

OpenETCS - WP3

EXTRACT FROM ALSTOM TRB MODEL

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REVISIONS

Version/ Release	Auteur/ Author	Date (fr : jj mois.aaaa) (en : dd Month. yyyy)	Page / Paragraph	Commentaires/ Comments
1	S. Besure	13 octr 2013	All	Creation

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1 OBJECTIVES

This document is an extract of Alstom ERTMS Trainborne Specification document (**Erreur ! Il n'y a pas de texte répondant à ce style dans ce document.**), especially established for the OpenETCS project.

It gives the top level data flow diagrams of Alstom ERTMS Trainborne solution. Some diagrams, not related to ERTMS functions have been voluntarily omitted. The associated data dictionary is also attached.

This extract is intended to serve as a basis for discussions within WP3. It shall remain confidential within the persons involved in the WP3 SSRS Modeling group. It is not released under an Open Source license.

2 DATA FLOW DIAGRAMS

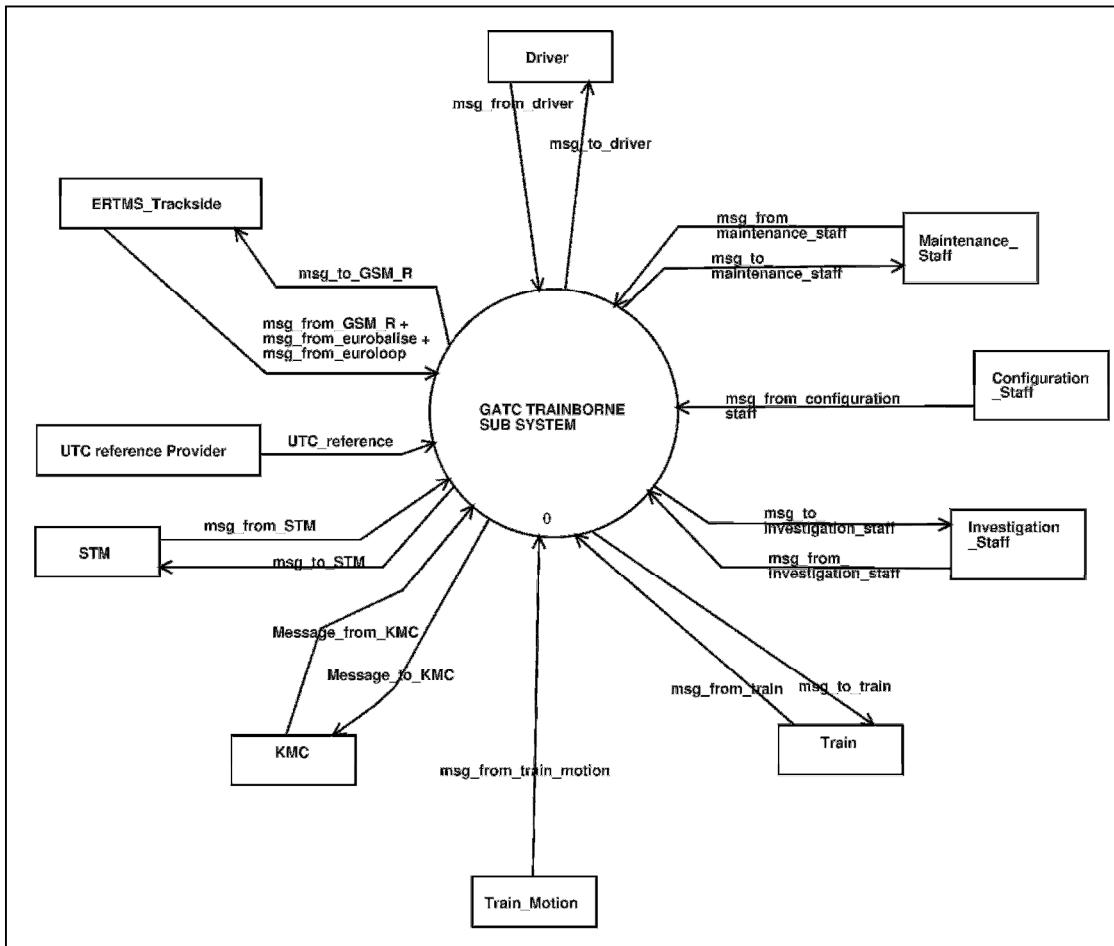


Diagram 1. Board External Interface - dfd Context-Diagram.

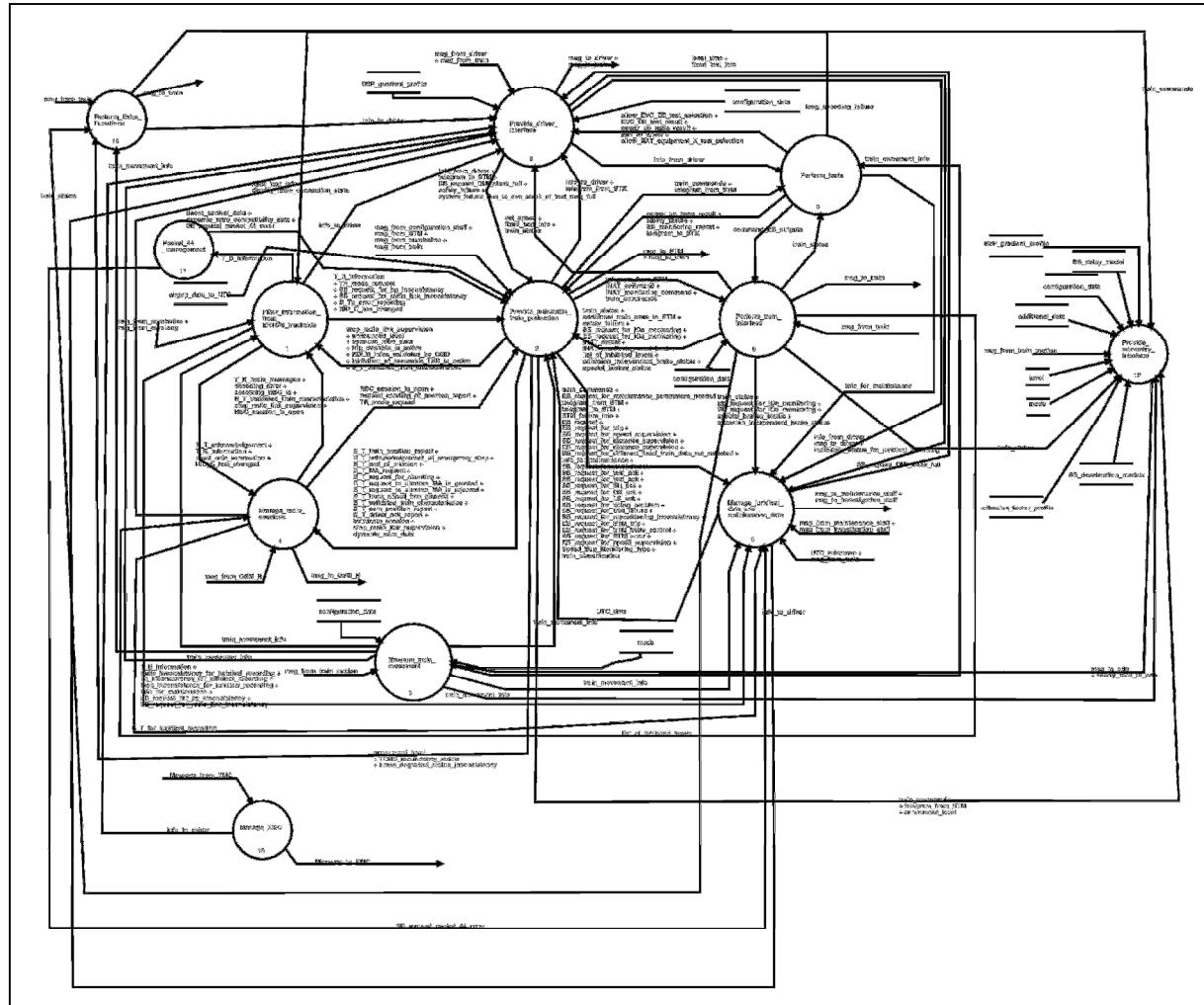


Diagram 2. GATC TRAINBORNE SUB SYSTEM - dfd 0

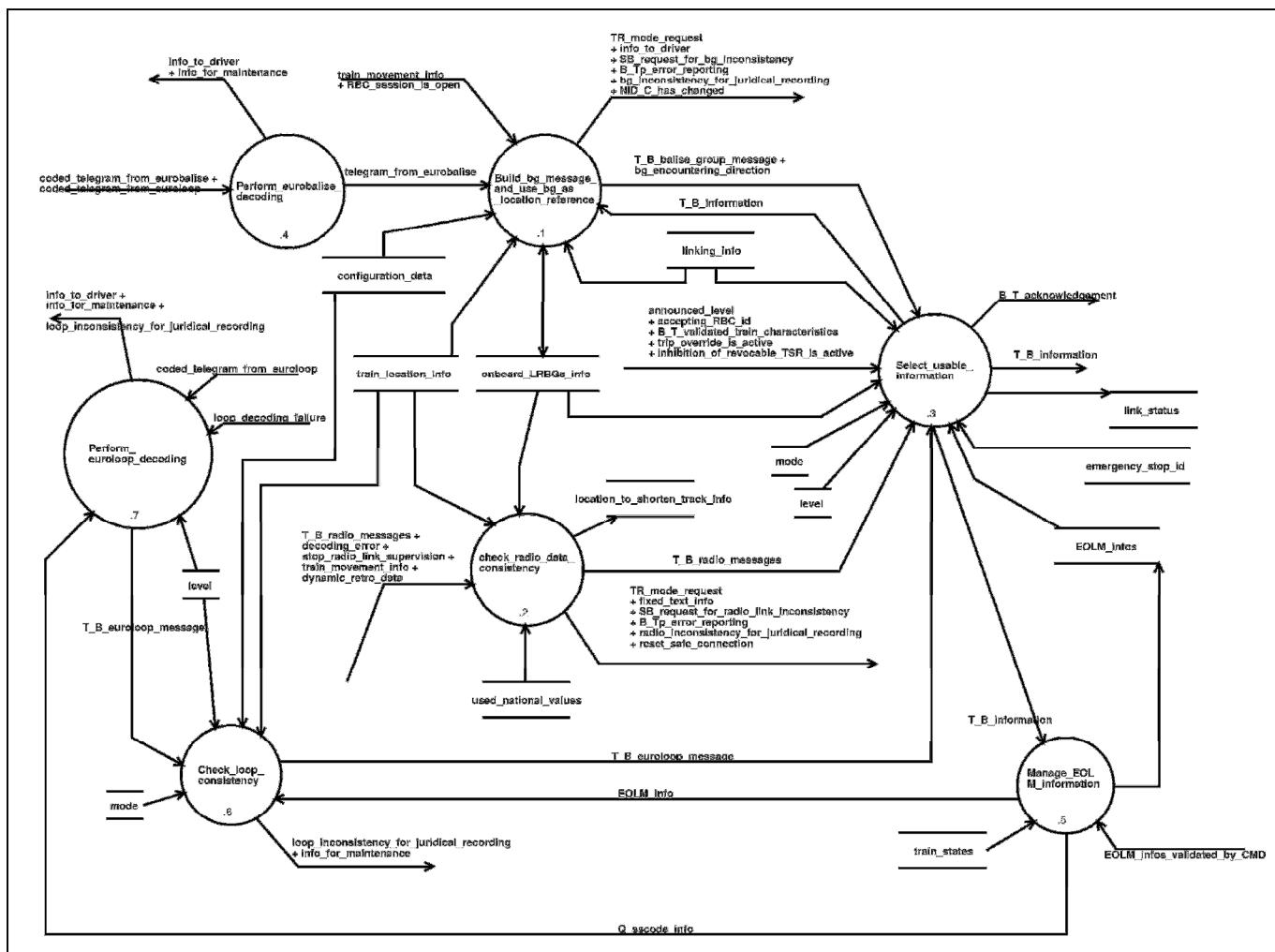


Diagram 3. Filter_information_from_ERTMS_trackside - dfd 1.

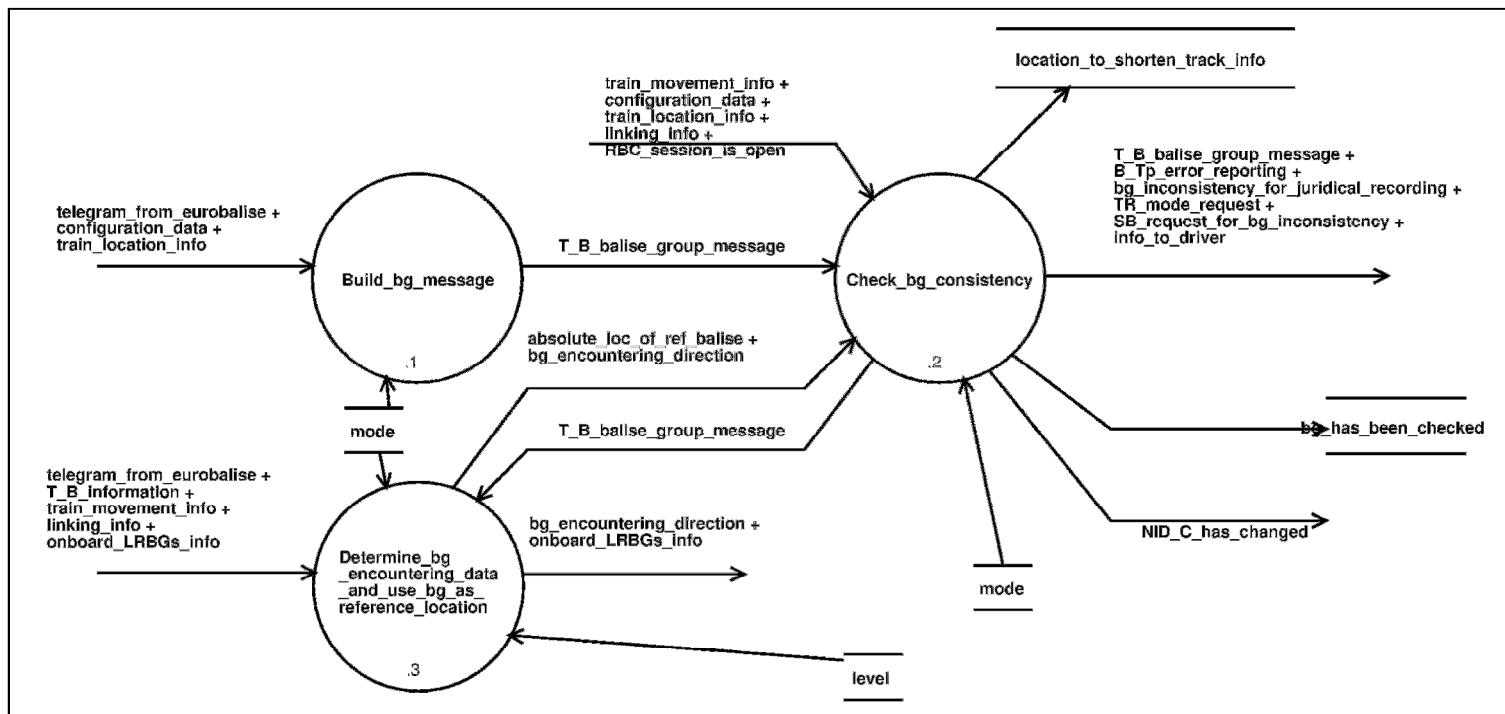
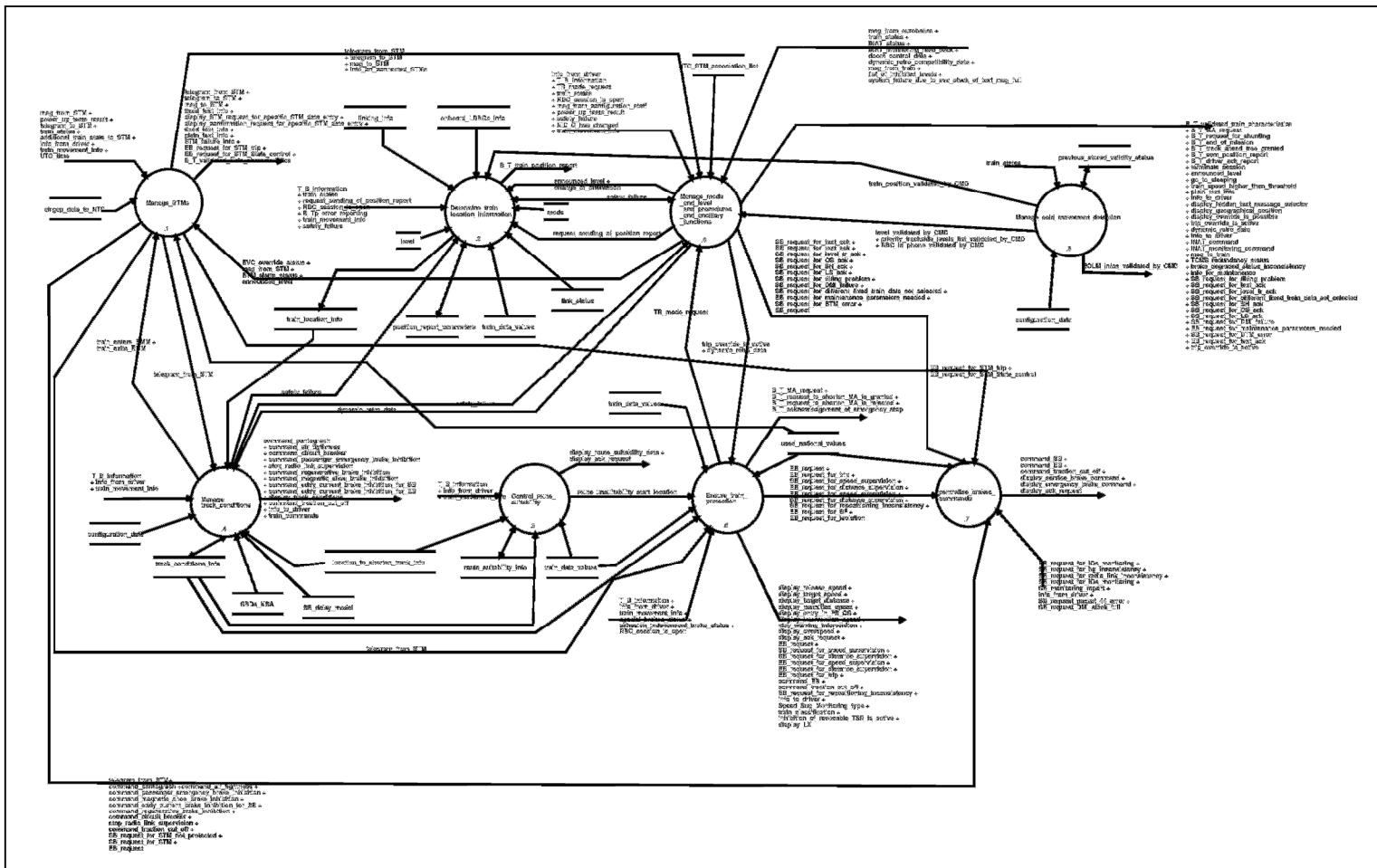
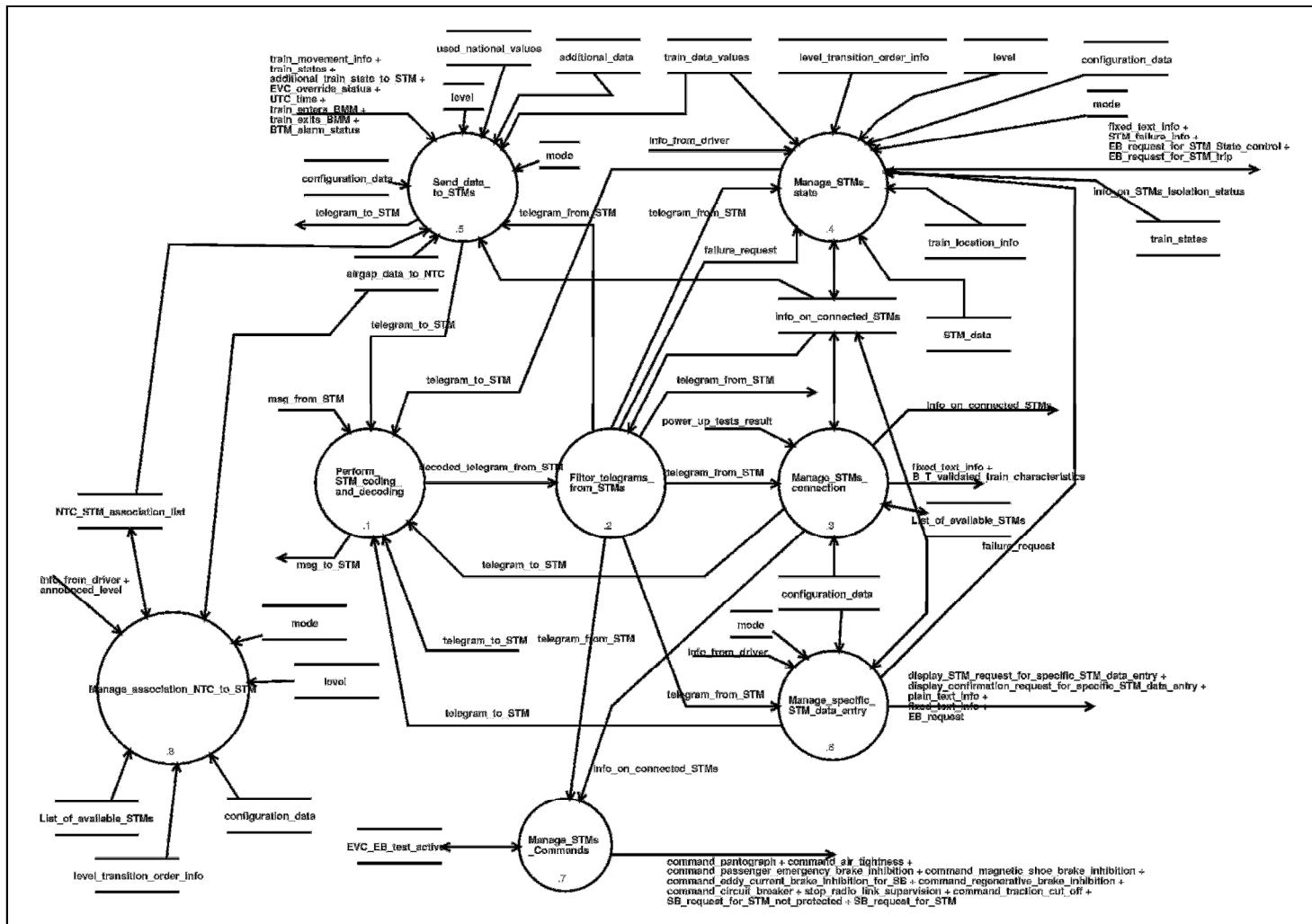


Diagram 4. Build_bg_message_and_use_bg_as_location_reference - dfd 1.1.



