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Subject: Re: How to mix switches and crossings en connections ?

Posted by [christian.rahmig](#) on Fri, 17 Jun 2016 08:40:44 GMT

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Dear Patrick,

Am 17.06.2016 um 10:04 schrieb Patrick Renaud:

> [...]

>

> These three definitions are coherent and indicate that a  
> <xs:choice> element cannot contains both the sub-elements it  
> defines.

>

> In other words, in the RailML, a <connections> element  
> cannot contains both <switch> AND <crossing> elements.

>

> Your code snippet is not valid with the validation tool  
> xmllint which is based on the library LibXML 2.7.7

Your first sentence is correct. A <xs:choice> element can only contain one sub element. However, you forgot the <xs:choice> element's optional parameters minOccurs and maxOccurs. In [1] you can read their definition:

\* minOccurs: Optional. Specifies the minimum number of times the choice element can occur in the parent element. The value can be any number >= 0. Default value is 1

\* maxOccurs: Optional. Specifies the maximum number of times the choice element can occur in the parent element. The value can be any number >= 0, or if you want to set no limit on the maximum number, use the value "unbounded". Default value is 1

In the case of the railML switch/crossing modelling, we used these parameters to define that the <xs:choice> element may occur 0 to unbounded times:

```
<xs:choice minOccurs="0" maxOccurs="unbounded">
```

Therefore, a <connections> element may contain an arbitrary number of <switch> and <crossing> elements. All tools and their included XML validators that we are working with (XMLSpy, oXygen, eclipse) confirm that approach.

Did anybody else of the forum readers experience similar problems like this? Any feedback appreciated...

[1] [http://www.w3schools.com/xml/el\\_choice.asp](http://www.w3schools.com/xml/el_choice.asp)

Best regards

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Christian Rahmig  
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