**Route Suitability Supervision Analysis**

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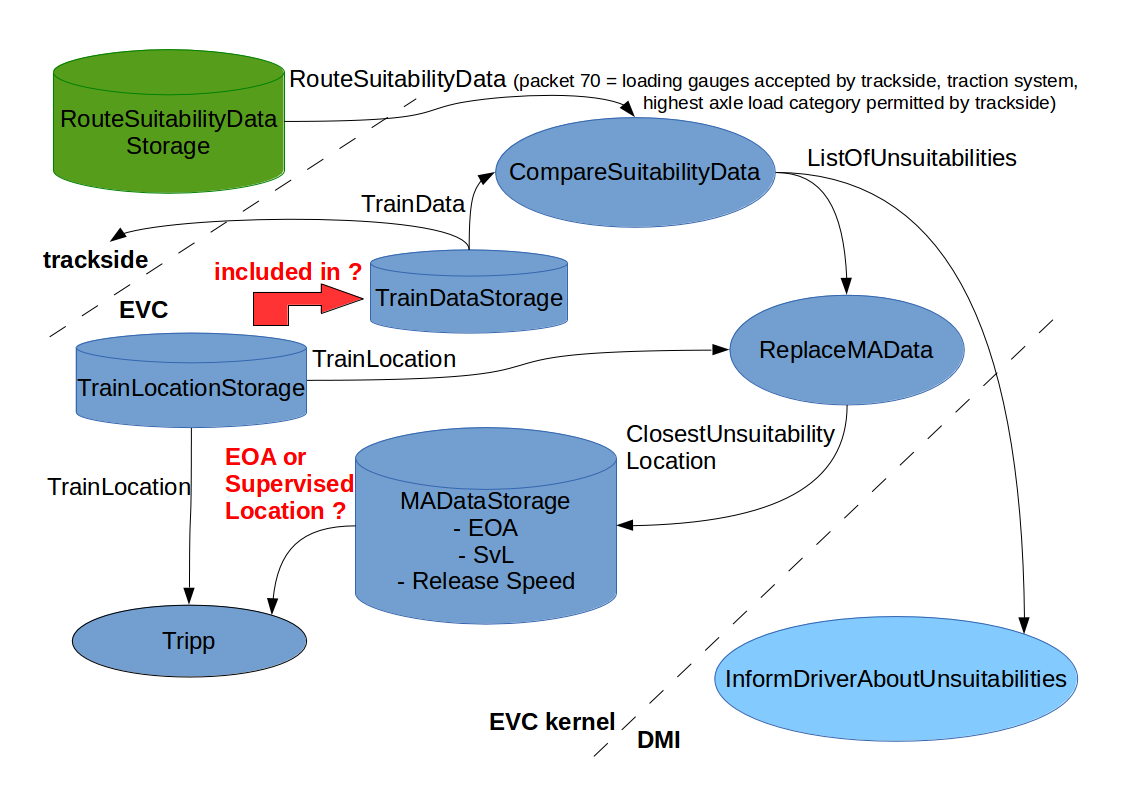
**Date and version:**

24/10/2013, création du document, version 1.0

**Input documents:**

* Subset 26 §3.12.2
* Subset 26 §7.4.2.21

**Description**



Manage supervision of route suitabilities where incompatibilities occur for this train, which can be one of these :

* the loading gauge profile of the train is not included in the list of loading gauges accepted by trackside,
* the list of traction systems accepted by the engine does not include the one received from trackside,
* the axle load category of the train is higher than the permitted one received from trackside.