Diagram 6. *Manage_STMs - dfd 2.1.*

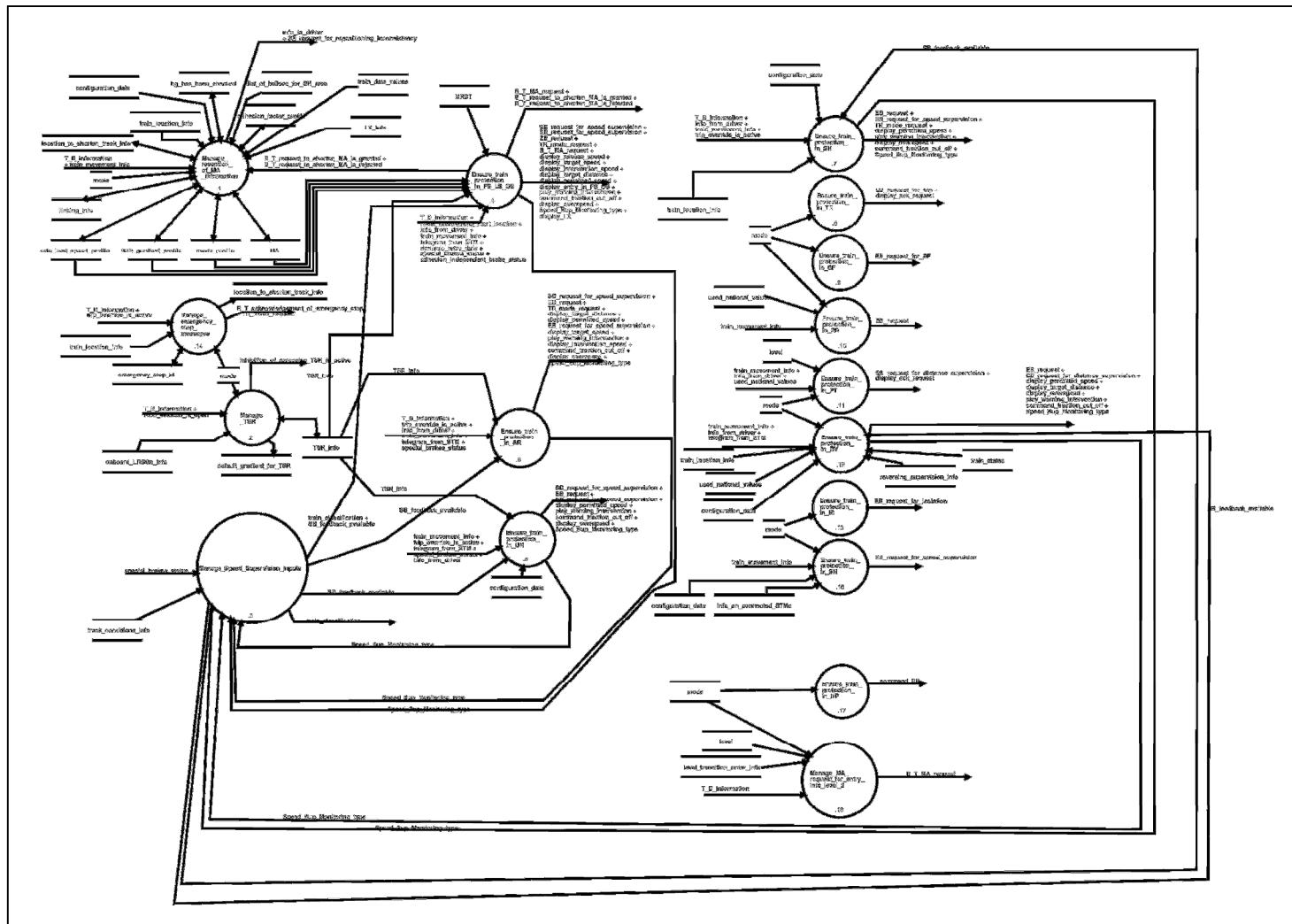


Diagram 7. Ensure_train_protection - dfd 2.5.

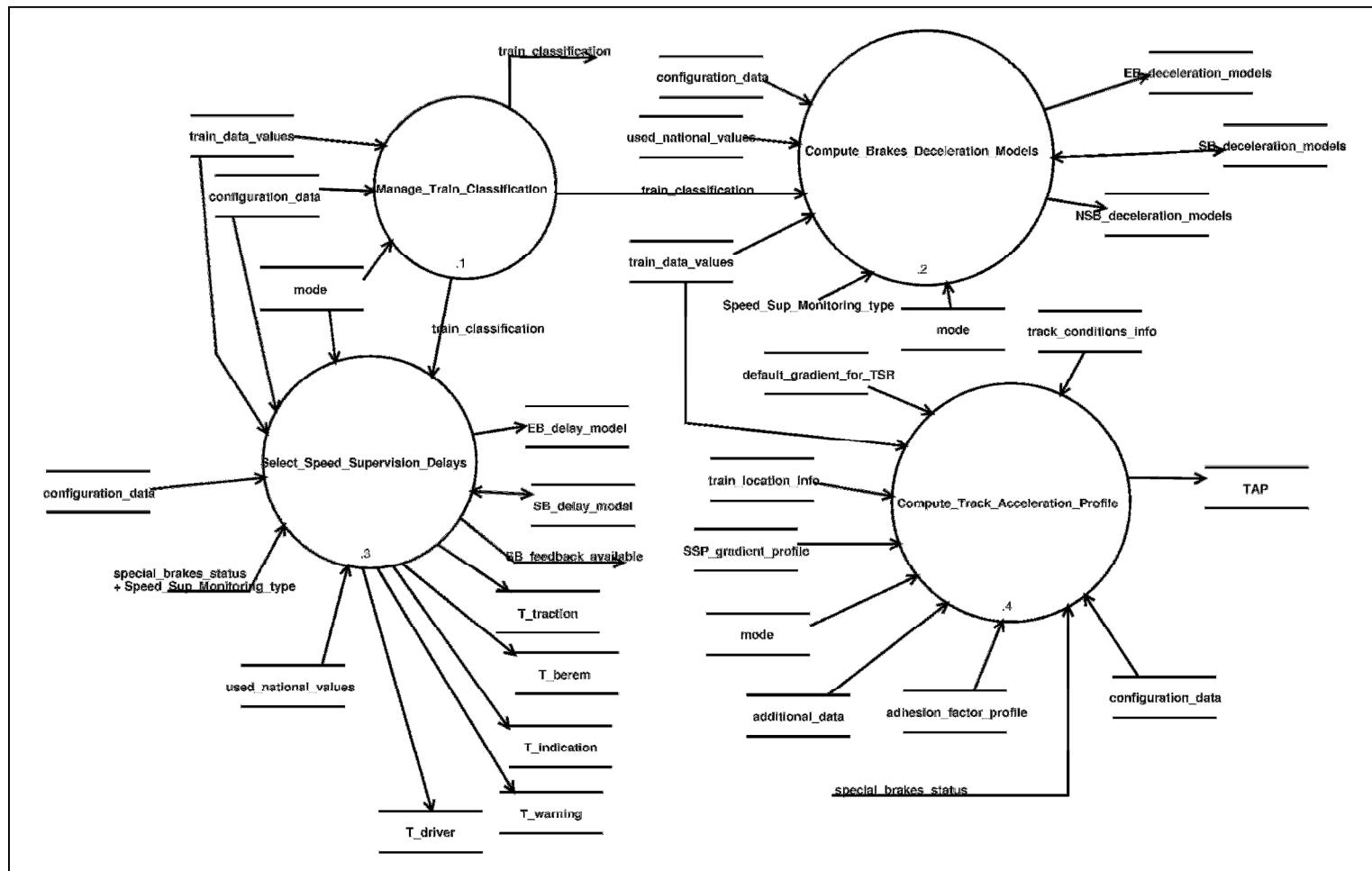


Diagram 8. Manage_Speed_Supervision_Inputs - dfd 2.5.3.

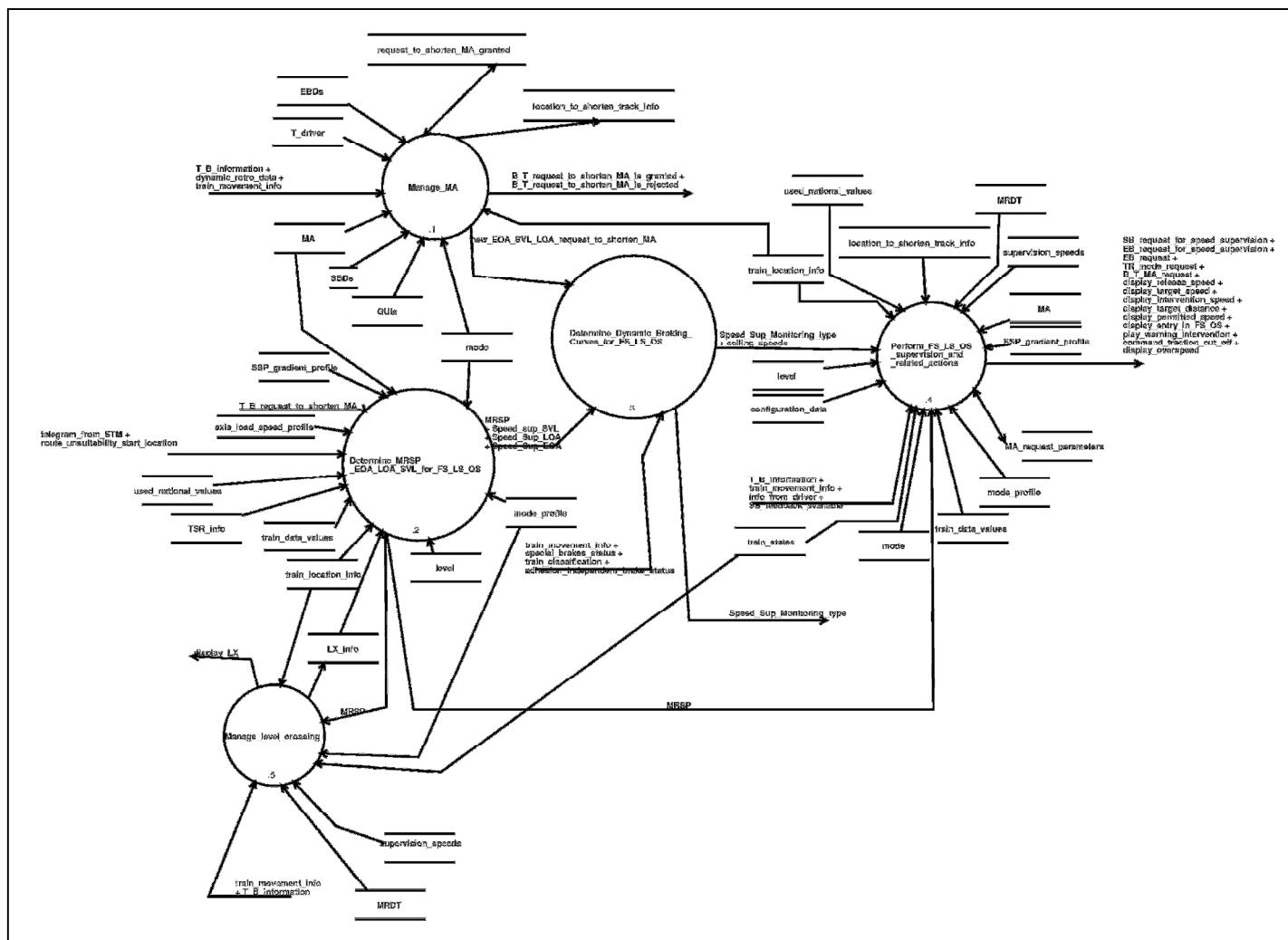


Diagram 9. Ensure_train_protection_in_FS_LS_OS - dfd 2.5.4.

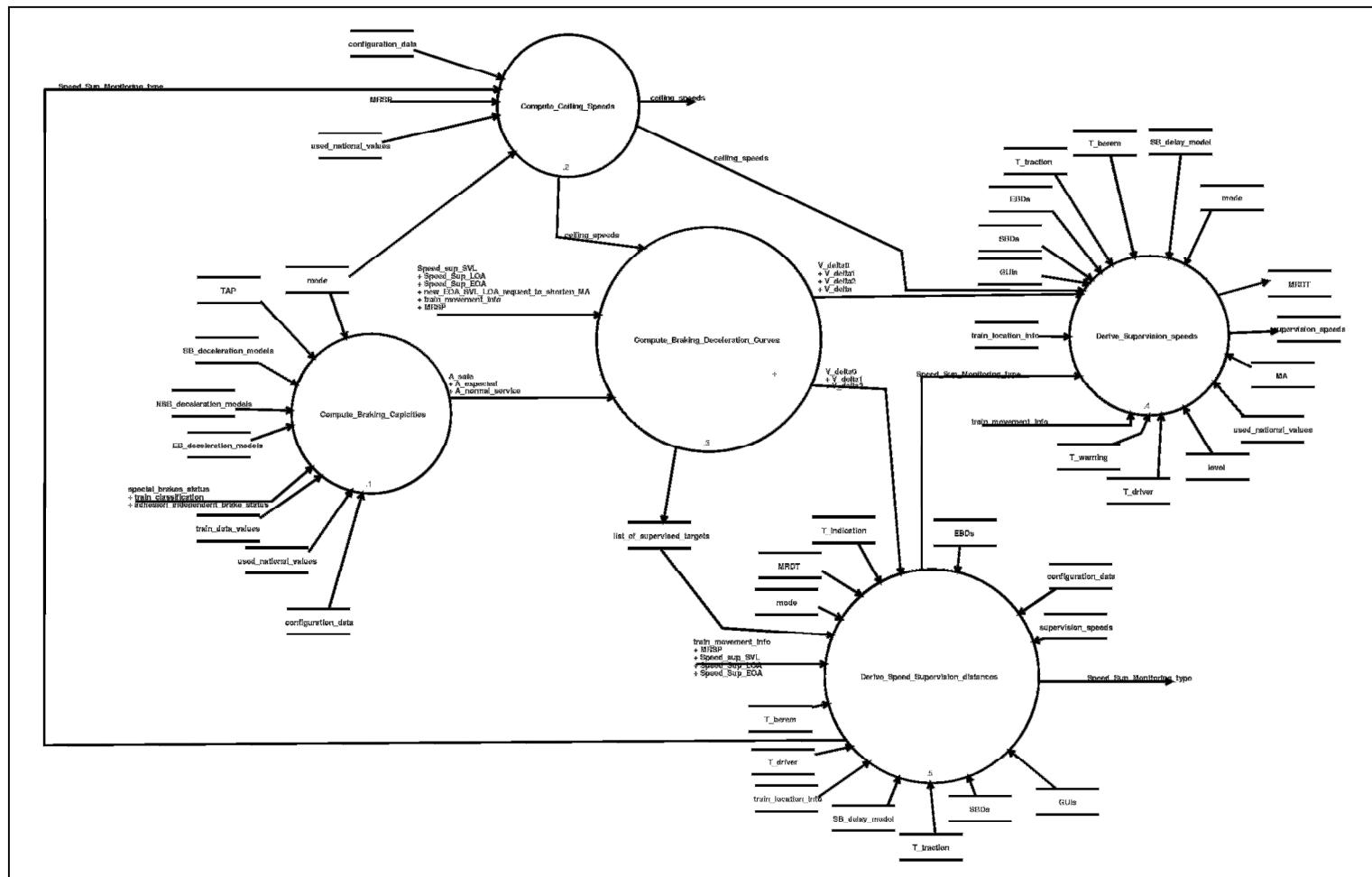


Diagram 10. Determine_Dynamic_Braking_Curves_for_FS_LS_OS - dfd 2.5.4.3.

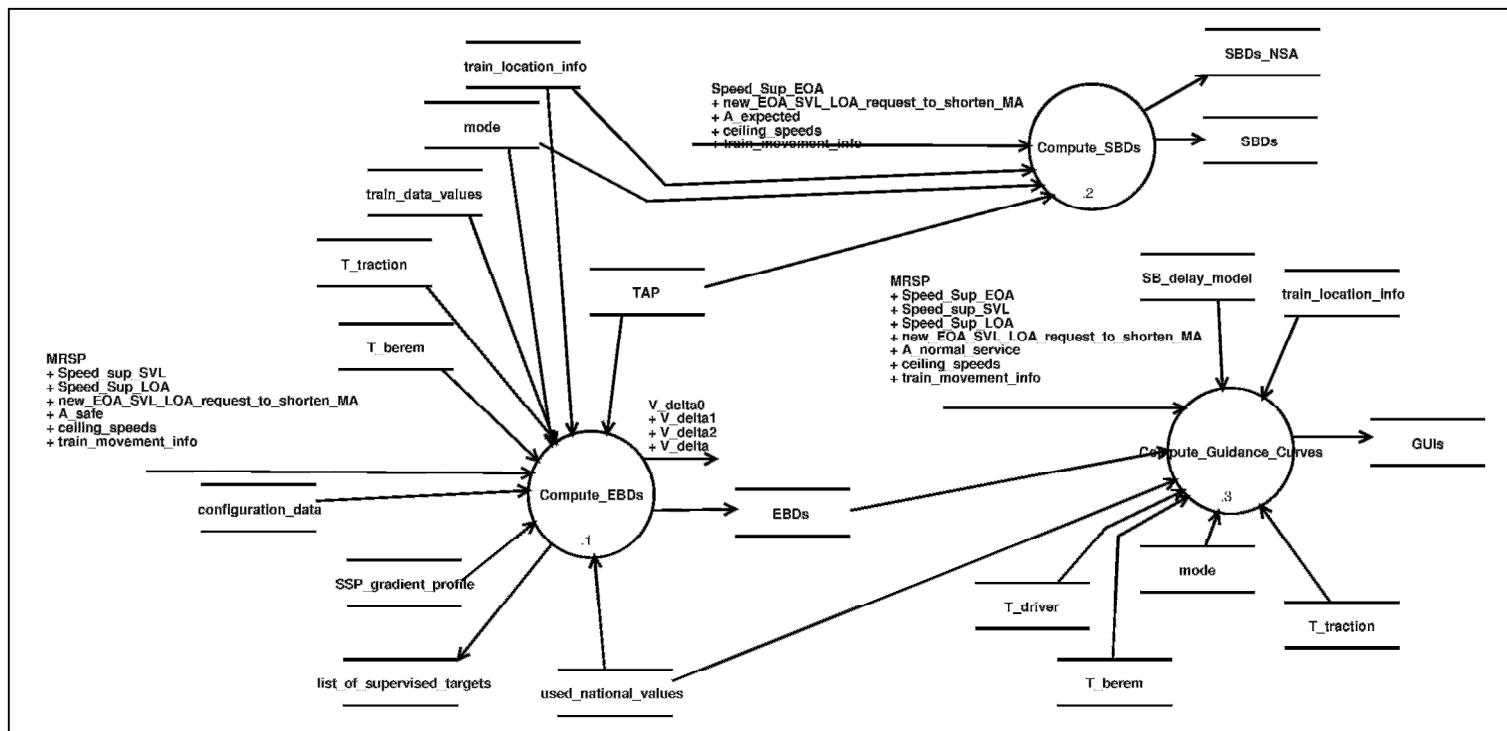


Diagram 11. Compute_Braking_Deceleration_Curves - dfd 2.5.4.3.3.

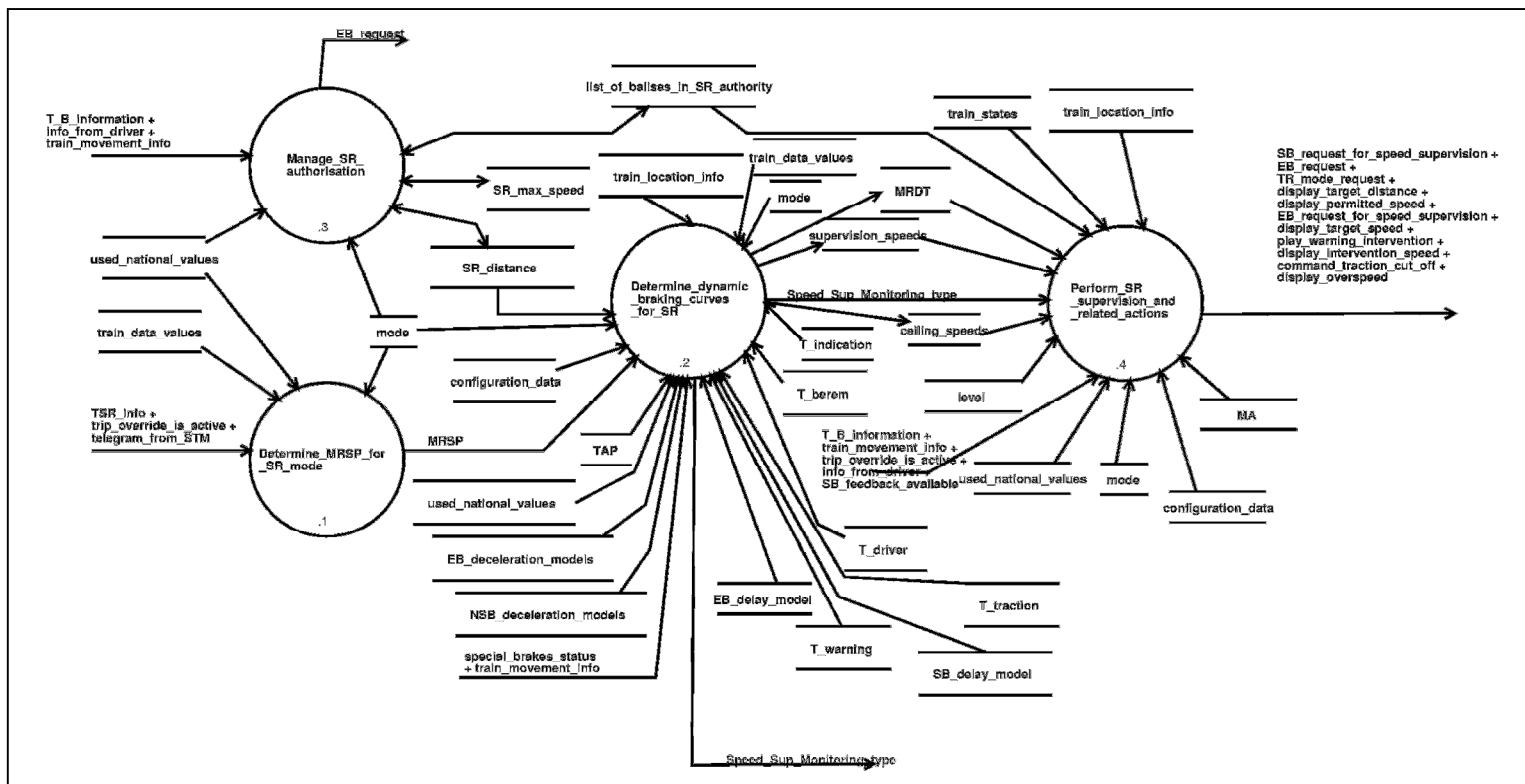


Diagram 12. Ensure_train_protection_in_SR - dfd 2.5.5.

