Subject: Re: etcsTrainCategory
Posted by Thomas Nygreen JBD on Wed, 31 Jan 2018 18:44:30 GMT
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The documentation restricts the value of etcsTrainCategory to an integer from 0 to 15. In my view that is a misrepresentation of the categories given in the definition of the NC_TRAIN ERTMS variable. The numbers 0 to 15 are neither sufficient to represent the 18 operational train categories in ERTMS nor are they sufficient to identify what kind of train it is. The number 4 would represent three different operational train categories.

To my knowledge, the column "International train category number" in the table in Annex A chapter 6.2 of "Assignment of values to ETCS variables", is not used in any other context, and is only used to enumerate the bits of the NC_TRAIN variable. NC_TRAIN is a 15-bit integer, not an integer between 1 and 15. To quote from the ERTMS SRS definition of NC_TRAIN: "Each bit represents one category. A train can belong to various categories." Let me give three examples, all for a permissible cant deficiency of 80 mm:

* A passenger train: NC_TRAIN = 000 1000 0000 0010 (binary) = 2050 (decimal)
* A freight train braked in "P" position: NC_TRAIN = 000 0010 000 0010 (binary) = 514 (decimal)
* A freight train braked in "G" position: NC_TRAIN = 000 0100 000 0010 (binary) = 1026 (decimal)

I do not know how many bits would be set for higher permissible cant deficiencies. Either just the highest matching category bit is used, or all lower bits are also set. For a passenger train with a permissible cant deficiency of 245 mm the two options would be:

* Only highest: 001 1000 0000 0000
* All: 011 1000 1111 1110

Does anyone in the community know which of these is correct?