie +00:00)

The default XMLSchema types are defined and explained at:
<http://www.w3.org/TR/xmlschema-2/>

Deutsche Uebersetzung:
<http://www.edition-w3c.de/TR/2001/REC-xmlschema-2-20010502/>

Best regards,
Joachim

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