
Subject: [railML3] Need for modelling Radio Infill Units
Posted by [Giovanni Moriondo](#) on Fri, 20 Sep 2024 10:20:12 GMT
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Dear community,

To enable the management of ERTMS/ETCS L1 projects in the context of the RailML3 data model, the proper elements to describe the Radio Infill Units (RIUs) should be defined. This post is meant to be a starting point for a discussion on this topic.

A possible approach is outlined below.

From a functional point of view, RIUs are similar to L2 Radio Block Centers (RBCs), and their data structures can be derived from the ones already existing for RBCs.

In particular, for the Infrastructure schema:

a <RIU> object can be derived from <RBC>
a <RiuEtc^s> object can be derived from <RbcEtc^s>
an attribute group "aRiuEtc^s" can be derived from "aRbcEtc^s" (with "nid_riu" substituting "nid_rbc", and the other attributes unchanged).

The equivalent of <RbcBorders>, <RbcBorder> is probably unnecessary

Note: <RBC> and <RbcEtc^s> contain no information, "aRbcEtc^s" apparently is never used.

For the Interlocking schema

a new type <RadioInfillUnit> can be derived from <RadioBlockCentre>, with some possible differences:

1. Substitute "isLimitedByRadioBlockCentreBorder" with a reference to the neighbour RIU units (SS026 pkt 143), e.g. "isNeighbourToRadioInfillUnit"
2. Introduce new attributes: "connectedBalise" "connectedBG", "connectedSignal", "connectedLEU" to reference the connected field objects; if needed, connectedSignalBox can be used to reference interlockings. As an alternative, "containedTrackAssets" could be used to reference the connected entities.
3. in etc^sGeneralData: either add an attribute "NID_RIU", or make "NID_RBC" more general ("NID_RIU_RBC" ?)

Define a set of RIUs (<RadioInfillUnits>

Introduce inverse references to associated RIU objects in connected objects (signals, balises, BGs, LEUs).

The association with interlockings can be derived from the one of RBCs (a list of <radioInfillUnits> in <interlocking>)

Note: a related post could be possibly created in the Interlocking forum as well.

Please share your feedbacks on this topic in the forum.