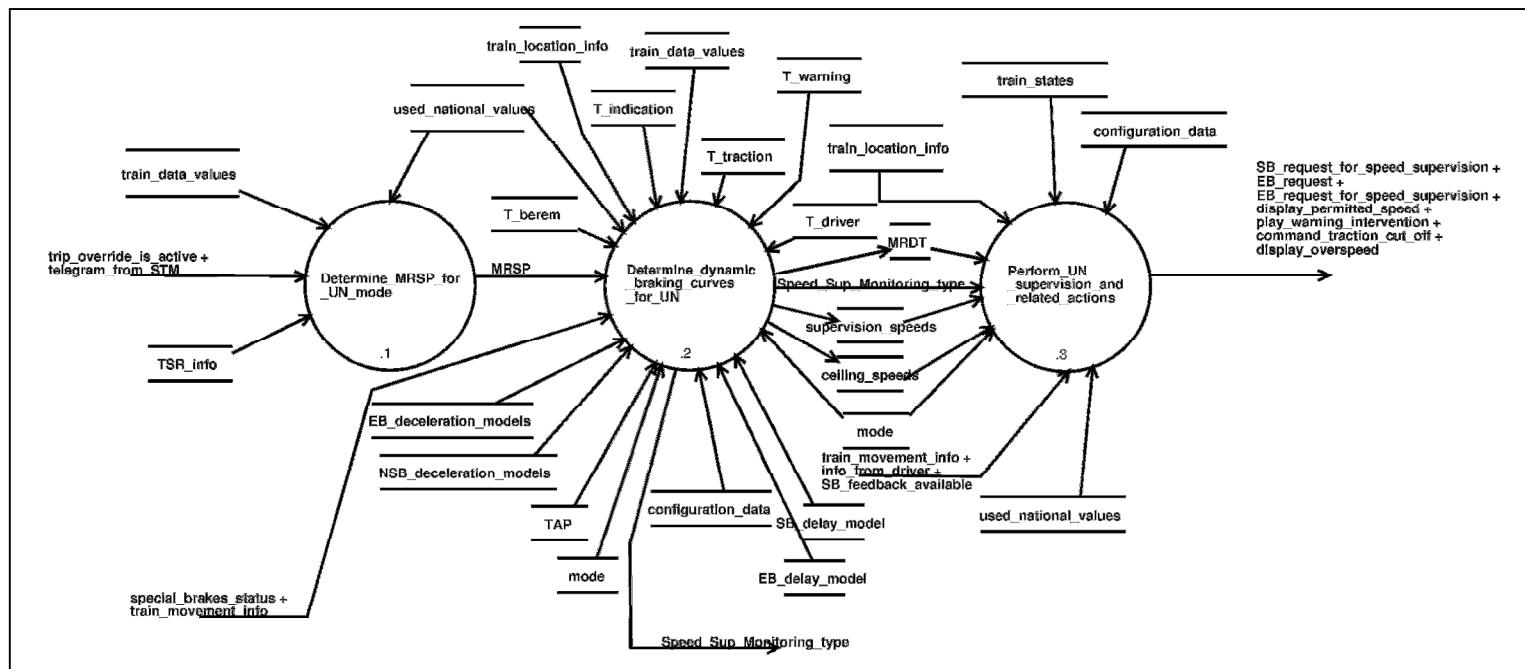


Diagram 13. Ensure_train_protection_in_UN - dfd 2.5.6.

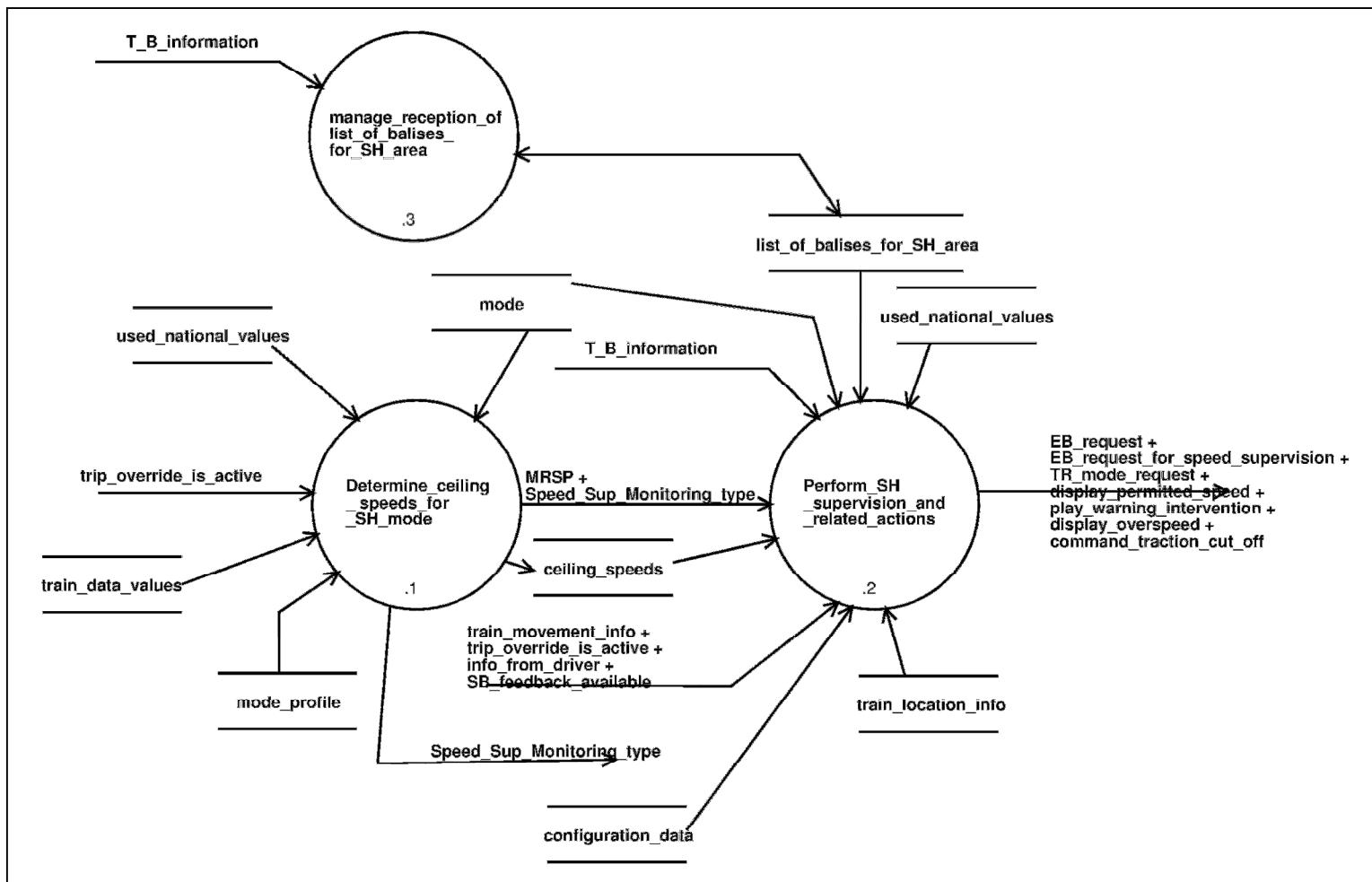


Diagram 14. Ensure_train_protection_in_SH - dfd 2.5.7.

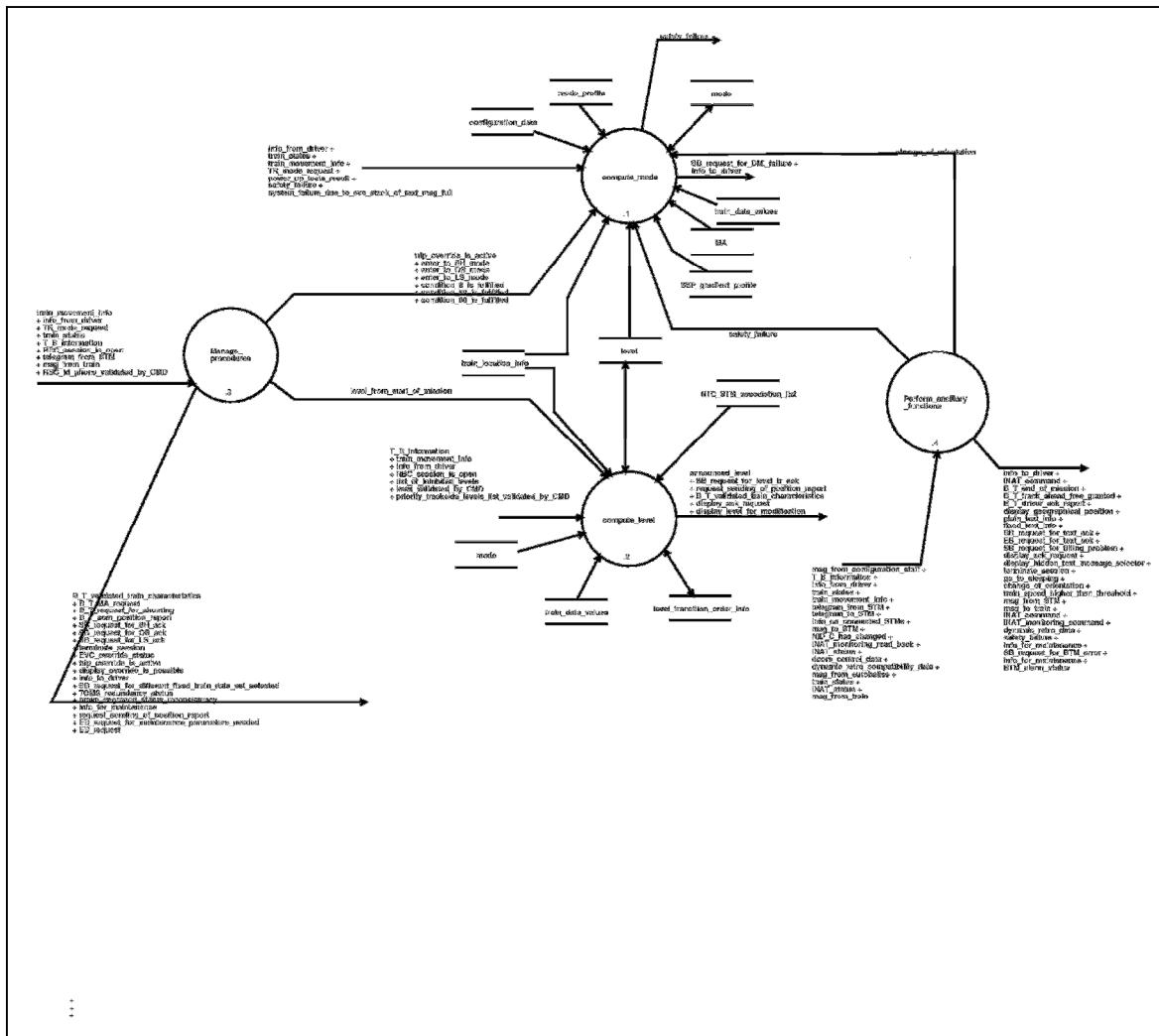


Diagram 15. Manage_mode_and_level_and_procedures_and ancillary_functions - dfd 2.6

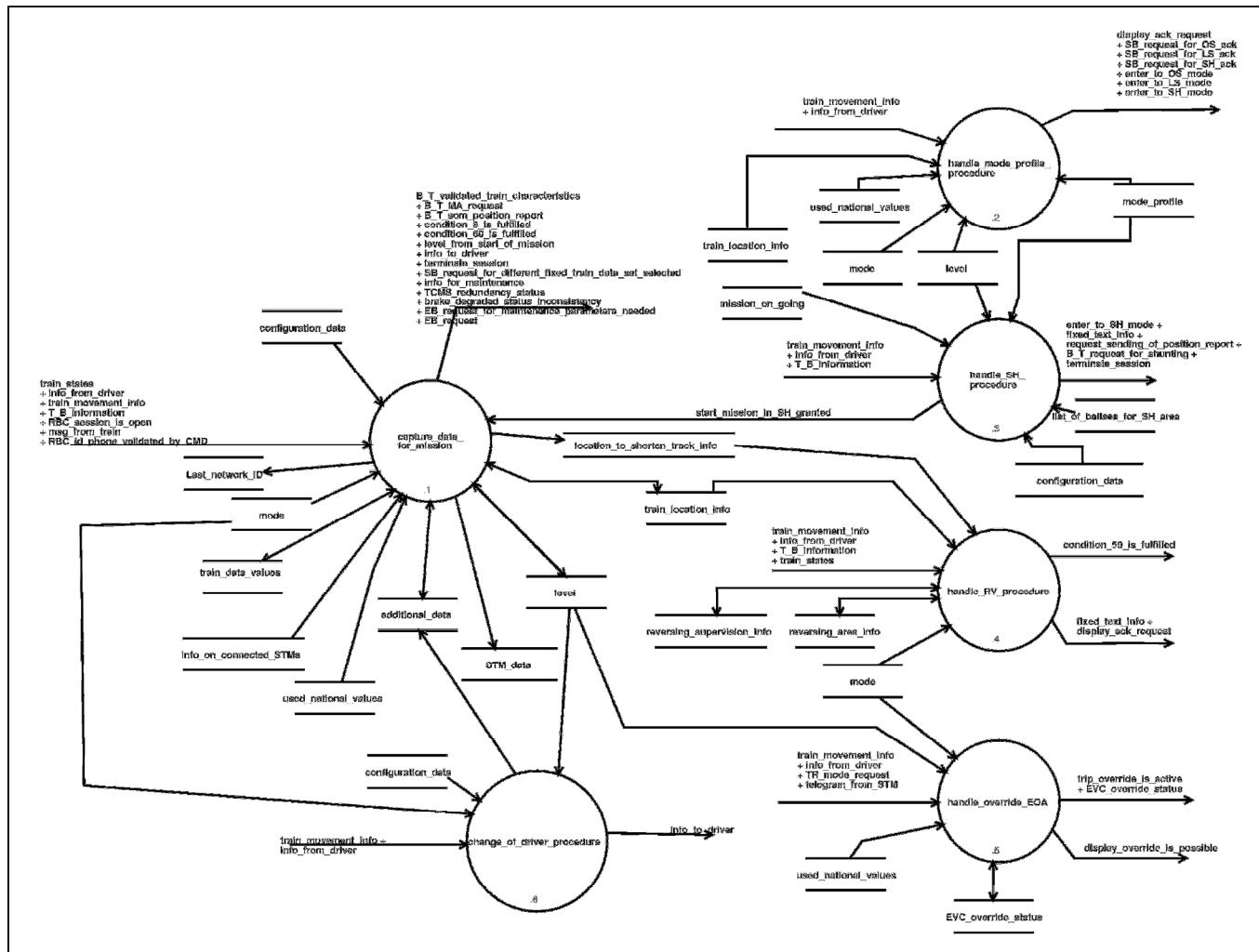


Diagram 16. Manage_procedures - dfd 2.6.3.

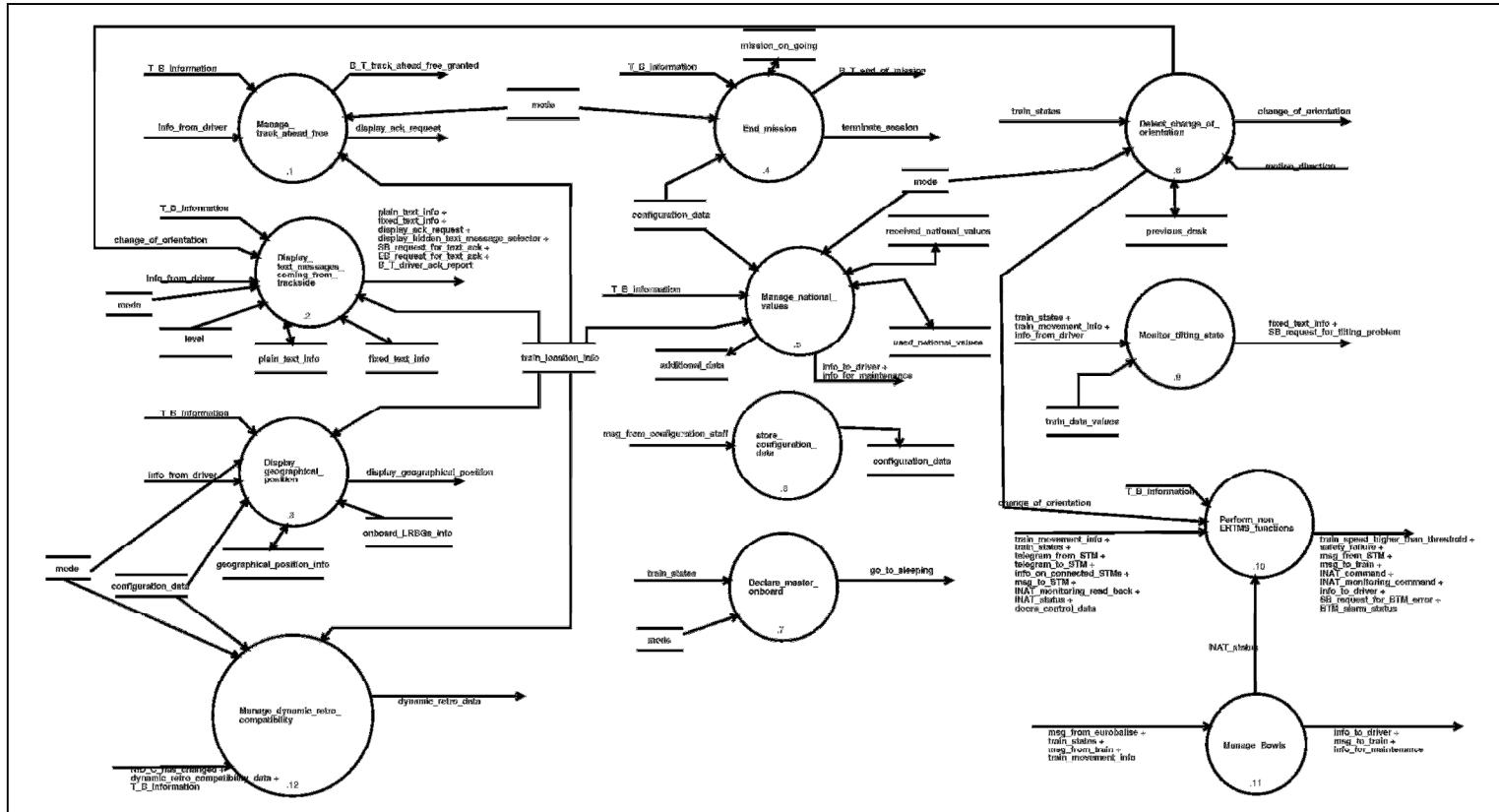


Diagram 17. Perform_ancillary_functions - dfd 2.6.4.

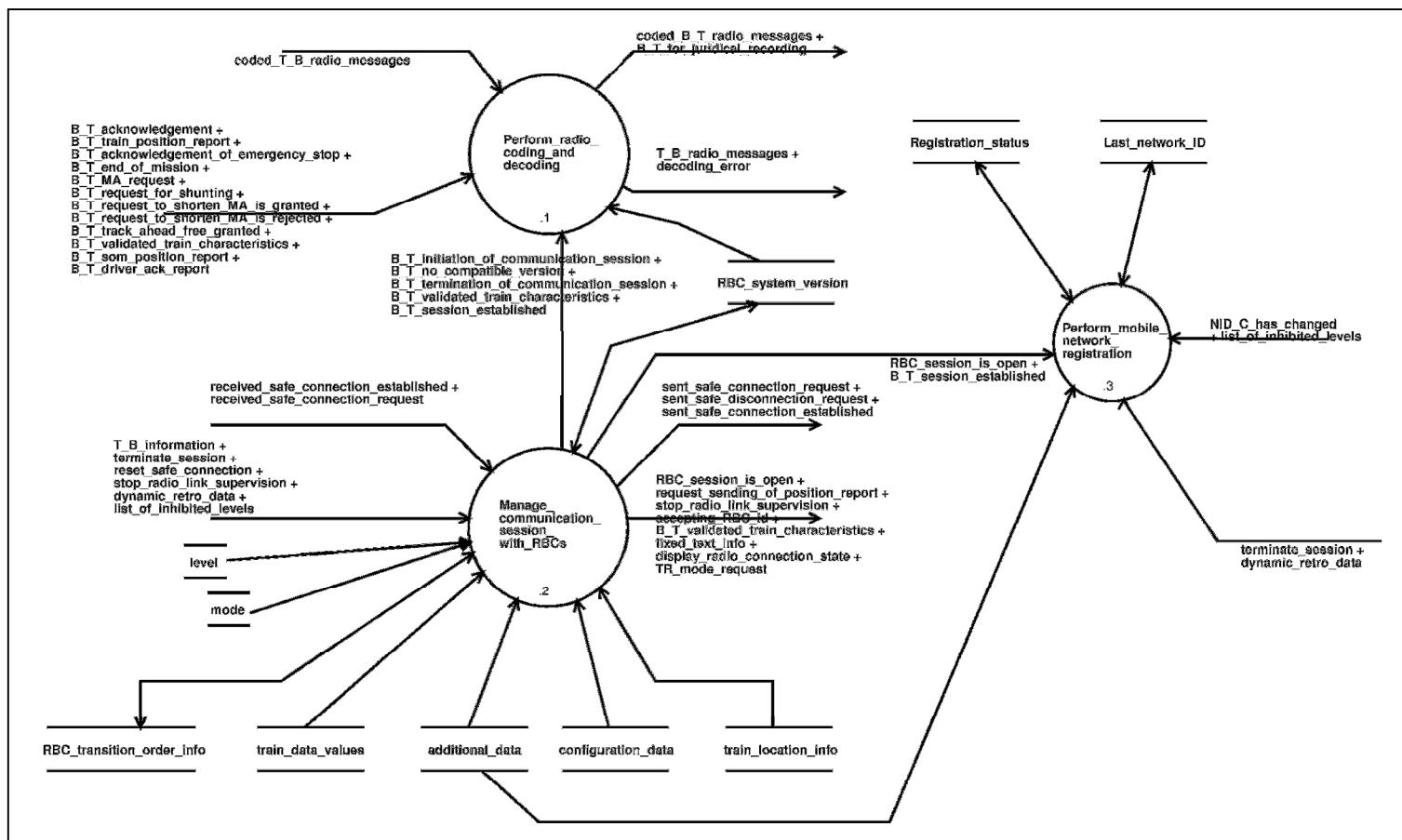


Diagram 18. Manage_radio_sessions - dfd 4.