**Functions**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Occurrence** | **Type** | **Description** |
| Name | 1 | T\_Text | **compareSuitabilityData** |
| Definition | 1 | T\_Definition | compares trackside location data and train data to determine the list of unsuitabilities |
| *Input* | *0..n* | *T\_Variable* | *routeSuitabilityData, trainData* |
| *Output* | *0..n* | *T\_Variable* | *listOfUnsuitabilities* |
| *Local* | *0..n* | *T\_Variable* |  |
| *Parameter* | *0..n* | *T\_Constant* |  |
| *Requirement* | *0..n* | *T\_Requirement* |  |
| *Block* | *1 (optional)* | *T\_FunctionalBlock* |  |
| *Parent* | *0..1* | *T\_Function* |  |
| *Allocation* | *1* | *T\_System* | Kernel |
| Safety | 1 | Boolean |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Occurrence** | **Type** | **Description** |
| Name | 1 | T\_Text | **replaceMAData** |
| Definition | 1 | T\_Definition | replaces movement authority data with the closest unsuitability location if there is some |
| *Input* | *0..n* | *T\_Variable* | *listOfUnsuitabilities* |
| *Output* | *0..n* | *T\_Variable* |  |
| *Local* | *0..n* | *T\_Variable* |  |
| *Parameter* | *0..n* | *T\_Constant* |  |
| *Requirement* | *0..n* | *T\_Requirement* |  |
| *Block* | *1 (optional)* | *T\_FunctionalBlock* |  |
| *Parent* | *0..1* | *T\_Function* | compareSuitabilityData |
| *Allocation* | *1* | *T\_System* | Kernel |
| Safety | 1 | Boolean |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Occurrence** | **Type** | **Description** |
| Name | 1 | T\_Text | **informDriverAboutUnsuitabilities** |
| Definition | 1 | T\_Definition |  |
| *Input* | *0..n* | *T\_Variable* | *listOfUnsuitabilities* |
| *Output* | *0..n* | *T\_Variable* |  |
| *Local* | *0..n* | *T\_Variable* |  |
| *Parameter* | *0..n* | *T\_Constant* |  |
| *Requirement* | *0..n* | *T\_Requirement* |  |
| *Block* | *1 (optional)* | *T\_FunctionalBlock* |  |
| *Parent* | *0..1* | *T\_Function* | compareSuitabilityData |
| *Allocation* | *1* | *T\_System* | DMI |
| Safety | 1 | Boolean |  |

**Variables**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Occurrence** | **Type** | **Description** |
| Name | 1 | T\_Text | RouteSuitabilityData |
| Definition | 1 | T\_Definition | Route suitability data defines which values concerning loading gauge, traction system and axle load category a train must meet to be allowed to enter the route. |
| Source | 1 | T\_SourceDocument | Subset-26-3 |
| Nature | 1 | T\_VariableNature | packet70 |
| MinimalValue | 0..1 | T\_Text |  |
| MaximalValue | 0..1 | T\_Text |  |
| SpecialValue | 0..n | T\_Text |  |
| Allocation | 1 | * Interface * Packet * Internal |  |
| *Requirement* | *1..n* | *T\_Requirement* | *SRS-3.12.2.1,* |
| Store | 0..1 | T\_Variable |  |
| Resolution | 0..1 | T\_VariableNature |  |
| Safety | 1 | Boolean |  |

**Requirements**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Occurrence** | **Type** | **Description** |
| Name | 1 | T\_Text |  |
| Definition | 1 | T\_Definition |  |
| Nature | 1 | * Structural * Functional * Definition |  |
| Source | 1 | T\_SourceDocument |  |
| Discussion | 1 (Optional) | T\_Text |  |
| Parent | 0..1 | T\_Requirement |  |
| Allocation | 0..1 | T\_System |  |
| Safety | 1 | Boolean |  |

**Exported Requirements :**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Occurrence** | **Type** | **Description** |
| Name | 1 | T\_Text |  |
| Definition | 1 | T\_Definition |  |
| Source | 1 | T\_SourceDocument |  |
| Allocation | 0..1 | T\_System |  |
| Safety | 1 | Boolean |  |

**Type:**

* Boolean
* Integer
* Floating point
* T\_text: textual description
* T\_ident: based on a textual description
* T\_Version = {3.0.0, 3.3.0}
* T\_VariableNature = {Acceleration, Distance, Gradient, Length, Miscellaneous, Number, ClassNumber, IdentityNumber, Qualifier, TimeDate, Speed, Text}
* T\_SourceDocument = {subset-26, subset-34}
* T\_Definition : a textual and graphical description (all kind of picture, table and diagram are allowed)

**Constant: T\_Constant**

*Do we need to separate Variables and constants ?*

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Occurrence** | **Type** | **Description** |
| Definition | 1 | T\_Definition | Textual and graphical description of the variable |
| Source | 1 | T\_SourceDocument | the document where the variable is defined the first time (SRS, FIS, SSRS,...) |
| Nature | 1 | T\_VariableNature | Nature of the Variable (Acceleration, Speed, Ident,...) |
| Value | 1 | T\_Text |  |
| Allocation | 1 | * Interface * Packet * Internal |  |
| *Requirement* | *1..n* | *T\_Requirement* | *The set of requirement which defined the constant (at least one)* |
|  |  |  |  |

**Functional Block: T\_FunctionalBlock**

*Are functional blocks really necessary ?*

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Occurrence** | **Type** | **Description** |
| Definition | 1 | T\_Definition | Textual and graphical description of the function |
| *Function* | *1..n* | *T\_Function* | *Set of function of this block* |
|  |  |  |  |