Subject: [railML2.5] Current train locations
Posted by Stefan Blaser on Tue, 26 Jan 2021 06:00:08 GMT

Dear railML community,

we need to exchange current train locations between our TMS and other systems and are interested in doing this with railML 2.5.

By current train locations, we mean the positions of trains on the rail network as soon as they are running. So it is about informing another system almost in real time where the trains are at the moment. This information can be periodic (e.g. if the track kilometrage is used as the position of the trains) or it can be provided each time a train moves from one infrastructure element (e.g. track section, route, station, train number field, timetable element) to the next.

For example, one use case is a TMS that provides the current (dispatching) timetable and train locations to a customer information system (CIS). The customer information system needs the current train locations to provide output (e.g. announcing an arriving train on a platform) at the correct time.

We use a separate topology layer for the train locations, consisting of so called 'train number fields'. A 'train number field' is always placed between two consecutive main signals. When a train location is reported for a 'train number field', it means that the train is currently on that route (within the two delimiting main signals). When the train passes the signal at the end of the 'train number field', the train location is stepped to the next 'train number field'. In addition to the exchange of train locations, it should also be possible to exchange the information when a route is set for a train (path reservation). This is also done with 'train number fields', a train location or a path reservation can be reported. When a 'train number field' is no longer occupied by a train (train location or path reservation), the 'train number field' is reported as cleared again.

This is our specific approach for train locations. To make it usable for us, this should be covered by railML 2.5, but in a generic way (e.g. train locations for infrastructure elements that differ from our ´train number fields´, path reservation information optional, etc.), so that it is also usable for other systems.

Best regards,
Stefan Blaser
Siemens Mobility AG