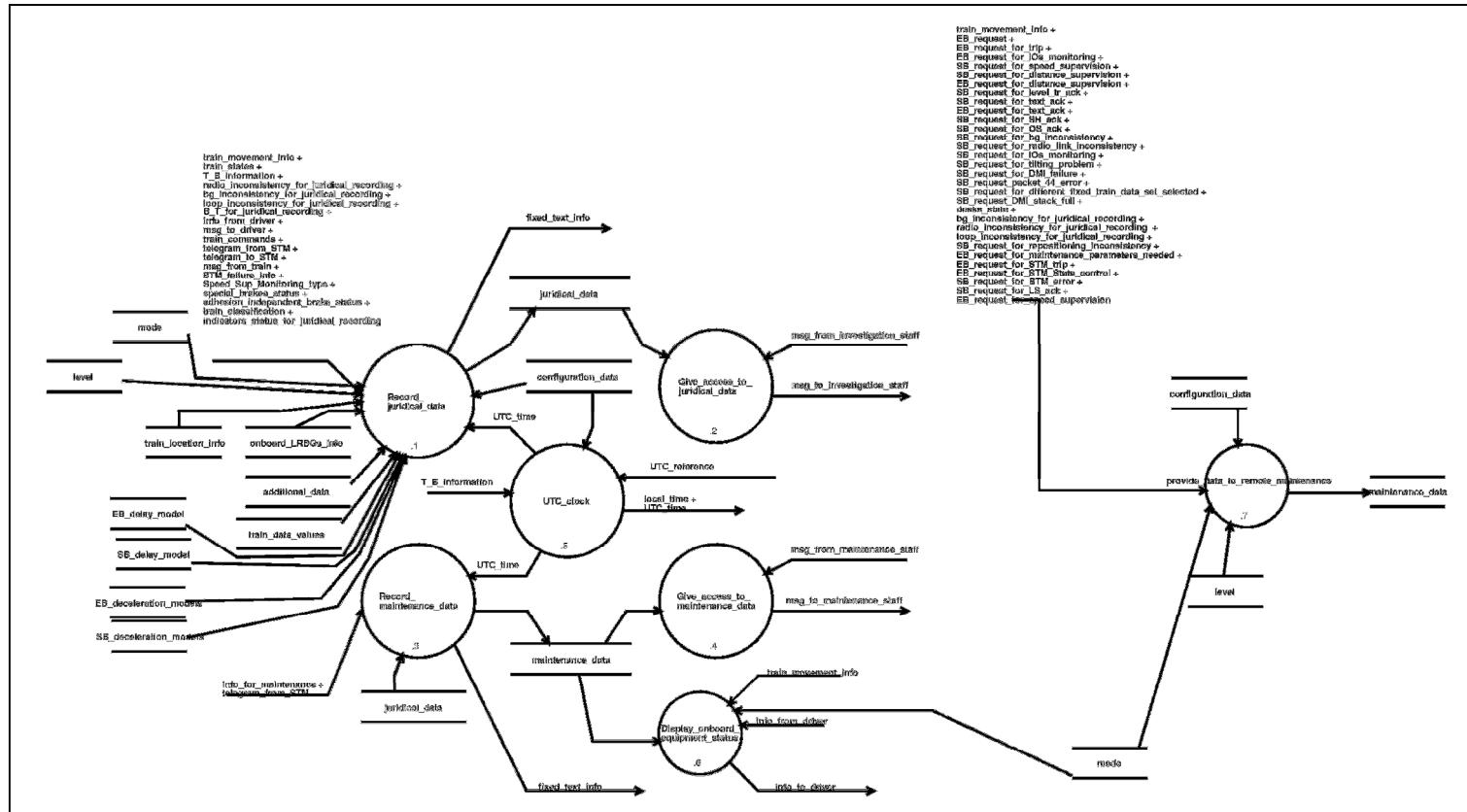
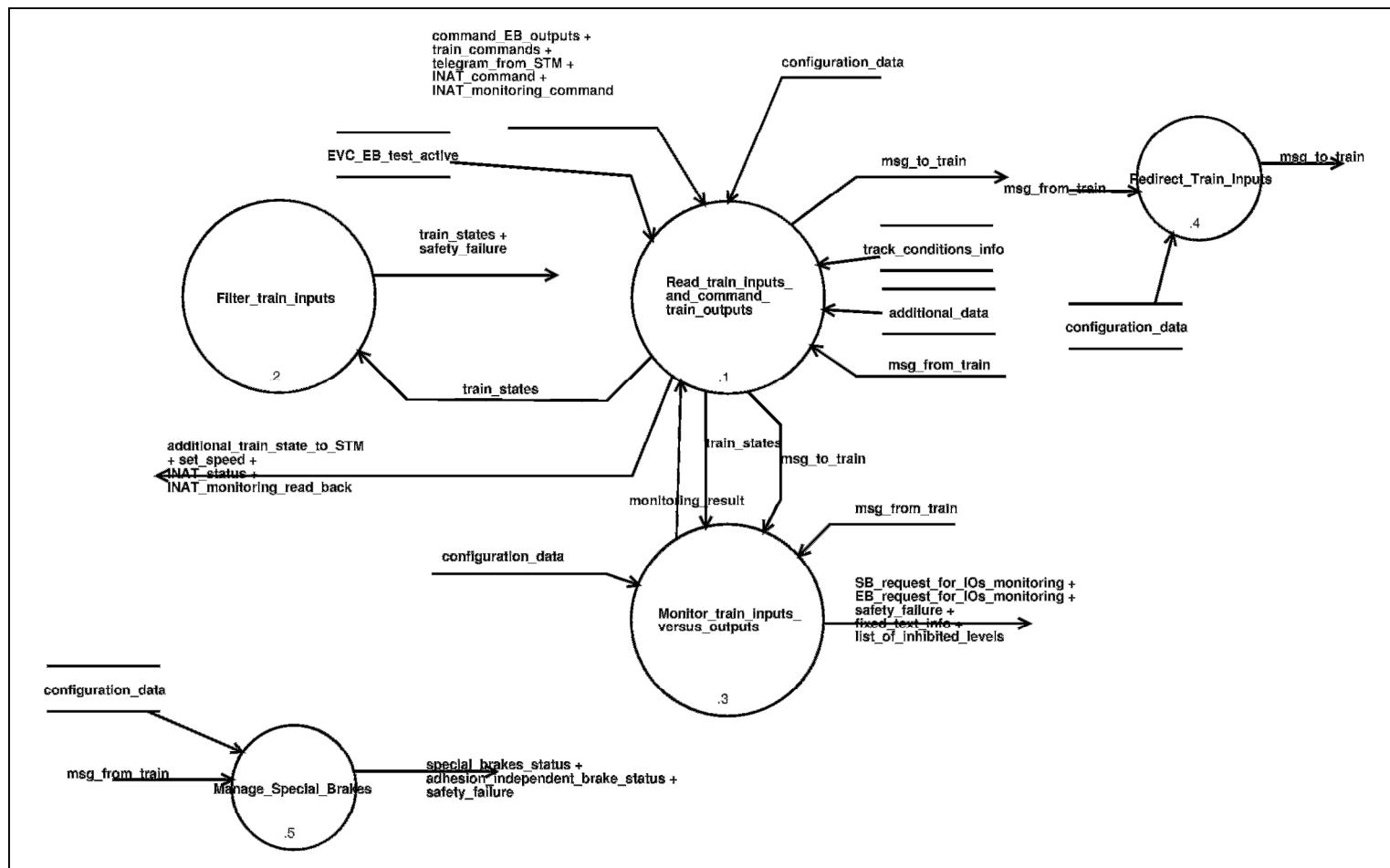


Diagram 19. Manage_juridical_data_and_maintenance_data - dfd 5.



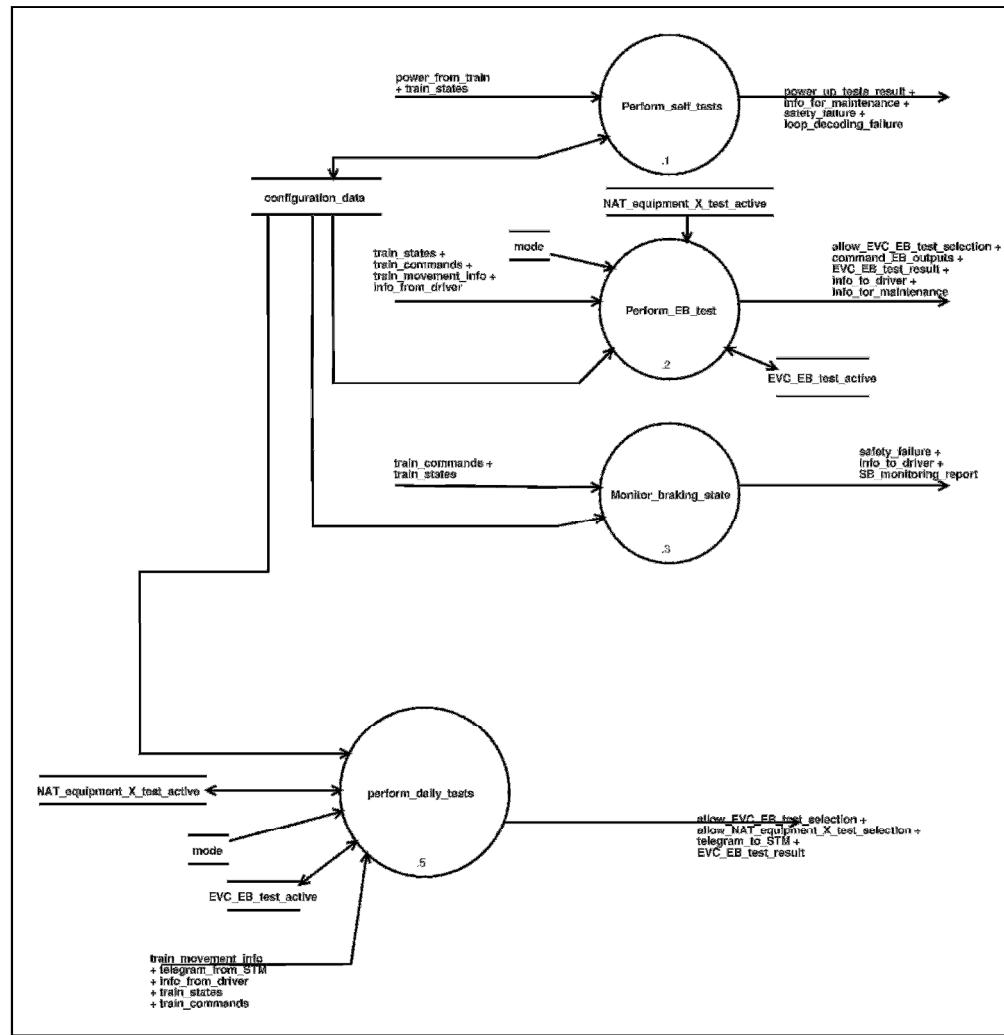


Diagram 21. Perform_tests - dfd 9.

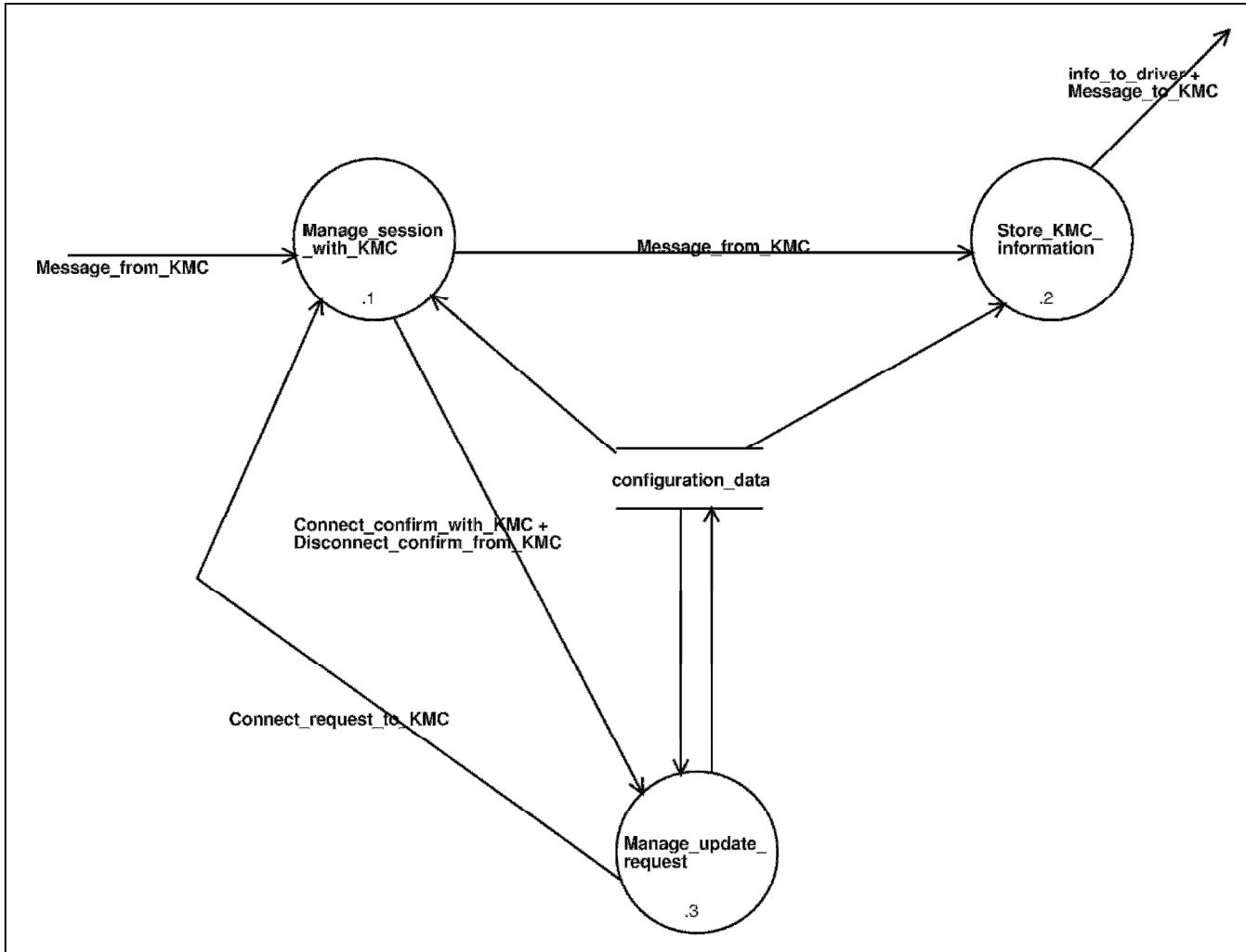


Diagram 22. Manage_KMC - dfd 13.

3 DATA DICTIONARY

1. A brake emergency (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Value of EB deceleration.

2. A brake normal service (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Applicable Normal Service brake Model

3. A brake service (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Applicable Service Brake deceleration Model

4. A expected (data flow) =

not-defined.

rate : N/A
range : N/A
resolution : N/A
units : N/A

value names : N/A
description :

5. A gradient (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Acceleration due to the existing gradient on track (or default TSR one) or to the rotating mass of the train.

6. A normal service (data flow) =

not-defined.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :

7. A safe (data flow) =

not-defined.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :

8. absolute distance counter (data flow) =

estimated_covered_distance_from_last_reference
+ maximum_covered_distance_from_last_reference
+ minimum_covered_distance_from_last_reference.

rate : Available continuously since the power-on of the equipment.
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : This data set represents the covered distance measurement integrating its associated accuracy under a form of a confidence interval.

9. absolute loc of ref balise (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : information given by the "absolute distance counter" when the onboard antenna passes on the reference balise of a bg.

10. accelerometer bias (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Corrective parameter for the installation' angle of the accelerometer. There is a flag that indicates if this value shall be taken into account or not.

11. accepting RBC id (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A

```
value names   : N/A
description   :
Indicates whether an accepting RBC has been announced or not,
and if yes, gives its identity number.
```

12. activate functions (data flow) =

```
function_monitor_pneumatic_insertion +
function_train_speed_above_3km_h +
function_train_tracer +
manage_ERTMS_inhibition +
manage_daily_tests_function +
TBL1_is_active +
inhibit_repositioning_safety_check +
function_display_missed_balise_in_bg +
associate_operational_train_category_to_train_subset +
associate_other_international_train_category_to_brake_type +
speed_and_distance_default_display +
limit_stored_plain_text_msg +
request_overspeed_brake_ack +
enable_specific_stm_kvb_mgmt +
function_activate_basic_speed_hook +
function_report_missed_balise_in_bg +
DMI_SIL2_speed_display +
EVC_SIL2_speed_display +
display_speedometer_in_closed_desk +
permitted_speed_hook_in_UN +
TRN_displayed_as_a_train_data.
-----
rate      : N/A
range     : N/A
resolution : N/A
units     : N/A
value names : N/A
description :
```

13. activate output on DA state (data flow) =

```
[ "TRUE" | "FALSE" ]
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
```

```
units      : N/A
value names : N/A
description : Indicates if for the corresponding STM, an output has to be activated when this STM enters DA state.
```

14. active DMI channel (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : refer to packet STM-31 in "FFFIS STM Application Layer"
```

15. additional data (store) =

```
driver_id
+ level
+ train_running_number
+ 0{RBC_id}2
+ 0{RBC_phone_number}2
+ network_id
+ adhesion_factor.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Additional data described in chapter 3 of SUBSET-026 (paragraph 3.18.4)
```

16. additional data values to STM (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
```

```
value names   : N/A
description   : Refer to packet STM-177 FFFIS STM Application Layer.
```

17. additional train interface control state to STM (data flow, pel) =

```
**.

-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: refer to "FFFIS STM Application Layer" document.
```

18. additional train state to STM (data flow, pel) =

```
**.

-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: Refer to FFFIS STM Application Layer.
```

19. adhesion (data flow) =

```
["SLIPPERY" | "NO_SLIPPERY"] .
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: Adhesion value
```

20. adhesion factor (data flow, del) =

```
["SLIPPERY" | "NOT_SLIPPERY"] .
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : track adhesion factor

21. adhesion factor profile (store, pel) =

**.

full name :
description : adhesion factor profile information which is stored and used onboard.

22. adhesion independent brake config (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates if an adhesion independent brake is configured or not.

23. adhesion independent brake status (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates the current status of the adhesion independent brake if any configured.

24. AG d emergencystop (data flow, pel) =

**.

```
rate      : N/A;
range     : 0..327670;
resolution : 0.1;
units      : m;
value_names : N/A;
component_of : T_B_conditional_emergency_stop;
description  : see SRS chapter 7; variable D_EMERGENCYSTOP
```

25. AG d ref (data flow, pel) =

**.

```
full_name   : ;
rate         : N/A;
range        : 0..327670;
resolution   : 0.1;
units        : m;
value_names  : N/A;
component_of : T_B_MA_with_shifted_location_reference;
description  : see SRS chapter 7; variable D_REF
```

26. AG d sr (data flow, pel) =

**.

```
rate      : N/A;
range     : 0..327670;
resolution : 0.1;
units      : m;
value_names : N/A;
component_of : T_B_SR_authorisation;
description  : see SRS chapter 7; variable D_SR
```

27. AG d tafdisplay (data flow, pel) =

**.

```
rate      : N/A
range    : 0..327670;
resolution : 0.1;
units     : m;
value names : N/A
description : see SRS chapter 7;variable D_TAFDISPLAY
constituent of data/control flow: T_B_track_ahead_free_request;
```

28. AG emergency identity for acknowledgement (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range    : N/A
resolution : N/A
units     : N/A
value names : N/A
description : see SRS chapter 7;variable NID_EM
constituent of data/control flow: B_T_acknowledgement_of_emergency_stop
```

29. AG I message (data flow, pel) =

```
**.
```

```
-----
full_name   : ;
rate        : N/A;
range       : 0..1023;
resolution  : 1;
units       : byte;
value_names : N/A;
component_of : N/A;
description  : see SRS chapter 7;variable L_MESSAGE
```

30. AG I tafdisplay (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range    : 0..327660
resolution : 0.1
units     : m
```

```
value names : N/A
description : see SRS chapter 7; variable L_TAFDISPLAY
constituent of data/control flow: T_B_track_ahead_free_request;
```

31. AG_m_ack (data flow, pel) =

```
**.

-----
full_name      : ;
rate           : N/A;
range          : 0..1;
resolution     : 1;
units          : N/A;
value_names    : N/A;
component_of   : N/A;
description    : see SRS chapter 7; variable M_ACK
```

32. AG_m_version (data flow, pel) =

```
**.

-----
full_name      : ;
rate           : N/A;
range          : N/A;
resolution     : N/A;
units          : N/A;
value_names    : N/A;
component_of   : ;
description    : see SRS chapter 7; variable M_VERSION
Version of the ETCS language
(M_VERSION : see SRS chapter 7);
```

33. AG_nid_em (data flow, pel) =

```
**.

-----
full_name      : ;
rate           : N/A;
range          : 0..15;
resolution     : 1;
```

```
units          :      N/A;
value_names   :      N/A;
component_of  :      N/A;
description   : see SRS chapter 7;variable NID_EM
```

34. AG nid LRBG (data flow, pel) =

```
**.  
-----  
full_name     :      ;  
rate          :      N/A;  
range         :      0..16777215;  
resolution    :      1;  
units          :      N/A;  
value_names   :      N/A;  
component_of  :      N/A;  
description   : see SRS chapter7;varaiable NID_LRBG
```

35. AG nid message (data flow, pel) =

```
**.  
-----  
full_name     :      ;  
rate          :      N/A;  
range         :      0..255;  
resolution    :      1;  
units          :      N/A;  
value_names   :      N/A;  
component_of  :      N/A;  
description   : see SRS chapter 7;varaiable NID_MESSAGE
```

36. AG nid textmessage (data flow, pel) =

```
**.  
-----  
rate          : N/A  
range         : 0..255;  
resolution    : 1;  
units          : N/A
```

```
value names   : N/A
description   : see SRS chapter 7;variable NID_TEXTMESSAGE
```

37. AG_q_dir (data flow, pel) =

```
**.

-----
full_name      : ;
rate           : N/A;
range          : 0..3;
resolution     : 1;
units          : N/A;
value_names    : N/A;
component_of   : N/A;
description    : see SRS chapter 7;variable Q_DIR
```

38. AG_q_orientation (data flow, del) =

```
**.

-----
rate           : N/A
range          : 0..1
resolution     : 1
units          : N/A
value_names    : N/A
description    : see SRS chapter 7;variable Q_ORIENTATION
```

39. AG_q_scale (data flow, pel) =

```
**.

-----
full_name      : ;
rate           : N/A;
range          : 0..3;
resolution     : 1;
units          : N/A;
value_names    : N/A;
component_of   : N/A;
description    : see SRS chapter 7;variable Q_SCALE
```

40. AG q status (data flow, del) =

**.

```
-----  
full_name      : ;  
rate           : N/A;  
range          : 0..3;  
resolution     : 1;  
units          : N/A;  
value_names    : N/A;  
component_of   : N/A;  
description    : see SRS chapter 7;variable Q_STATUS
```

41. AG qualifier for emergency stop acknowledgement (data flow, pel) =

**.

```
-----  
rate           : N/A  
range          : 0..3  
resolution     : 1  
units          : N/A  
value names    : N/A  
description    : see SRS chapter 7;variable Q_EMERGENCYSTOP  
constituent of data/control flow: B_T_acknowledgement_of_emergency_stop
```

42. AG t train (data flow, pel) =

**.

```
-----  
full_name      : ;  
rate           : N/A;  
range          : 0..42949672.94;  
resolution     : 0.01;  
units          : s;  
value_names    : N/A;  
component_of   : N/A;  
description    : see SRS chapter 7;variable T_TRAIN
```

43. AG t train for acknowledgement (data flow, pel) =

**.

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : see SRS chapter 7;variable T_TRAIN
```

constituent of data/control flow: B_T_acknowledgement

44. AG t train for shunting (data flow, pel) =

**.

```
-----  
full_name   : ;  
rate         : N/A;  
range        : 0..42949672.94;  
resolution   : 0.01;  
units        : s;  
value_names  : N/A;  
component_of : N/A;  
description  : see SRS chapter 7;variable T_TRAIN  
constituent of data/control flow: T_B_shunting_authorised  
                                T_B_shunting_refused
```

45. AG t train for train data (data flow, pel) =

**.

```
-----  
full_name   : ;  
rate         : N/A;  
range        : 0..42949672.94;  
resolution   : 0.01;  
units        : s;  
value_names  : N/A;  
component_of : N/A;  
description  : see SRS chapter 7;variable T_TRAINsee SRS;
```

constituent of data/control flow : T_B_acknowledgement_of_train_characteristics

46. AG track description deleted (data flow, del) =

["FALSE" | "TRUE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :
constituent of data/control flow: B_T_MA_request

47. airgap data to NTC (store) =

**.

full name :
description : ETCS data forwarded to STM

48. allow EVC EB test selection (data flow, del) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates whether "EB test" selection by driver is authorised or not.

49. allow NAT equipment X test selection (data flow) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A

units : N/A
value names : N/A
description : indicates whether the NAT X daily test selection by driver is authorised or not.

50. allowed train inputs (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Table that indicates which input relay(s) is related to applicative train inputs.

51. allowed train outputs (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Table that indicates which output relay(s) is related to applicative train outputs.

52. Alstom EBI derivation (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if algorithm of derivation of EBI from EBD takes into account the estimated acceleration OR the max acceleration and the gradient profile.

53. announced level (data flow) =

level.

rate : when a level transition is announced
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : the level announced to the on-board equipment (if any, empty otherwise)

54. antenna configuration (data flow) =

["2 antenna" | "1 antenna" | "1 antenna per cab"]

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates the configuration of the train regards the antenna, i.e. If the train has two antennas, both used for each cab ("2 antennas"), or if the train has only one antenna, used for both cab ("1 antenna"), or if the train has two antennas

55. antenna telepowering mode (store) =

["ON" | "OFF"]

full name :
description : hold the antenna telepowering mode to use. OFF represents a "continuous wave". "ON" represents the antenna telepowering mode for KER STMs.

56. associate operational train category to train subset (data flow) =

["FUNCTION_IS_OFF" | "FUNCTION_IS_ON"].

full_name : ;
rate : N/A;
range : N/A;
resolution : N/A;
units : N/A;
value_names : N/A;
component_of : N/A;
description : indicates if the function allowing to associate a train category in data preparation to a train subset is active or not;

57. associate other international train category to brake type (data flow) =

["FUNCTION_IS_OFF" | "FUNCTION_IS_ON"].

full_name : ;
rate : N/A;
range : N/A;
resolution : N/A;
units : N/A;
value_names : N/A;
component_of : N/A;
description : indicates if the function allowing to associate an other international train category in data preparation to a brake type is active or not;

58. avoid auto radio connection during SOM (data flow) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the radio connection (network registration and/or RBC communication session establishment) shall be avoided during SOM when stored level is leve2/3 or not.

59. axle load speed profile (store, pel) =

**.

full name :
description : "axle load speed profile" information which is stored and used onboard.

60. B_T acknowledgement (data flow) =

B_T_radio_message_header
+ AG_t_train_for_acknowledgement.

rate : N/A

```
range      : N/A
resolution : N/A
units      : N/A
value names: N/A
description: acknowledgement of a radio message, see SRS chapter 8, message Id 146
constituent of data/control flow: B_T_for_juridical_recording
```

61. B T acknowledgement of emergency stop (data flow) =

```
B_T_radio_message_header
+ AG_emergency_identity_for_acknowledgement
+ AG_qualifier_for_emergency_stop_acknowledgement
+ 0{B_Tp_position_report}1
+ 0{B_Tp_position_report_based_on_two_balise_groups}1.

-----
rate      : N/A
range     : N/A
resolution: N/A
units      : N/A
value names: N/A
description: acknowledgement of an emergency stop radio message, see SRS chapter 8, message Id 147
constituent of data/control flow: B_T_for_juridical_recording
```

62. B T driver ack report (data flow) =

```
B_T_radio_message_header
+ AG_t_train_for_acknowledgement
+ AG_nid_textmessage.

-----
rate      : N/A
range     : N/A
resolution: N/A
units      : N/A
value names: N/A
description: acknowledgement of a text message by the driver, see SRS chapter 8, message Id 158
constituent of data/control flow: B_T_for_juridical_recording
```

63. B T end of mission (data flow) =

```
B_T_radio_message_header
+ 0{B_Tp_position_report}1
```

```
+ 0{B_Tp_position_report_based_on_two_balise_groups}1.  
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : end of mission report to the RBC, see SRS chapter 8, message ID 150  
constituent of data/control flow: B_T_for_juridical_recording
```

64. B_T for juridical recording (data flow) =

```
B_T_acknowledgement +  
B_T_train_position_report +  
B_T_acknowledgement_of_emergency_stop +  
B_T_end_of_mission +  
B_T_MA_request +  
B_T_request_for_shunting +  
B_T_request_to_shorten_MA_is_granted +  
B_T_request_to_shorten_MA_is_rejected +  
B_T_track_ahead_free_granted +  
B_T_initiation_of_communication_session +  
B_T_no_compatible_version +  
B_T_termination_of_communication_session +  
B_T_validated_train_characteristics +  
B_T_session_established +  
B_T_som_position_report +  
B_T_driver_ack_report.  
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : For juridical purpose, this data flow records all radio messages sent to the RBC
```

65. B_T initiation of communication session (data flow) =

```
B_T_radio_message_header  
+ 0{B_Tp_position_report}1  
+ 0{B_Tp_position_report_based_on_two_balise_groups}1.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : "initiation of communication session" message sent to the RBC, see SRS chapter 8, message ID 155
constituent of data/control flow: B_T_for_juridical_recording

66. B T MA request (data flow) =

B_T_radio_message_header
+ AG_track_description_deleted
+ 0{B_Tp_position_report}1
+ 0{B_Tp_position_report_based_on_two_balise_groups}1
+ 0{B_Tp_level_2_3_transition_information}1.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : "MA request" message sent to the RBC, see SRS chapter 8, message ID 132
constituent of data/control flow: B_T_for_juridical_recording

67. B T no compatible version (data flow) =

B_T_radio_message_header.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : radio message sent to the RBC to indicate that the RBC version is not compatible with the onboard version, see SRS chapter 8, message ID 154
constituent of data/control flow: B_T_for_juridical_recording

68. B T radio message header (data flow, pel) =

***.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :
contains NID_MESSAGE, L_MESSAGE, T_TRAIN, NID_ENGINE.
Refer to Subset-026, chapter 7 and 8.

69. B_T request for shunting (data flow) =

B_T_radio_message_header
+ 0{B_Tp_position_report}1
+ 0{B_Tp_position_report_based_on_two_balise_groups}1.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Shunting request radio message sent to the RBC, see SRS chapter 8, message ID 130
constituent of data/control flow: B_T_for_juridical_recording

70. B_T request to shorten MA is granted (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : radio message sent to inform the RBC about the grant of the "request to shorten MA".
see SRS chapter 8, message ID 137

71. B_T request to shorten MA is rejected (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : radio message sent to inform the RBC about the rejection of the "request to shorten MA".
see SRS chapter 8, message ID 138

72. **B_T session established (data flow) =**

B_T_radio_message_header
+ 0{B_Tp_onboard_telephone_numbers}1.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : radio message sent to the RBc to inform it about the establishment of a session, see SRS chapter 8, message ID 159
constituent of data/control flow: B_T_for_juridical_recording

73. **B_T som position report (data flow) =**

B_T_radio_message_header
+AG_q_status
+ 0{B_Tp_position_report}1
+ 0{B_Tp_position_report_based_on_two_balise_groups}1
+ 0{B_Tp_error_reporting}1
+ 0{B_Tp_trn}1.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : "SoM position report" radio message sent to the RBc at Start of Mission, see SRS chapter 8, message ID 157
constituent of data/control flow: B_T_for_juridical_recording

74. B_T termination of communication session (data flow) =

B_T_radio_message_header.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : "termination of communication session" message sent to the RBC, see SRS chapter 8, message ID 156
constituent of data/control flow: B_T_for_juridical_recording

75. B_T track ahead free granted (data flow) =

B_T_radio_message_header
+ 0{B_Tp_position_report}1
+ 0{B_Tp_position_report_based_on_two_balise_groups}1.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : radio message sent to the RBC to inform it that the track ahead is free, see SRS chapter 8, message ID 149
constituent of data/control flow: B_T_for_juridical_recording

76. B_T train position report (data flow) =

B_T_radio_message_header
+ 0{B_Tp_position_report}1
+ 0{B_Tp_position_report_based_on_two_balise_groups}1
+ 0{B_Tp_onboard_telephone_numbers}1
+ 0{B_Tp_error_reporting}1
+ 0{B_Tp_trn}1.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Train "Position report" radio message sent to the RBC, see SRS chapter 8, message ID 136

constituent of data/control flow: B_T_for_juridical_recording

77. B_T validated train characteristics (data flow) =

```
B_T_radio_message_header
+ 0{B_Tp_position_report}1
+ 0{B_Tp_position_report_based_on_two_balise_groups}1
+ B_Tp_validated_train_characteristics.

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : "Valid Train data" radio message sent to the RBC when the radio session is established, see SRS chapter 8, message ID 129
constituent of data/control flow: B_T_for_juridical_recording
```

78. B_Tp error reporting (data flow, pel) =

```
**.

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : error reporting radio message sent to the RBC
See SRS chapter 7, packet from train to track number 4
constituent of data/control flow: B_T_train_position_report
```

79. B_Tp level 2 3 transition information (data flow, pel) =

```
**.

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : See SRS chapter 7 (v2.3.0) packet from train to track number 9
```

80. B Tp onboard telephone numbers (data flow, pel) =

二

81. B Tp position report (data flow, pel) =

1

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : See SRS chapter 7, packet from train to track number 0

82. B To position report based on two balise groups (data flow, per) =

二
* *

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : See SRS chapter 7, packet from train to track number 1

83. B Trn (data flow- p1) =

二

— — — — —

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Train running number radio message sent to the RBC
See SRS chapter 7, packet from train to track number 5
constituent of data/control flow: B_T_train_position_report and B_T_som_position_report
```

84. B_Tp validated train characteristics (data flow, pel) =

**.

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : See SRS chapter 7, packet from train to track number 11
constituent of data/control flow: B_T_validated_train_characteristics
```

85. bg encountering direction (data flow, del) =

["NOMINAL" | "REVERSE" | "UNKNOWN"].

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : "NOMINAL" = received bg has been passed in nominal direction
                  "REVERSE" = received bg has been passed in reverse direction
                  "UNKNOWN" = encountering direction of received bg can not
                               be determined
description : encountering direction of received bg.
```

86. bg has been checked (store) =

**.

```
-----
rate      : N/A
range     : N/A
```

```
resolution      : N/A
units          : N/A
value names    : N/A
description    : indicates that the related balise group has been received or a reaction occurs on it.
```

87. bq inconsistency for juridical recording (data flow, pel) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : tells whether a message error, or a linking error has occurred.
```

88. big metal masses displayed (data flow, del) =

```
[ "NOT_DISPLAYED" | "DISPLAYED" ]
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : Defines if the big metal masses
                shall be displayed in the planning area.
```

89. brake action (data flow, del) =

```
[ "NONE" | "APPLY_SB" | "APPLY_EB" | "SYSTEM_FAILURE" ].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : indicates the brake action to take if the delay expires.
```

90. brake degraded status inconsistency (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates if there is an inconsistency in the brake degraded status received from TCMS and driver and which one.

91. brake delay class table (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Refer to Appendix A - Train Data Entry.

92. brake interface parameters to STM (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to packet STM-136 in "FFFIS STM Application Layer"

93. BTM alarm data (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A

value names : N/A
description : Refer to packet STM-47 FFFIS STM Application Layer.

94. BTM alarm status (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : status of the BTM alarm (active/inactive).

95. button event report (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to FFFIS STM Application Layer packet 34

96. carriage length (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : length of the engine used to compute the train length

97. ceiling speeds (store) =

**.

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Hold the different computed ceiling speeds (EBI,SBI,W,P)
```

98. change of orientation (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates whether the orientation has just changed
```

99. change of traction power displayed (data flow, del) =

```
[ "NOT_DISPLAYED" | "DISPLAYED" ]
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Defines if the change of traction power
shall be displayed in the planning area.
```

100. changing traction command (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates if the onboard commands the changing of traction.
```

101. circuit breaker open for change of traction power (data flow, del) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : TRUE = circuit breaker must be open when train
 passes "change traction power" location.
 FALSE = circuit breaker must not be open when
description : indicates whether the circuit breaker must be open or not when ...

102. circuit breaker open for powerless section (data flow, del) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : TRUE = circuit breaker must be open when train is
 in a "powerless section - switch off main power switch".
 FALSE = circuit breaker must not be open when
description : indicates whether the circuit breaker must be open or not when ...

103. circuit breaker open for powerless section pantograph (data flow, del) =

["FALSE" | "TRUE"]

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : TRUE = circuit breaker must be open when train is
 in a "powerless section - pantograph".
 FALSE = circuit breaker must not be open when
description : Indicates whether the circuit breaker must be open or not when the train passes a powerless section for pantograph

104. circuit breaker state (data flow, del) =

["CLOSED" | "OPEN" | "INFO_NOT_AVAILABLE" | "FAIL_STATE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Current state of the circuit breaker

105. coded B T radio messages (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :
Coded Bord to Track radio messages.
For radio messages : refer to SRS Class 1 v2.0.0, chapter 8.

106. coded T B radio messages (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :
Coded Track to Bord radio messages.
For radio messages : refer to SRS Class 1 v2.0.0, chapter 8.

107. coded telegram from eurobalise (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : telegram which is coded respect to eurobalise coding strategy.

108. coded telegram from euroloop (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : telegram which is coded respect to euroloop coding strategy.

109. coded telegram from STM (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : telegram which is coded respect to STM coding strategy.

110. coded telegram to STM (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A

```
units      : N/A
value names : N/A
description : telegram which is coded respect to STM coding strategy.
```

111. cold movement detector state (data flow, del) =

```
[ "COLD_MOVE_DETECTED" | "COLD_MOVE_NOT_DETECTED" | "INFO_NOT_AVAILABLE" | "FAIL_STATE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Current state of the cold movement detector
```

112. command air tightness (data flow) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : TRUE = air tightness inhibited
                           FALSE = air tightness permitted
description : Inhibition command for the "air tightness system"
```

113. command air tightness (data flow, del) =

```
[ "ON" | "OFF" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Command (on/off) of the air tightness system
```

114. command circuit breaker (data flow, del) =

```
[ "OPEN" | "CLOSE" ].
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Command (opening/closing) of the circuit breaker

115. command EB (data flow, del) =

["APPLY" | "DO_NOT_APPLY"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : application command of the emergency brake

116. command EB for test (data flow, del) =

["TRUE" | "FALSE"]

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the onboard commands the EB for test.

117. command EB not for test (data flow, del) =

["TRUE" | "FALSE"]

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the onboard commands the EB not for test.

118. command EB outputs (data flow, del) =

["NO_TEST" | "APPLY_EB_WITH_OUTPUT_EB1" | "RELEASE_EB_WITH_OUTPUT_EB1" | "APPLY_EB_WITH_OUTPUT_EB2" | "RELEASE_EB_WITH_OUTPUT_EB2"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : emergency brake outputs command for tests

119. command eddy current brake inhibition for EB (data flow) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : TRUE = Eddy current brake inhibited for the Emergency Brake,
 FALSE = Eddy current brake permitted for the Emergency Brake
description : Inhibition command for the "eddy current brake" when Emergency Brake commanded

120. command eddy current brake inhibition for SB (data flow, del) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : TRUE = Eddy current brake inhibited for the Service Brake,
 FALSE = Eddy current brake permitted for the Service Brake
description : Inhibition command for the "eddy current brake" when Service Brake commanded

121. command magnetic shoe brake inhibition (data flow, del) =

["TRUE" | "FALSE"].

rate : N/A

```
range      : N/A
resolution : N/A
units      : N/A
value names : TRUE = Magnetic shoe brake inhibited,
               FALSE = Magnetic shoe brake permitted
description : Inhibition command for the "Magnetic shoe brake"
```

122. command_pantograph (data flow, del) =

```
[ "RAISE_PANTOGRAPH" | "LOWER_PANTOGRAPH" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Command (lowering/raising) of the pantograph(s).
```

123. command_passenger_emergency_brake_inhibition (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : TRUE = Passenger emergency brake inhibited,
               FALSE = Passenger emergency brake permitted
description : Inhibition command for the "Passenger emergency brake"
```

124. command_regenerative_brake_inhibition (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : TRUE = Regenerative brake inhibited,
               FALSE = Regenerative brake permitted
```

description : Inhibition command for the "Regenerative brake"

125. command SB (data flow, del) =

["APPLY" | "DO_NOT_APPLY"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : application command of the service brake

126. command traction cut off (data flow, del) =

["CUT_TRACTION" | "DO_NOT_CUT_TRACTION"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Command (traction cut/not cut) of the traction engine

127. condition 15 is fulfilled (data flow, del) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Condition 15 (from SRS, chapter 4.6.3) is fulfilled

128. condition 34 is fulfilled (data flow, del) =

["TRUE" | "FALSE"].

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Condition 34 (from SRS, chapter 4.6.3) is fulfilled
```

129. condition 40 is fulfilled (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Condition 40 (from SRS, chapter 4.6.3) is fulfilled
```

130. condition 50 is fulfilled (data flow) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Condition 50 (from SRS, chapter 4.6.3) is fulfilled
```

131. condition 51 is fulfilled (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
```

```
units      : N/A
value names : N/A
description : Condition 51 (from SRS, chapter 4.6.3) is fulfilled
```

132. condition 59 is fulfilled (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Condition 59 (from SRS, chapter 4.6.3) is fulfilled
```

133. condition 5 is fulfilled (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Condition 5 (from SRS, chapter 4.6.3) is fulfilled
```

134. condition 60 is fulfilled (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
```

```
value names   : N/A
description   : Condition 60 (from SRS, chapter 4.6.3) is fulfilled
```

135. condition 61 is fulfilled (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : Condition 61 (from SRS, chapter 4.6.3) is fulfilled
```

136. condition 6 is fulfilled (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : Condition 6 (from SRS, chapter 4.6.3) is fulfilled
```

137. condition 70 is fulfilled (data flow) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
```

description : Condition 70 (from SRS, chapter 4.6.3) is fulfilled

138. condition 71 is fulfilled (data flow) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Condition 71 (from SRS, chapter 4.6.3) is fulfilled

139. condition 72 is fulfilled (data flow) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Condition 72 (from SRS, chapter 4.6.3) is fulfilled

140. condition 73 is fulfilled (data flow) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Condition 73 (from SRS, chapter 4.6.3) is fulfilled

141. condition 74 is fulfilled (data flow) =

```
[ "TRUE" | "FALSE" ].
```

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : Condition 74 (from SRS, chapter 4.6.3) is fulfilled
```

142. condition 8 is fulfilled (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : Condition 8 (from SRS, chapter 4.6.3) is fulfilled
```

143. config data to odo (data flow) =

```
**.
```

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : message sent at initialisation of the system to the odometry sub-system
```

144. config info for mgt in planning area (data flow) =

```
config_info_for_track_conditions_mgt_in_planning_area +  
gradient_profile_to_display_in_planning_area +  
tip_to_display_in_planning_area +  
speed_profile_to_display_on_planning_area.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Configuration info about the management of displays in the planning area

145. config info for track condition management (data flow) =

N{release_on_tail}N.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates, for each track conditions, if the display has to be stopped
when the min safe FRONT end or the min safe REAR end passes the border of the track conditions area

146. config info for track conditions mgt in planning area (data flow) =

16{track_condition_displayed}16
+ big_metal_masses_displayed
+ change_of_traction_power_displayed.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : configuration information for track conditions management in planning area.
The table {track_condition_displayed} are indexed with the values of
M_TRACKCOND variable;

147. config STM parameter info (data flow) =

```
0 {nid_STM} N +
0 {STM_name} N +
0 {STM_transmission_is_continuous} N +
0 {spec_max_time_for_an_STM_to_enter_an_ordered_state} N +
0 {spec_max_time_for_an_STM_to_enter_DA_state} N +
0 {spec_max_time_for_an_STM_to_send_a_data_request} N +
0 {STM_display_in_NL_authorised} N +
0 {STM_baseline} N +
0 {P16_FA_order_extend_appl_delay} N.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : List of possible STMs that can be connected to the trainborne

148. configuration data (store) =

```
train_configuration_data +
onboard_configuration_data +
maintenance_configuration_data.
```

full name :
description : configuration data

149. configuration request from STM (data flow) =

```
**.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Request a specific configuration for EVC

150. Connect confirm with KMC (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates that the connection has been confirmed between EVC and KMC

151. Connect request to KMC (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates if the request need the connection between EVC and KMC to update the KMD base.

152. cylinder brake pipe pressure (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : kpa
value names : N/A
description : Value of the SB cylinder brake pipe pressure.

153. D STMSYS (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A

value names : N/A
description :

154. data stored status (data flow, del) =

["UNKNOWN" | "INVALID" | "VALID"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : "UNKNOWN" = the status of the data stored is unknown
"INVALID" = the status of the data stored is invalid
"VALID" = the status of the data stored is valid
description : indicates the status of the data stored

155. deceleration class table (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Refer to Appendix A – Train Data Entry.

156. deceleration rate on brake models (store) =

["EB" | "EB_AND_SB"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates if the deceleration rate factor computed from number of bogies cut out entered by the driver shall apply to the EB or both the EB and the SB

157. decoded telegram from STM (data flow) =

```
header_of_telegram_from_STM +
0 {update_buttons} N +
0 {update_indicator} N +
0 {text_message} N +
0 {delete_text_message} N +
0 {sound_command} N +
0 {diagnostic_message} N +
0 {STM_emergency_and_service_brake_command_to_train_interface} 1 +
0 {STM_additional_train_control_command_to_train_interface} 1 +
0 {STM_emergency_and_service_brake_command_train_interface_to_JRU} 1 +
0 {STM_national_tracksidetion_information_from_STM_to_JRU} N +
0 {STM_MMI_information_to_JRU} N +
0 {STM_MMI_confirmation_for_additional_data_entry_to_JRU} N +
0 {STM_request_for_additional_data_entry} N +
0 {STM_confirmation_for_additional_data_entry} N +
0 {STM_state_report} 1 +
0 {STM_override_activation} 1 +
0 {STM_max_speed} 1 +
0 {STM_system_speed} 1 +
0 {STM_manager_data} 1 +
0 {STM_state_request} 1 +
0 {STM_trip_info} 1 +
0 {specific_STM_data_need} 1 +
0 {specific_STM_data_entry_request} 1 +
0 {end_of_specific_STM_data_entry} 1 +
0 {specific_STM_data_view_values} 1 +
0 {STM_test_request} 1.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Resulting telegram from the STMs, ouptut of the decoding function

158. decoding_error (data flow, del) =

["TRUE" | "FALSE"] .

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates if a message cannot be decoded
```

159. default gradient for TSR (store, pel) =

```
**.

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : stored default gradient for temporary speed restrictions
(See SRS chapter7, packet from track to train number 141)
```

160. default values (data flow, pel) =

```
**.

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Default values (as defined in "Subset-026")
```

161. delay close circuit breaker (data flow, cel) =

```
**.

-----
rate      : N/A
range     : 0..255;
resolution : 1;
units      : s;
value names : N/A
description : time taken by the circuit breaker to close itself
```

162. delay cut off (data flow, pel) =

**.

rate : N/A
range : 0..25.5;
resolution : 0.1;
units : s;
value names : N/A
description : Delay to have the traction cut when traction cut off is commanded.

163. delay display geogr pos (data flow, pel) =

**.

rate : N/A
range : 0..1023
resolution : 1
units : s
value names : N/A
description : indicates how long the train geographical position information shall be displayed to the driver before being removed.

164. delay for network registration during data entry (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : timer delay to exit network registration during data entry (if mobile can not register)

165. delay icon no connection (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A

```
units      : N/A
value names : N/A
description : indicates how long the icon "no_connection" shall be displayed before being removed.
```

166. delay lower panto (data flow, cel) =

```
**.
```

```
-----
rate      : N/A
range     : 0..255;
resolution : 1;
units      : s;
value names : N/A
description : time taken by the pantograph to lower
```

167. delay open circuit breaker (data flow, cel) =

```
**.
```

```
-----
rate      : N/A
range     : 0..255;
resolution : 1;
units      : s;
value names : N/A
description : time taken by the circuit breaker to open itself;
```

168. delay raise panto (data flow, cel) =

```
**.
```

```
-----
rate      : N/A
range     : 0..255;
resolution : 1;
units      : s;
value names : N/A
description : time taken by the pantograph to raise
```

169. delay to declare illicit power (data flow, pel) =

```
**.
```

rate : N/A
range : 0..25.5
resolution : 0.1
units : s
value names : N/A
description : delay used for the pneumatic insertion monitoring.

170. delete text message (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to FFFIS STM Application Layer packet 39

171. desks state (data flow, del) =

["DESK_A_OPEN" | "DESK_B_OPEN" | "NO_DESK_OPEN" | "DESK_A_&_B_OPEN" | "INFO_NOT_AVAILABLE" | "FAIL_STATE"] .

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Current stat of the desk (or cab)

172. diagnostic message (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A

value names : N/A
description : refer to FFFIS STM Application Layer packet 77.

173. direction controller state (data flow, del) =

["FORWARD" | "REVERSE" | "NEUTRAL" | "INFO_NOT_AVAILABLE" | "FAIL_STATE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Current state of the direction controller

174. Disconnect confirm from KMC (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates that the disconnection has been confirmed between EVC and KMC

175. display ack request (data flow, del) =

["request_SR_ack" | "request_OS_ack" | "request_UN_ack" | "request_RV_ack" | "request_SH_ack" | "request_TRIP_ack" | "request_TRACK_AHEAD_FREE_ack" | "request_TEXT_MESSAGE_ackn" | "request_BRAKE_COMMAND_RELEASE_ack" | "request_OVERRIDE_ROUTE_UNSUITABILITY_ack" | "request_LEVEL_TRANSITION_ack" | "request_STM_ack" | "request_default_nat_values_used_ack" | "request_ZUB_not_active_ack" | "request_LS_ack"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates the requests for acknowledgement that have to be displayed to the driver

176. display acquisition of train data required (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Acquisition of train data button displayed to driver.

177. display action (data flow, pel) =

fixed_text_info.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Defines a fixed text to be display in case of IO monitoring error detected.

178. display adhesion factor for modification (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :

179. display confirmation request for specific STM data entry (data flow, pel) =

**.

rate : N/A
range : N/A

```
resolution      : N/A
units          : N/A
value names    : N/A
description    : Entered data to be confirmed by driver
```

180. display continue without radio session confirmation (data flow, pel) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : Request sent to the driver to ask him if he wants to continue the start of mission without session or not.
```

181. display default nat value used (data flow) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : Informs the default national values are now in use.
```

182. display driver id for modification (data flow, pel) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : modifiable driver identification to display to driver
```

183. display driver id predefined value (data flow) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the predefined value of the driver id (e.g.last one) shall be presented to the driver or not.

184. display EB test required (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates that the EB test has to be executed

185. display emergency brake command (data flow, del) =

["EB_NOT_COMMANDED" | "EB_COMMANDED_AND_RELEASE_IMPOSSIBLE" | "EB_COMMANDED_AND_RELEASE_POSSIBLE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : emergency brake state and availability to be displayed.

186. display entry in FS OS (data flow, del) =

["ENTRY_IN_FS" | "ENTRY_IN_OS" | "no_display"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A

description : display of the fixed text messages "Entry in FS" and "Entry in OS" when entering in FS/OS with MA, SSP and gradient info not available for the whole length of the train

187. display geographical position (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :

Displayed geographical position. It can be :

- a "track kilometer" indication
- a "track kilometer reference" indication, and the distance between this kilometer reference and the estimated train front end.

188. display hidden text message selector (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :

possibility for the driver to select a hidden text message.

189. display intervention speed (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : intervention speed value, to be displayed to the driver

190. display level for modification (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : levels that can be selected by the driver, and that are displayed to him

191. display LX (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Informs the driver that a level crossing is supervised

192. display maintenance parameters to enter (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates that maintenance parameters have to be entered

193. display missed balise in bg (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A

```
units      : N/A
value names : N/A
description : Balise detected as missed in a BG displayed to the driver
```

194. display network registration failure (data flow) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates to the driver that a network registration failure occurred (because of related timer expiration)
```

195. display new nat values used (data flow) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Informs the newly received national values are now in use
```

196. display onboard elements status (data flow, del) =

```
[ "OK" | "WARNING" | "DEFECT" | "NOT OK" | "NOT APPLICABLE" ]
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : display the status of the different elements part of the onboard equipment to the driver.
```

197. display override is possible (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : info displayed to driver to inform him that he can select Override.

198. display overspeed (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : information sent to the driver to inform him the train is currently in overspeed.

199. display permitted speed (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : permitted speed value, to be displayed to the driver.

200. display radio connection state (data flow, del) =

["NO_DISPLAY" | "NO_CONNECTION" | "CALL_PROCEEDING" | "CONNECTION_ESTABLISHED"].

rate : N/A
range : N/A
resolution : N/A
units : N/A

```
value names   : N/A
description   : State of the radio connection to display
```

201. display RBC data for modification (data flow, pel) =

```
**.

-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: display of a RBC data modification request
```

202. display red flag (data flow) =

```
**.

-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: Informs the driver that the SIL2 mechanism is in default.
```

203. display release speed (data flow, pel) =

```
**.

-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: release speed value, to be displayed to the driver.
```

204. display repositioning inconsistency (data flow) =

```
**.

-----
```

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : BG repositioning inconsistency detected displayed to the driver
```

205. display route suitability data (data flow, pel) =

**.

```
-----  
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : route suitability information to display to driver
```

206. display SB applied until cab closure (data flow) =

**.

```
-----  
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Informs that service brakes have been applied and will be until the cabin is closed at standstill..
```

207. display service brake command (data flow, del) =

["SB_NOT_COMMANDED" | "SB_COMMANDED_AND_RELEASE_IMPOSSIBLE" | "SB_COMMANDED_AND_RELEASE_POSSIBLE"].

```
-----  
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : service brake command and availability to be displayed to the driver.
```

208. display speedometer in closed desk (data flow) =

["FUNCTION_IS_OFF" | "FUNCTION_IS_ON"].

full_name : ;
rate : N/A;
range : N/A;
resolution : N/A;
units : N/A;
value_names : N/A;
component_of : N/A;
description : indicates if the function that displays the train speed in the non active cabin is active or not.

209. display start request (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : start of mission request to display to driver

210. display STM request for specific STM data entry (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : specific STM data entry asked by one STM, to be displayed to the driver

211. display target distance (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : target distance value, to be displayed to the driver.

212. display target speed (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : target speed value, to be displayed to the driver.

213. display track conditions (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :
All track conditions stored onboard, to display to the driver.

214. display train data for modification (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : train data for modification to display to driver

215. display train running number for modification (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : modifiable train running number to display to driver

216. dist desk antenna (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :
- distance between antenna 1 and desk A
- distance between antenna 1 and desk B (if relevant)
- distance between antenna 2 and desk A
- distance between antenna 2 and desk B (if relevant).

217. DMI SIL2 speed display (store) =

["FUNCTION_IS_OFF" | "FUNCTION_IS_ON"].

full_name : ;
rate : N/A;
range : N/A;
resolution : N/A;
units : N/A;
value_names : N/A;
component_of : N/A;
description : indicates if the function that SIL2 speed display is active or not (mastered by the DMI). This function implies a DMI hardware specific architecture

218. doors control data (data flow) =

**.

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : Information sent to the doors control function.
```

219. doppler coeff A (data flow) =

**.

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : Calibration coefficient for the doppler A measurement. There is a flag that indicates if this value shall be taken into account or not.
```

220. doppler coeff B (data flow) =

**.

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : Calibration coefficient for the doppler B measurement. There is a flag that indicates if this value shall be taken into account or not.
```

221. driver acknowledgement (data flow, del) =

["ack_SR" | "ack_OS" | "ack_UN" | "ack_RV" | "ack_SH" | "ack_TRIP" | "ack_TRACK_AHEAD_FREE" | "ack_TEXT_MESSAGE" |

```
"ack_BRAKE_COMMAND_RELEASE" | "ack_OVERRIDE_ROUTE_UNSUITABILITY" | "ack_START_MISSION" | "ack_LEVEL_TRANSITION" | "ack_STM"] .
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Driver acknowledgement

222. driver changes adhesion factor (data flow, del) =

```
["SLIPPERY" | "NOT_SLIPPERY"] .
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS Class 1 v2.0.0, chapter 3.18.4.6.

223. driver confirmation continue without radio session (data flow, del) =

```
["YES" | "NO"] .
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates whether the driver wants or not to continue the start of mission without communication session.

224. driver confirmation of specific STM data entry (data flow, pel) =

```
**.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A

value names : N/A
description : refer to "FFFIS STM Application Layer"

225. driver enters driver id (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : driver ID entered by driver

226. driver enters level (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : level entered by driver

227. driver enters RBC data (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : RBC ID and phone number entered by driver

228. driver enters SR data (data flow, pel) =

**.

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : entered data about SR supervision :
- distance to run in SR mode
- permitted speed for SR mode
```

229. driver enters train data (data flow, pel) =

**.

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : train data entered by driver
```

230. driver enters train running number (data flow, pel) =

**.

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : train running number entered by driver
```

231. driver entry for specific STM data (data flow, pel) =

**.

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : refer to "FFFIS STM Application Layer"
```

232. driver id (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :
driver identification number (alphanumeric) and status of this data : ["valid"|"invalid"|"unknown"] .

233. driver id screen skipped (data flow) =

["TRUE" | "FALSE"] .

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the driver id screen shall be skipped during SOM or not.

234. driver interface data (data flow) =

speed_dial_type +
config_info_for_mgt_in_planning_area.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : data about the interface with the driver

235. driver non leading request (data flow, del) =

["TRUE" | "FALSE"] .

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates if driver has selected NL mode at start of mission
```

236. driver request display of geographical position (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Indicates if the driver has requested the display of the geographical position
```

237. driver request display of onboard elements status (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates if the driver has requested the
display of the onboard elements status.
```

238. driver request display of target information (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
```

value names : N/A
description : indicates if the driver has requested the display of target information (in OS mode)

239. driver select change level (data flow, del) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the driver has requested a change of level

240. driver select display failure (data flow, del) =

["FALSE" | "TRUE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Used by driver to indicate that he/she has detected a display failure.

241. driver select DMI close key (data flow, del) =

["FALSE" | "TRUE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the driver has selected the close key of the DMI.

242. driver select EVC EB test (data flow, del) =

["FALSE" | "TRUE"].

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates if the driver has requested EB tests
```

243. driver select exit non leading (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates if the driver has selected the exit from NL mode
```

244. driver select exit shunting (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates if the driver has selected the exit from SH mode
```

245. driver select maintenance status (data flow) =

```
[ "FALSE" | "TRUE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
```

value names : N/A
description : indicates if the driver has requested to see the maintenance status of the different parts of the EVC.

246. driver select NAT equipment X test (data flow) =

["FALSE" | "TRUE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the driver has requested the daily test of the national equipment X.

247. driver select override (data flow, del) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the driver has selected the "override" button

248. driver select start (data flow, del) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the driver has selected the "start" button

249. driver select test result (data flow) =

["OK" | "NOK"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates the result entered by the driver for the daily test of an ATP.

250. driver select train data acquisition (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates if the driver has selected "train data acquisition" during start of mission

251. driver select train data entry (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the driver has selected "train data entry" at start of mission

252. driver select train data set (data flow, pel) =

**.

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : One of the possible way for the driver to enter
train data is to select the ID of a predefined train data set.
```

253. driver selection for specific STM data entry to STM (data flow, pel) =

**.

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : refer FFFIS STM Application Layer packet 180
```

254. driver shunting request (data flow, del) =

["TRUE" | "FALSE"].

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates if the driver has selected SH button
```

255. driver STM selection (data flow, pel) =

**.

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : STM selected by driver
```

256. driver validates driver id (data flow, pel) =

**.

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : driver ID validated by driver
```

257. driver validates level (data flow, pel) =

**.

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : level validated by driver
```

258. driver validates RBC data (data flow, pel) =

**.

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : RBC ID and phone number validated by driver
```

259. driver validates train data (data flow, pel) =

**.

```
-----  
rate      : N/A  
range     : N/A
```

```
resolution      : N/A
units          : N/A
value names    : N/A
description    : train data validated by driver
```

260. driver validates train running number (data flow, pel) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : train running number validated by driver
```

261. DV_RS (data flow, pel) =

```
**.
```

```
-----
rate          : N/A
range         : 0..50
resolution    : 0.1
units          : km/h
value names   : N/A
description   : DV_RS is used for calculation of W ceiling speed in release speed section.
initialisation value : 5.0/3.6 (i.e. 5.0 m/s)
```

262. dynamic retro compatibility data (data flow) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : Information sent to the dynamic retro compatibility function.
```

263. dynamic retro data (data flow) =

```
specific_comm_session_validity_delay
+ specific_d_metal_in_level_0
+ specific_no_rel_speed_at_ma_sec_timeout
+ network_id
+ specific_reset_t_nvcontact_at_RBC_border

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description : hold the dynamic retrocompatibility data necessary for other functions
```

264. EB application monitoring timer (data flow, pel) =

```
**.

-----
rate      : N/A
range     : 0..255
resolution : 1
units      : s
value names: N/A
description : Timer for the monitoring of the emergency brake application
```

265. EB deceleration model (data flow) =

```
A_brake_emergency
+ M_NVEBCL{kdry_RST}M_NVEBCL
+ kwet_RST.

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description : EB Deceleration model (given for each
```

266. EB deceleration models (store) =

```
1{EB_deceleration_model}16.

-----
full name      :
description   : set of EB deceleration model retrieved from the data preparation.
In case of flexible data entry, only one EB deceleration model is selected.
Otherwise, an EB deceleration model is selected for each combinaison of the special brakes status.
```

267. EB delay model (store) =

```
T_be

-----
full name      :
description   : applicable model EB delay
```

268. EB release monitoring timer (data flow, pel) =

```
**.

-----
rate          : N/A
range         : 0..255
resolution    : 1
units         : s
value names   : N/A
description   : Timer for the monitoring of the emergency brake release
```

269. EB request (data flow, del) =

```
[ "EB_REQUESTED" | "EB_NOT_REQUESTED" ].

-----
rate          : N/A
range         : N/A
resolution    : N/A
units         : N/A
value names   : N/A
description   : indicates if the emergency brake application is requested (due to RMP, RAP, Standstill supervision)
```

270. EB request for distance supervision (data flow) =

```
[ "FALSE" | "TRUE" ].
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the emergency brake application is requested for distance supervision purposes.

271. EB request for IOs monitoring (data flow, del) =

["EB_REQUESTED" | "EB_NOT_REQUESTED"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the EB application is requested for IO monitoring

272. EB request for isolation (data flow) =

["EB_REQUESTED" | "EB_NOT_REQUESTED"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the emergency brake application is requested due to EVC isolated

273. EB request for maintenance parameters needed (data flow) =

["EB_REQUESTED" | "EB_NOT_REQUESTED"].

rate : N/A

```
range      : N/A
resolution : N/A
units      : N/A
value names: N/A
description: indicates if the emergency brake application is requested due to missing maintenance parameters values
```

274. EB request for SF (data flow) =

```
[ "EB_REQUESTED" | "EB_NOT_REQUESTED" ].
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: indicates if the emergency brake application is requested due to System Failure
```

275. EB request for speed supervision (data flow) =

```
[ "EB_REQUESTED" | "EB_NOT_REQUESTED" ].
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: indicates if the emergency brake application is requested for speed supervision purposes.
```

276. EB request for STM State control (data flow) =

```
[ "EB_REQUESTED" | "EB_NOT_REQUESTED" ].
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: indicates if the emergency brake application is requested by the STM State control function
```

277. EB request for STM trip (data flow) =

["EB_REQUESTED" | "EB_NOT_REQUESTED"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the emergency brake application is requested due to STM trip national function

278. EB request for text ack (data flow) =

["EB_REQUESTED" | "EB_NOT_REQUESTED"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the emergency brake application is requested due to a not acknowledged text message

279. EB request for trip (data flow, del) =

["EB_REQUESTED" | "EB_NOT_REQUESTED"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the Eb application is requested due to the trip of the train

280. EB state (data flow, del) =

["EB_NOT_APPLIED" | "EB_APPLIED" | "INFO_NOT_AVAILABLE" | "FAIL_STATE"].

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Current state of the emergency brake
```

281. EB sw cmd (data flow) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : EB software command (different than the ones of the SIR card)
```

282. EB sw cmd test result (data flow) =

```
["NOT_OK" | "OK"] .
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Result of the EB sw cmd test
```

283. EB test activation (data flow, del) =

```
["AT_POWER_UP_ONLY" | "ON_DRIVER_REQUEST_ONLY" | "AT_POWER_UP_OR_ON_DRIVER_REQUEST"] .
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates when the EB tests can be activated
```

284. EB test info (data flow) =

```
EB_test_activation +
text_display_if_partially_failed.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value_names : N/A
description : Information about the EB tests
```

285. EBDs (store) =

```
**.
-----
full name   :
description : Computed EBD dynamic curves
```

286. emergency stop id (store, pel) =

```
**.
-----
full name   :
description : identity of all emergency stop messages that have been accepted by
the onboard to stop the train.
```

287. enable specific stm kvb mgmt (data flow) =

```
["FUNCTION_IS_OFF" | "FUNCTION_IS_ON"].
```

```
-----
full_name   : ;
rate        : N/A;
range       : N/A;
resolution  : N/A;
units       : N/A;
value_names : N/A;
component_of : N/A;
description  : indicates if the specific management of the STM KVB is active or not;
```

288. end of specific STM data entry (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to packet STM-179 in "FFFIS STM Application Layer"

289. engine length (data flow, pel) =

**.

rate : N/A
range : 0..4095
resolution : 0.01
units : m
value names : N/A
description : length of the engine.

290. enter to LS mode (data flow) =

condition_70_is_fulfilled
+ condition_71_is_fulfilled
+ condition_72_is_fulfilled
+ condition_74_is_fulfilled.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Conditions to enter LS mode

291. enter to OS mode (data flow) =

condition_40_is_fulfilled

```
+ condition_15_is_fulfilled
+ condition_34_is_fulfilled
+ condition_73_is_fulfilled.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description: Conditions to enter OS mode
```

292. enter to SH mode (data flow) =

```
condition_5_is_fulfilled
+ condition_6_is_fulfilled
+ condition_50_is_fulfilled
+ condition_51_is_fulfilled
+ condition_61_is_fulfilled.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description: conditions to enter SH mode
```

293. EOLM info (data flow) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description: Identify the packet who announces a loop
```

294. EOLM infos (store) =

```
**.
```

full name :
description : Providing of the SS-code number to the S21 module

295. EOLM infos validated by CMD (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Information about the end of loop marker validated by the cold movement detector.

296. estimated covered distance from last reference (data flow, cel) =

**

rate : Available continuously since the power-on of the equipment.
range : -20 000 000.0 .. 20 000 000.0
resolution : 0.01
units : m
value names : N/A
description : Estimated value of the covered distance measurement from the last reference.

297. estimated train front end location (data flow, cel) =

**

rate : Continuously available since the power-on of the equipment.
range : -15 000 000.0 .. 15 000 000.0
resolution : 0.01
units : m
value names : N/A
description : Estimated location of the train front end in relation to the location reference of the trakside information.

298. EVC connected to SB (data flow, del) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the EVC is connected or not to a Service Brake.

299. EVC delay (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Delay for the EVC to detect a dynamic curves has been crossed (before application of brake or TCO)

300. EVC EB test active (store) =

["ACTIVE" | "NON_ACTIVE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates that the EB test is running

301. EVC EB test result (data flow, del) =

["NOT_OK" | "PARTIALLY_FAILED" | "OK" | "ABORTED" | "IRRELEVANT"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A

description : Result of the EB test

302. EVC override status (store, del) =

["OVERRIDE_ON" | "OVERRIDE_OFF"]

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates whether the override is active

303. EVC override status to STM (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to packet STM-7 in "FFFIS STM Application Layer"

304. EVC SIL2 speed display (store) =

["FUNCTION_IS_OFF" | "FUNCTION_IS_ON"].

full_name : ;
rate : N/A;
range : N/A;
resolution : N/A;
units : N/A;
value_names : N/A;
component_of : N/A;
description : indicates if the function that SIL2 speed display is active or not (mastered by the EVC).

305. EVC status (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to packet STM-5 in "FFFIS STM Application Layer"

306. EVC validity delay function (data flow) =

0 {EVC_validity_is_present} 1 +
0 {n_of_hours_of_EVC_reset_request_anticipation} 1 +
0 {n_of_hours_of_EVC_validity} 1 +
TCO_application_for_EVC_reset

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : parameters of the function allowing to reset the onboard equipment after a certain delay.

307. EVC validity is present (data flow, del) =

["TRUE" | "FALSE"]

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : "TRUE": the function that detects when the onboard equipment has to be reseted and sends indications to the driver is activated.
"FALSE": the function is not activated.

308. failure request (data flow, del) =

["FALSE" | "TRUE"].

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description: Indicates whether a FA state order has to be sent to a STM
in case this STM has performed a not allowed action
```

309. fixed data set selection table (data flow) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description: Table that selects the index of a fixed train data set according to several parameters (train configuration, brake degraded status, eurokvb configuration).
```

310. fixed text info (store, pel) =

```
**.
```

```
-----
full name   :
description  :
information about fixed text messages to be displayed to driver.
```

311. fixed texts list (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description: List of all fixed text messages.
```

312. fixed values (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : fixed values (as defined in "Subset-026")

313. force level entry during SOM (data flow) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A

314. description : indicates if the entry of level during SOM shall forced in all the cases (stored level is valid, ...)or not.

315. function activate basic speed hook (data flow) =

["FUNCTION_IS_OFF" | "FUNCTION_IS_ON"].

full_name : ;
rate : N/A;
range : N/A;
resolution : N/A;
units : N/A;
value_names : N/A;
component_of : N/A;
description : indicates if the ERA basic speed hooks are activated (implies the CSG only displayed in FS) or not

316. function display missed balise in bg (data flow) =

["FUNCTION_IS_OFF" | "FUNCTION_IS_ON"].

full_name : ;
rate : N/A;

```
range      :      N/A;
resolution :      N/A;
units      :      N/A;
value_names:      N/A;
component_of:      N/A;
description : indicates if the function allowing to detect (text msg to driver) a missed balise in a BG is active or not;
```

317. function monitor pneumatic insertion (data flow, del) =

```
[ "FUNCTION_IS_OFF" | "FUNCTION_IS_ON" ].
```

```
-----
full_name   :      ;
rate         :      N/A;
range        :      N/A;
resolution   :      N/A;
units        :      N/A;
value_names  :      N/A;
component_of :      N/A;
description  : indicates if the function "monitor pneumatic insertion" is active or not;
```

318. function report missed balise in bg (data flow) =

```
[ "FUNCTION_IS_OFF" | "FUNCTION_IS_ON" ].
```

```
-----
full_name   :      ;
rate         :      N/A;
range        :      N/A;
resolution   :      N/A;
units        :      N/A;
value_names  :      N/A;
component_of :      N/A;
description  : indicates if the function that reports a missed balise in a BG to the RBC is active or not
```

319. function train speed above 3km h (data flow, del) =

```
[ "FUNCTION_IS_OFF" | "FUNCTION_IS_ON" ].
```

full_name : ;
rate : N/A;
range : N/A;
resolution : N/A;
units : N/A;
value_names : N/A;
component_of : N/A;
description : indicates if the function "speed threshold" is active or not;

320. function train tracer (store) =

["FUNCTION_IS_OFF" | "FUNCTION_IS_ON"].

full_name : ;
rate : N/A;
range : N/A;
resolution : N/A;
units : N/A;
value_names : N/A;
component_of : N/A;
description : indicates if the function "train tracer" is active or not;

321. G (data flow, pel) =

**.

rate : N/A
range : 9..10;
resolution : 0.01;
units : m/s^2
value names : N/A
initialisation : 9.81;
description : Gravity constant;

322. General header from ETCS to STM (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Refer to FFFIS STM Application Layer : chapter about "Telegram Header".

323. General header from STM to ETCS (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Refer to FFFIS STM Application Layer : chapter about "Telegram Header".

324. General header from STM to JRU (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Refer to FFFIS STM Application Layer : chapter about "Telegram Header".

325. geographical position info (store, pel) =

**.

full name :
description :
geographical position information.

326. go to sleeping (data flow, del) =

["GO_TO_SLEEPING" | "DO_NOT_GO_TO_SLEEPING"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the EVC requests the other EVC to go to SL mode

327. gradient (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : trackside gradient value (recieevd of default TSR one)

328. gradient profile to display in planning area (data flow, del) =

["NOT_DISPLAYED" | "DISPLAYED"]

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Defines if the gradient profile shall be displayed in the planning area.

329. GUIs (store) =

**.

full name :
description : Computed Guidance dynamic Curves

330. header_of_telemgram_from_STM (data flow) =

```
0 {STM_control_connection_from_STM_to_ETCS} 1 +
0 {General_header_from_STM_to_ETCS} 1 +
0 {General_header_from_STM_to_JRU} 1.

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : header of a telegram coming from STM destinated to ETCS or JRU
```

331. header_of_telemgram_to_STM (data flow) =

```
0 {STM_control_connection_from_ETCS_to_STM_National} 1 +
0 {General_header_from_ETCS_to_STM} 1.

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : header of a telegram sent to STM, from ETCS
```

332. hook_location (data flow) =

```
**.

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates the hook location on the speed bargraph in case of release speed (either at V_perm or at V_release)
```

333. hw_and_sw_versions (data flow) =

```
**.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Holds the HW and SW version numbers.

334. hysteresis for speed threshold (data flow, del) =

**.

full_name : ;
rate : N/A;
range : 0..0.255;
resolution : 0.001;
units : m/s;
value_names : N/A;
component_of : N/A;
description : Hysteresis used to detect when train speed is higher than 3 km/h;

335. INAT antenna inhibit read back state (data flow, del) =

["NOT INHIBITED" | "INHIBITED"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : transmission to the INAT function of the re-reading of the
antenna inhibition of the national equipment. See paragraph 4.2.2.3.3 of doc ref/28/, input = "Read back of inhibition antenna".

336. INAT antenna inhibition command (data flow, del) =

["NOT INHIBIT" | "INHIBIT"].

rate : N/A
range : N/A
resolution : N/A
units : N/A

value names : N/A
description : command received from the INAT function, to inhibit the antenna of a national equipment.
See paragraph 4.2.2.3.2 of doc ref/28/, output = "inhibition antenna".

337. INAT antenna inhibition is used (data flow, del) =

["TRUE" | "FALSE"]

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indication if the inhibition of the antenna is used or not for the national equipment.

338. INAT command (data flow) =

1{NID STM INAT}8
+1{INAT STM activation command}8
+1{INAT STM pulse activation command}8
+1{INAT STM pulse deactivation command}8
+1{INAT EB inhibition command}8
+1{INAT antenna inhibition command}8
+ INAT_portA_activation_command
+ INAT_portB_activation_command
+1{Q_OVREOA_STATUS}8
+1{NID STM STATE ORDER}8

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : commands received from the National Interface fonction,
and related to national equipments interfaced with this function.

339. INAT data (data flow) =

INAT_monitoring_timer
+ INAT_state_actions_table
+ INAT_EB_inhibition_is_used

```
+ INAT_antenna_inhibition_is_used
+ INAT_EB_inhibition_delay
+ INAT_vitality_add_delay_for_EB_release
+ INAT_monitoring_timer

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : onboard parameters related to the INAT function.
```

340. INAT EB inhibit read back state (data flow, del) =

```
[ "NOT INHIBITED" | "INHIBITED" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Transmission to the INAT function of the re-reading of the EB inhibition
               state of the national equipment. See paragraph 4.2.2.3.3 of doc ref/28/, input = "Read back of inhibition EB".
```

341. INAT EB inhibition command (data flow, del) =

```
[ "NOT INHIBIT" | "INHIBIT" ]
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : command received from the INAt function, to inhibit the Emergency Brake of a national equipment.
               See paragraph 4.2.2.3.2 of doc ref/28/, output = "inhibition EB".
```

342. INAT EB inhibition delay (data flow, pel) =

```
**.
```

```
-----
```

```
rate      : N/A
range     : 0..2e31 -1
resolution : 1
units      : ms
value names: N/A
description: Delay to wait before inhibiting the EB of the national equipment
when this equipment fails.
```

343. INAT EB inhibition is used (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description: Indication if the inhibition of the Eb is used or not for the national equipment.
```

344. INAT EB request state (data flow, del) =

```
[ "APPLIED" | "NOT APPLIED" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description: Transmission to the INAT function of the state
of the Emergency Brake of the national equipment.See paragraph 4.2.2.3.3 of doc ref/28/, input = "EB request".
```

345. INAT monitoring command (data flow, del) =

```
[ "NOT ACTIVATED" | "ACTIVATED" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description: activates or not the monitoring of the I/O related to the INAT function.
```

346. INAT monitoring read back (data flow, del) =

["FAILED" | "SUCCEED"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates the result of the I/O monitoring related to the INAT function.

347. INAT monitoring result (data flow, del) =

1{NID_STM_INAT}8
+ 1{INAT_monitoring_read_back}8

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Transmission to the INAt function of the result of the dynamic monitoring.

348. INAT monitoring timer (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : If the readback of the monitoring is correct before the expiration of this timer, the monitoring shall be considered as successful.

349. INAT portA activation command (data flow) =

["NOT ACTIVATE" | "ACTIVATE"].

rate : N/A
range : N/A

```
resolution      : N/A
units          : N/A
value names    : N/A
description    : This command cut off the 24V that supplies TIU inputs used to know the state(s) of the National equipment(s) considered as STM(s).
This commands is common to all STM(s) on INAT.
```

350. INAT_portB activation command (data flow) =

```
[ "NOT ACTIVATE" | "ACTIVATE" ].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : This command cut off the 24V that supplies TIU inputs used to know the state(s) of the National equipment(s) considered as STM(s).
This commands is common to all STM(s) on INAT.
```

351. INAT state actions table (data flow, pel) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : table indicating the actions to be done on the national equipment activation,
antenna inhibition and EB inhibition depending on the state of this national equipment.
```

352. INAT status (data flow) =

```
1{NID_STM_INAT}8
+1{STM_INAT_state}8
+1{INAT_EB_inhibit_read_back_state}8
+1{INAT_antenna_inhibit_read_back_state}8
+1{STM_INAT_AVAILABLE}8
+1{INAT_EB_request_state}8
+1{RESET_ATP}8
+1{STM_present}8
```

+1{STM_OVERRIDE_ACTIVATION}8
+1{V_STMMAX}8
+1{V_STMSYS}8
+1{D_STMSYS}8
+1{NID_STMSTATEREQUEST}8
+1{NID_STMSTATE}8

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Status of the national equipment interfacing with the National Interface function.

353. INAT STM activation command (data flow, del) =

["NOT ACTIVATE" | "ACTIVATE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : command received from the INAT function,to activate a national equipment. See paragraph 4.2.2.3.2 of doc ref/28/, output = "activation".

354. INAT STM pulse activation command (data flow) =

["NOT ACTIVATE" | "ACTIVATE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : command received from the INAT function,to activate a national equipment. See paragraph 4.2.2.3.2 of doc ref/28/, output = "activation".
This activation of the national equipment has been made to follow the Emmerich protocol : this activation is reset after a configurable duration.

355. INAT STM pulse deactivation command (data flow) =

["NOT ACTIVATE" | "ACTIVATE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : command received from the INAT function,to deactivate a national equipment. See paragraph 4.2.2.3.2 of doc ref/28/, output = "deactivation".
This deactivation of the national equipment has been made to follow the Emmerich protocol : this deactivation is reset after a configurable duration.

356. INAT vitality add delay for EB release (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : s
value names : N/A
description : delay after which the vitality of a national equipment managed by the INAT function is checked, in case this national equipment is requesting the brakes application when leaving its supervision area.

357. indicators status for juridical recording (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : status for indicators relative to output information (ERA_ERTMS_015560 table13)

358. info for maintenance (data flow, pel) =

**.

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description: usefull information for trainborne maintenance
```

359. info from driver (data flow) =

```
driver_enters_SR_data
+ driver_select_EVC_EB_test
+ driver_select_change_level
+ driver_shunting_request
+ driver_select_exit_shunting
+ driver_non_leading_request
+ driver_select_exit_non_leading
+ driver_select_override
+ driver_select_train_data_entry
+ driver_select_train_data_acquisition
+ driver_select_start
+ driver_STM_selection
+ driver_acknowledgement
+ driver_request_display_of_target_information
+ driver_request_display_of_geographical_position
+ driver_enters_driver_id
+ driver_validates_driver_id
+ driver_enters_level
+ driver_validates_level
+ driver_enters_RBC_data
+ driver_validates_RBC_data
+ driver_enters_train_data
+ driver_validates_train_data
+ driver_enters_train_running_number
+ driver_validates_train_running_number
+ driver_changes_adhesion_factor
+ selected_language
+ selected_hidden_text_message
+ driver_confirmation_of_specific_STM_data_entry
+ driver_confirmation_continue_without_radio_session
+ driver_select_display_failure
+ driver_select_train_data_set
+ driver_entry_for_specific_STM_data
+ driver_request_display_of_onboard_elements_status
+ driver_select_DMI_close_key
+ driver_select_NAT_equipment_X_test
```

```
+ driver_select_test_result
+ driver_select_maintenance_status.

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : This is the raw message from the driver, it shall include all the input from the driver regardless of the mean of communication.
```

360. info_on_connected_STMs(store) =

```
0{info_onSTM}N.
```

```
-----
full name   :
description : list of information about STMs plugged to trainborne.
```

361. info_on_STM(data_flow) =

```
STM_ID +
STM_name +
STM_transmission_is_continuous +
STM_state +
STM_state_order +
STM_connection_state +
STM_still_available +
specific_data_need.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : information about STMs plugged to trainborne.
```

362. info_on_STMs_isolation_status(store) =

```
0{STM_isolation_status}12.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : list of information about STM's isolation status.

363. info_to_driver (data flow) =

announced_level
+ display_route_suitability_data
+ display_ack_request
+ display_track_conditions
+ display_release_speed
+ display_target_speed
+ display_target_distance
+ display_permitted_speed
+ display_entry_in_FS_OS
+ display_service_brake_command
+ display_emergency_brake_command
+ display_driver_id_for_modification
+ display_adhesion_factor_for_modification
+ display_level_for_modification
+ display_RBC_data_for_modification
+ display_train_data_for_modification
+ display_acquisition_of_train_data_required
+ display_train_running_number_for_modification
+ display_start_request
+ display_hidden_text_message_selector
+ display_geographical_position
+ display_override_is_possible
+ trip_override_is_active
+ display_STM_request_for_specific_STM_data_entry
+ display_confirmation_request_for_specific_STM_data_entry
+ display_continue_without_radio_session_confirmation
+ display_onboard_elements_status
+ display_red_flag
+ display_default_nat_value_used
+ display_new_nat_values_used
+ display_SB_applied_until_cab_closure
+ display_repositioning_inconsistency
+ display_missed_balise_in_bg
+ display_network_registration_failure
+ display_maintenance_parameters_to_enter

```
+ display_EB_test_required
+ display_intervention_speed
+ display_overspeed
+ play_warning_intervention
+ EB_sw_cmd_test_result
+ fixed_text_info
+ level
+ mode
+ plain_text_info
+ display_LX.

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : This is the raw message to the driver, it shall include all the output to the driver.
```

364. inhibit repositioning safety check (data flow) =

```
[ "FUNCTION_IS_OFF" | "FUNCTION_IS_ON" ].
```

```
-----
full_name   : ;
rate         : N/A;
range        : N/A;
resolution   : N/A;
units        : N/A;
value_names  : N/A;
component_of : N/A;
description  : indicates if the function allowing to detect repositioning inconsistency with safety is active or not;
```

365. inhibition of revocable TSR is active (data flow) =

```
[ "FUNCTION_IS_OFF" | "FUNCTION_IS_ON" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
```

description : indicates if the function inhibiting the revocable TSR is active or not;

366. input contacts (data flow, del) =

0{ ["CLOSED" | "OPEN"] }N.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :
There can be 0 input contacts or 20 (N=20) or 40 (N=40),
depending if trainborne is fitted with appropriate hardware
(nbr of FILIO boards).

367. input MVB (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : information (array of bits) coming from MVB.

368. input serial link (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : info acquired through serial link.

369. input to monitor (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Train inputs pattern to monitor.

370. inter correlation coeff A (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Calibration coefficient for the inter-correlation of the A sensors. There is a flag that indicates if this value shall be taken into account or not.

371. inter correlation coeff B (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Calibration coefficient for the inter-correlation of the B sensors. There is a flag that indicates if this value shall be taken into account or not.

372. isolation state (data flow, del) =

["ONBOARD_ISOLATED" | "ONBOARD_NOT_ISOLATED" | "INFO_NOT_AVAILABLE" | "FAIL_STATE"].

rate : N/A
range : N/A

```
resolution      : N/A
units          : N/A
value names    : N/A
description    : Current isolation state of the ETCS onboard equipment
```

373. juridical data (store, pel) =

**.

full name :
description : data recorder for juridical purpose.

374. kind of data entry (data flow) =

["UNISIG_FIXED_TD_SET" | "UNISIG_DYNAMIC_TD_SET" | "AUTOMATIC_SELECTION_FIXED_TD_SET"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates which kind of data entry procedure should be applied.

375. l_engine (store) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : length of the engine used in the train location-position computations

376. last bg crossed (data flow) =

**.

rate : N/A
range : N/A

```
resolution      : N/A
units          : N/A
value names    : N/A
description    : hold the nid_c and nid_bg of the last BG that the train has crossed.
```

377. Last network ID (store) =

```
NID_MN
```

```
-----
full name      :
description    : see UNISIG variable NID_MN
```

378. level (store) =

```
[ "LEVEL0" | "STM" | "LEVEL1" | "LEVEL2" | "LEVEL3" ]
+ 0{STM_ID}1
+ data_stored_status.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : "LEVEL0" = Trackside is unfitted or in commissioning.
                 "STM" = Trackside is fitted with a national system.
                 "LEVEL1" = Trackside is fitted with ERTMS level 1 equipment.
                 "LEVEL2" = Trackside is fitted with ERTMS level 2 equipment.
                 "LEVEL3" = Trackside is fitted with ERTMS level 3 equipment.
```

```
description   : level value and status of the stored value
```

379. level from start of mission (data flow, del) =

```
[ "LEVEL0" | "STM" | "LEVEL1" | "LEVEL2" | "LEVEL3" ].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   :
```

level which is issued by the "start of mission".

380. level transition order info (store, pel) =

**.

full name :
description : stored level transition information

381. level validated by CMD (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Information about the level data validated by the cold movement detector.

382. limit stored plain text msg (data flow) =

["FUNCTION_IS_OFF" | "FUNCTION_IS_ON"].

full_name : ;
rate : N/A;
range : N/A;
resolution : N/A;
units : N/A;
value_names : N/A;
component_of : N/A;
description : indicates if the limitation to stored undisplayed plain text message received from trackside is active or not;

383. link status (store) =

link status for each trackside located info.

full name : link_status
description :

384. linking info (store, pel) =

**.

full name :
description : linking information

385. List of available STMs (store) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : List of available STMs

386. list of balises for SH area (store, pel) =

**.

full name :
description :
list of balises for SH areas, stored and used onboard.
The train is not allowed to pass these balises if in SH mode.

387. list of balises in SR authority (store, pel) =

**.

full name :
description : list of balises for SR , stored and used onboard.
The train is not allowed to pass these balises if in SR mode.

388. list of inhibited levels (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : hold the list of inhibited levels and their origin of inhibition (i.e. if the level is inhibited fro driver selection or for trackisde transition or both).

389. list of supervised targets (store) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : supervised targets list

390. local time (data flow, pel) =

**.

rate : N/A
range : 0..4294967295
resolution : 1
units : s
value names : N/A
description : local time generated onboard to inform the driver
This is an absolute time, the original date for time o is fixed on the 01/01/2000

391. location to shorten track info (store, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A

description :
location from where MA, track description and linking info must
be deleted (or reset, depending on the data).

392. loop decoding failure (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : decoding loop messages reported by an onboard function

393. loop inconsistency for juridical recording (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : tells whether a message error.

394. LX info (store) =

.

full name :
description : Level crossing specific informations

395. M_NVEBCL (data flow) =

**.

rate : N/A
range : N/A

```
resolution      : N/A
units          : N/A
value names    : N/A
description    : confidence level for emergency brake safe deceleration on dry rails.
```

396. MA (store, pel) =

```
**.
```

```
-----
full name      :
description    : Movement Authority information.
```

397. MA request parameters (store, pel) =

```
**.
```

```
-----
full name      :
description    : MA request parameters are defined in
SRS Class1 v2.0.0, chapter 3.8.2 and chapter 7 (packet 51 Track-to-Train)
```

398. main brake pipe pressure (data flow) =

```
**.
```

```
-----
rate           : N/A
range          : N/A
resolution     : N/A
units          : kpa
value names    : N/A
description    : Value of the SB main brake pipe pressure.
```

399. maintenance configuration data (data flow) =

```
wheel_diameter_A
+ wheel_diameter_B
+ inter_correlation_coeff_A
+ inter_correlation_coeff_B
+ doppler_coeff_A
+ doppler_coeff_B
+ radar_coeff_1
+ radar_coeff_2
```

```
+ accelerometer_bias.  
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : Maintenance configuration data
```

400. maintenance data (store, pel) =

```
**.  
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : stored usefull information for trainborne maintenance (TBD)
```

401. manage daily tests function (data flow) =

```
[ "FUNCTION_IS_OFF" | "FUNCTION_IS_ON" ].  
-----  
full_name   : ;  
rate         : N/A;  
range        : N/A;  
resolution   : N/A;  
units        : N/A;  
value_names  : N/A;  
component_of : N/A;  
description  : indicates if the function "manage daily tests" is active or not (daily test for EVC and STMs);
```

402. manage ERTMS inhibition (data flow) =

```
[ "FUNCTION_IS_OFF" | "FUNCTION_IS_ON" ].
```

```
-----  
full_name   : ;  
rate         : N/A;
```

```
range      : N/A;
resolution : N/A;
units      : N/A;
value_names: N/A;
component_of: N/A;
description: indicates if the function "manage ERTMS inhibition" is active or not;
```

403. manage_q_nvsrbktrg for ceiling speed monitoring (data flow) =

```
[ "FALSE" | "TRUE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: indicates if the value of q_nvsrbktrg (national value) has to be taken into account to determine if service brake can be used in CSM
```

404. max dist between 2 balises of same bg (data flow, del) =

```
**.
```

```
-----
rate      : N/A
range     : 0..100
resolution: 0.01
units     : m
value names: N/A
description: maximumdistance between 2 balises of the same BG
```

405. max front end CES acceptance distance (data flow) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
```

```
units      : N/A
value names : N/A
description : see definition of part_of_the_train_to_consider_for_conditional_ES.
```

406. max safe active EUROBALISE antenna location (data flow, cel) =

```
**.
```

```
-----  
rate      : Available continuously since the power-on of the equipment.  
range     : TBD  
resolution : TBD  
units      : m  
value names : N/A  
description : Maximum safe location of the active EUROBALISE antenna in relation to the location reference of the location info.
```

407. max safe train front end location (data flow, cel) =

```
**.
```

```
-----  
rate      : Continuously available since the power-on of the equipment.  
range     : -15 000 000.0 .. +15 000 000.0  
resolution : 0.01  
units      : m  
value names : N/A  
description : Maximum safe location of the train front end in relation to the location reference of the trakside information.  
This data is defined in adding to the estimated train front end location the  
upper bound of the confidence interval associated to this location estimate.
```

408. max time for an STM to enter an ordered state (data flow, cel) =

```
**.
```

```
-----  
rate      : N/A  
range     : 0..1023  
resolution : 0.01  
units      : s  
value names : N/A  
description : Maximum time for an STM to enter an ordered state (different from DA state)
```

409. max time for an STM to enter DA state (data flow, cel) =

**.

rate : N/A
range : 0..1023
resolution : 0.01
units : s
value names : N/A
description : Maximum time for an STM to enter DA state if ordered

410. max time for an STM to send a data request (data flow, cel) =

**.

rate : N/A
range : 0..1023
resolution : 0.01
units : s
value names : N/A
description : maximum time for an STM to stay in DE state

411. maximum covered distance from last reference (data flow, cel) =

**

rate : Available continuously since the power-on of the equipment.
range : -20 000 000.0 .. 20 000 000.0
resolution : 0.01
units : m
value names : N/A
description : Maximum value of the covered distance measurement from the last reference. This data is obtained from the estimated covered distance in adding the upper bound of the associated confidence interval.

412. Message from KMC (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A

value names : N/A
description : message received from a KMC

413. Message to KMC (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : message sent to a KMC

414. min safe active EUROBALISE antenna location (data flow, cel) =

**.

rate : Available continuously since the power-on of the equipment.
range : TBD
resolution : TBD
units : m
value names : N/A
description : Minimum safe location of the active EUROBALISE antenna in relation to the location reference of the location info.

415. min safe train front end location (data flow, cel) =

**.

rate : Continuously available since the power-on of the equipment.
range : -15 000 000.0 .. +15 000 000.0
resolution : 0.01
units : m
value names : N/A
description : Minimum safe location of the train front end in relation to the location reference of the trakside information.
This data is defined in subtracting to the estimated train front end location the
lower bound of the confidence interval associated to this location estimate.

416. min safe train rear end location (data flow, cel) =

**

rate : Available continuously since the power-on of the equipment.
range : -15 000 000.0 .. +15 000 000.0
resolution : 0.01
units : m
value names : N/A
description : Minimum safe location of the train rear end in relation to the location reference of the trakside information.
This data is defined in subtracting to the minimum safe train front end location the train length.

417. minimum covered distance from last reference (data flow, cel) =

**

rate : Available continuously since the power-on of the equipment.
range : -20 000 000.0 .. 20 000 000.0
resolution : 0.01
units : m
value names : N/A
description : Minimum value of the covered distance measurement from the last reference. This data is obtained from
the estimated covered distance in subtracting the lower bound of the associated confidence interval.

418. mission on going (store) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates if there is currently an ETCS mission ongoing

419. mode (store, del) =

["NO_POWER" | "STAND_BY" | "SHUNTING" | "FULL_SUPERVISION" | "STAFF_RESPONSIBLE" |
"ON_SIGHT" | "SLEEPING" | "NON.LEADING" | "UNFITTED" | "TRIP" | "POST_TRIP" | "FAILURE" | "ISOLATION" | "STM_NATIONAL" | "REVERSING" | "LIMITED_SUPERVISION"]

rate : N/A
range : N/A
resolution : N/A
units : N/A

value names : NO_POWER = The on_board equipment is not powered
STAND_BY = Operational mode to start a mission
SHUNTING = Enables shunting movements
FULL_SUPERVISION = Does a complete supervision of the train movements
STAFF_RESPONSIBLE = Allows the driver to move the train under his own responsibility in an equipped area
ON_SIGHT = Enables the train to enter into a track section that could be occupied
SLEEPING = Operational mode for the on-board equipment of a slave engine that is remote controlled
NON.LEADING = Operational mode for the on-board equipment of a slave engine that is NOT remote controlled but has its own driver
UNFITED = Used in level 0
TRIP = This mode is enter when an event occurs which leads to train trip reaction (the train is stopped)
POST_TRIP = Operational mode entered when the driver acknowledges the trip
FAILURE = The equipment is faulty, and this fault affects safety
ISOLATION = The equipment is isolated from the other on-board equipement/systems
STM_NATIONAL = This mode shall enable an STM to access the following resources via the ERTMS/ETCS on-board equipment; MMI, odometer, train interface and brakes.
No supervision functionality is provided by the ERTMS/ETCS on-board equipment.
REVERSING = The Reversing mode allows the driver to change the direction of movement of the train and drive from the same cab. This shall be possible only in an area previously announced by trackside
LIMITED_SUPERVISION = The Limited supervision mode enables the train to be operated in areas where trackside information can be supplied to realise background supervsion of the train.
description : operational mode of the ERTMS ETCS onboard equipment.

420. mode profile (store, pel) =

**.

full name :
description : mode profile information which is stored and used onboard.

421. monitoring delay (data flow, pel) =

**.

rate : N/A
range : 0..25.5

```
resolution : 0.1
units      : s
value names: N/A
description: delay to detect the presence of the "train inputs pattern".
```

422. monitoring result (data flow) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units      : N/A
value names: N/A
description: Transmission of the result of the monitoring.
```

423. motion direction (data flow, del) =

```
[ "FROM_CAB_A_TO_CAB_B" | "FROM_CAB_B_TO_CAB_A" | "UNKNOWN" ].
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units      : N/A
value names: N/A
description: Direction of movement of the train
```

424. motion state (data flow, del) =

```
[ "MOTION" | "NO_MOTION" | "UNDETERMINED" ]
```

```
-----
rate      : Continously available since the power-on of the equipment.
range     : N/A
resolution: N/A
units      : N/A
value names: "MOTION" : the train is in motion.
              "NO_MOTION" : The train is at standstill.
              "UNDETERMINED" : The movement detected by the sensors is not sufficient to determine if the train moves or not.
```

description : Train motion state provided by the function handling the MMU equipment
on the basis of the movement detected by the used sensors.

425. MRDT (store) =

**.

full name :
description : Most Restrictive Displayed Target

426. MRSP (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Most Restrictive Speed Profile, used for train speed supervision.

427. msg from configuration staff (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : message received from the configuration staff.

428. msg from driver (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A

description : message received from driver.

429. msg from eurobalise (data flow) =

coded_telegram_from_eurobalise.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : message received from an EUROBALISE

430. msg from euroloop (data flow) =

coded_telegram_from_euroloop.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : message received from an EUROLOOP

431. msg from GSM R (data flow) =

coded_T_B_radio_messages +
received_safe_connection_request +
received_safe_connection_established.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : message received from EURORADIO via GSM-R

432. msg from investigation staff (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : message received from investigation staff

433. msg from maintenance staff (data flow, p1) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : This shall be defined according to JRU/MRU interface which is still to be issued

434. msg from STM (data flow) =

coded_telegram_from_STM.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : message received from an STM

435. msg from train (data flow) =

input_contacts
+ input_MVB
+ input_serial_link.

rate : N/A
range : N/A
resolution : N/A
units : N/A

value names : N/A
description : message received from train interface

436. msg from train motion (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : This msg is representative of the train motion,
which is seen as an input for motion sensors (such as wheel sensors or doppler radar).

437. msg to driver (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : message sent to the driver

438. msg to GSM R (data flow) =

coded_B_T_radio_messages +
sent_safe_connection_request +
sent_safe_connection_established +
sent_safe_disconnection_request.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : EURORADIO message sent via GSM-R

439. msg to investigation staff (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : message sent to investigation staff

440. msg to maintenance staff (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : This shall be defined according to JRU/MRU interface which is still to be issued

441. msg to odo (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : message periodically to the odometry sub-system

442. msg to STM (data flow) =

coded_telegram_to_STM.

rate : N/A
range : N/A
resolution : N/A

```
units      : N/A
value names : N/A
description : message sent to STMs.
```

443. msg to train (data flow) =

```
output_contacts +
output_contact_EB1 +
output_contact_EB2 +
output_MVB +
output_serial_link.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : message sent to train interface
```

444. N (data flow, del) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : number of repetition of an item
```

445. n of hours of EVC reset request anticipation (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : 0..24
resolution : 1
units      : hour
value names : N/A
description : indicates how many hours before the onboard has
to be reseted does the first indication shall be sent to the driver.
```

446. n of hours of EVC validity (data flow, pel) =

**.

rate : N/A
range : 0..576
resolution : 1
units : hour
value names : N/A
description : indicates the delay after which one the onboard equipment has to be reseted (for availability reasons).

447. NAT equipment X test active (store) =

["ACTIVE" | "NON_ACTIVE"] .

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates that the daily test of the national equipment X is running

448. national values to STM (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Refer to packet STM-178 in "FFFIS STM Application Layer"

449. nbr of IOs to monitor (data flow, del) =

**.

rate : N/A

```
range      : N/A
resolution : N/A
units      : N/A
value names: N/A
description: number of IO's pattern that must be monitored
```

450. network id (data flow) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: Radio network ID
```

451. new EOA SVL LOA request to shorten MA (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: New EOA, received in a radio message "request to stop earlier".
```

452. NID C has changed (data flow) =

```
["TRUE" | "FALSE"].
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: indicates if the NID_C has changed when reading the balise telegram.
```

453. nid_engine (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : See SRS chapter 7, variable NID_ENGINE.

454. nid_radio (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS chapter 7, variable NID_RADIO.

455. nid_RBC (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : See SRS chapter 7, variable NID_RBC.

456. nid_STM (data flow, cel) =

**.

rate : N/A
range : 0..255
resolution : 1
units : N/A

```
value names   : N/A
description   : identity of an STM, see SRS chapter 7, variable NID_STM
```

457. NID STM INAT (data flow, pel) =

```
**.

-----
rate      : N/A
range     : 1..8
resolution : 1
units     : N/A
value names : N/A
description : Identifier of the national equipment seen by the INAT_Function.
```

458. NID STM STATE ORDER (data flow) =

```
**.

-----
rate      : N/A
range     : N/A
resolution : N/A
units     : N/A
value names : N/A
description :
```

459. NID STMSTATE (data flow) =

```
**.

-----
rate      : N/A
range     : N/A
resolution : N/A
units     : N/A
value names : N/A
description :
```

460. NID STMSTATEREQUEST (data flow) =

```
**.

-----
```

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value_names : N/A
description :
```

461. nid_xusers for alstom specific functions (data flow) =

```
**.
```

```
-----
full_name   : ;
rate         : N/A;
range        : N/A;
resolution   : N/A;
units        : N/A;
value_names  : N/A;
component_of : N/A;
description  : list of nid_xusers (identifying operator) for which alstom specific functions shall be available
```

462. nid_xusers for spanish doors function (data flow) =

```
**.
```

```
-----
full_name   : ;
rate         : N/A;
range        : N/A;
resolution   : N/A;
units        : N/A;
value_names  : N/A;
component_of : N/A;
description  : list of nid_xusers (identifying operator) for which spanish doors function shall be available;
```

463. NL input signal (data flow) =

```
**.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : generic input related to the current state (active or not) of the Non leading input signal.

464. Nmax TSR (data flow, del) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : maximum number of TSRs that can be send within a General Message.

465. NSB deceleration model (data flow) =

A_brake_normal_service.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Value of Normal Service brake Deceleration.

466. NSB deceleration models (store) =

1{NSB_deceleration_model}16.

full name :
description : set of NSB (Normal Service brake) deceleration model retrieved from the data preparation.
In case of flexible data entry, only one NSB deceleration model is selected.
Otherwise, a NSB deceleration model is selected for each combinaison of the special brakes status.

467. NSB gradient correction factors (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : corrections factors used to adjust the the gradient deceleration with the NSB model (Kn+/-)

468. NTC STM association list (store) =

**.

full name :
description : list of computed association between NTC and STM.

469. NTC STM lookup table (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Lookup table for association NTC with nid_STM.

470. number of bogies per carriage (store) =

**.

rate : N/A
range : 0..4
resolution : 1
units : N/A
value names : N/A
description : Number of bogies a carriage hold

471. number of carriages allowed (store) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Number of carriages allowed to be enter within the data entry (predefined list)

472. odometer multicast (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Refer to FFFIS STM Application Layer Packet 8

473. odometer parameters (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Refer to FFFIS STM Application Layer packet 9

474. onboard available ERTMS levels (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A

value names : N/A
description : List of ERTMS levels the Trainborne is fitted for.

475. onboard configuration data (store) =

activate_functions +
Alstom_EBI_derivation +
avoid_auto_radio_connection_during_SOM +
brake_delay_class_table +
carriage_length +
config_info_for_track_condition_management +
config_STM_parameter_info +
deceleration_class_table +
deceleration_rate_on_brake_models +
default_values +
delay_display_geogr_pos +
delay_icon_no_connection +
delay_to_declare_illicit_power +
delay_for_network_registration_during_data_entry +
display_driver_id_predefined_value +
driver_id_screen_skipped +
driver_interface_data +
DV_RS +
EB_test_info +
EVC_delay +
EVC_validity_delay_function +
fixed_data_set_selection_table +
fixed_texts_list +
fixed_values +
force_level_entry_during_SOM +
G +
hw_and_sw_versions +
hysteresis_for_speed_threshold +
INAT_data +
kind_of_data_entry +
l_engine +
manage_q_nvsrbktrg_for_ceiling_speed_monitoring +
max_dist_between_2_balises_of_same_bg +
max_front_end_CES_acceptance_distance +
max_time_for_an_STM_to_enter_an_ordered_state +
max_time_for_an_STM_to_enter_DA_state +
max_time_for_an_STM_to_send_a_data_request +
nid_xusers_for_spanish_doors_function +
nid_xusers_for_alstom_specific_functions +
NSB_gradient_correction_factors +

number_of_bogies_per_carriage +
number_of_carriages_allowed +
onboard_available_ERTMS_levels +
onboard_ETCS_id +
onboard_supported_ERTMS_langage_versions +
onboard_telephone_numbers +
overspeed_threshold +
part_of_the_train_to_consider_for_conditional_ES +
planning_area_displaying_modes +
predefined_values_validated +
radio_msg_repetition_delay +
radio_network_id_can_be_changed +
reaction_in_case_of_DMI_failure +
regenerative_brake_used_with_contact_with_catenary +
release_speed_display +
rotating_mass_model +
SB_feedback +
SB_fitted +
Short_number +
specific_brake_models +
speed_threshold +
sets_of_corrections_factors +
special_brakes_interface +
SRS_Brake_Percentage_Def +
STM_manager_data +
STM_functionality_is_used +
summer_winter_table +
t_waitmsg +
tbl1_config_parameters +
traction_cut_off_on_warning +
trainindataview_STM_response_timeout +
trainindataentry_STM_response_timeout +
train_max_acc_table +
trn_screen_skipped +
type_of_data_entry_behaviour +
use_of_maintenance_parameters_plug +
way_to_command_EB1_and_EB2 +
NTC_STM_lookup_table.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A

description : onboard configuration data

476. onboard ETCS id (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to variable NID_ENGINE.

477. onboard LRBGs info (store, pel) =

**.

full name :
description :
relevant information about the 8 last passed LRBGs.

478. onboard supported ERTMS language versions (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to SRS chapter 7, variable M_VERSION

479. onboard telephone numbers (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A

value names : N/A
description : list of onboard radio subscriber numbers;

480. output contact EB1 (data flow, del) =

["CLOSED" | "OPEN"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Output contact used to command the Emergency Brakes.

481. output contact EB2 (data flow, del) =

["CLOSED" | "OPEN"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Output contact used to command the Emergency Brakes.

482. output contacts (data flow, del) =

0{ ["CLOSED" | "OPEN"] }N.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :
There can be 0 output contacts or 16 (N=16) or 32 (N=32),
depending if trainborne is fitted with appropriate hardware
(nbr of FILIO boards).

483. output MVB (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : information (array of bits) sent to MVB.

484. output serial link (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : information sent on the serial link to external devices (e.g.TCMS).

485. output to monitor (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : train outputs pattern that does trigger an "I/O monitoring".

486. overspeed threshold (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A

```
value names   : N/A
description   : delay for extending the indication status
```

487. P16 FA order extend appl delay (data flow) =

```
**.

-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: delay parameter of related STM to declare FA in case of disconnection.
```

488. panto down for change of traction power (data flow, del) =

```
[ "TRUE" | "FALSE" ].

-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: TRUE = panto must be lowered when train passes "change traction power" location.
              FALSE = panto must not be lowered when ....
description: indicates if panto must be lowered or not when ...
```

489. panto down for powerless section (data flow, del) =

```
[ "TRUE" | "FALSE" ].

-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: TRUE = panto must be lowered when train is
              in a "powerless section - lower pantograph".
              FALSE = panto must not be lowered when ....
description: indicates if panto must be lowered when ...
```

490. panto position method (data flow) =

["NO_WINDOW" | "REAR_END_WINDOW" | "FRONT_END_WINDOW" | "MIXED_END_WINDOW"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates which optimized solution is used for the position of pantos

491. panto window end distance (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : defined the panto window end distance used in the optimized solution for the position of pantos

492. panto window start distance (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : defined the panto window start distance used in the optimized solution for the position of pantos

493. pantograph state (data flow, del) =

["PANTO_UP" | "PANTO_DOWN" | "INFO_NOT_AVAILABLE" | "FAIL_STATE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A

value names : N/A
description : Current state of the pantograph

494. part of the train to consider for conditional ES (data flow, del) =

["REAR_END" | "MIN_FRONT_END" | "MAX_FRONT_END"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Defines if the conditional emergency stop has to be consider when the min front end or the rear end of the train has not already passed the stop location or
when the min front end + a parameter (max_front_end_CES_acceptance_distance within configuration_data) and the max front end has not passed the stop location

495. permitted speed hook in UN (data flow) =

["FUNCTION_IS_OFF" | "FUNCTION_IS_ON"].

full_name : ;
rate : N/A;
range : N/A;
resolution : N/A;
units : N/A;
value_names : N/A;
component_of : N/A;
Description : indicates if the function that displays the permitted speed in UN mode is active or not (not compliant ERA if not).

496. plain text info (store, pel) =

**.

full name :
description :
information about plain text to be displayed to driver.

497. planning area displaying modes (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : list of modes in which the planning area is displayed to the driver (at least the distance scale). In the not listed modes, this planning area is hidden.

498. play warning intervention (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Warning sent to the driver when the Warning curve is passed.

499. pneumatic insertion state (data flow, del) =

["INSERTED" | "NOT_INSERTED"] .

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : current state of the pneumatic insertion equipment

500. position report parameters (store, pel) =

**.

full name :
description : position report parameters sent by the RBC,

refer to SRS chapter 7, packet from track to train number 58

501. power from train (data flow, del) =

["ON" | "OFF"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates whether the ETCS onboard equipment is powered from train or not.

502. power up tests result (data flow, del) =

["NOT_OK" | "OK" | "OK_WITH_LOW_AVAILABILITY" | "IRRELEVANT"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : result of the power-up tests

503. predefined values validated (data flow) =

["FALSE" | "TRUE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates if predefined values coming from the plug shall be automatically considered as validated from the EVC point of view or not.

504. previous desk (store, pel) =

* * .

full name :
description : memorised desk that was previously open

505. previous stored validity status (store) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : previous validity status for RBC ID/phone number, ETCS level and train position

506. priority trackside levels list validated by CMD (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Information about the priority trackside level list validated by the cold movement detector.

507. Q OVREOA STATUS (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :

508. Q sscode info (data flow) =

**.

rate : N/A

```
range      : 0 .. 15
resolution : N/A
units      : N/A
value names: N/A
description: the spread spectrum code.
```

509. radar coeff 1 (data flow) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: Calibration coefficient 1 for the radar drift coreection. There is a flag that indicates if this value shall be taken into account or not.
```

510. radar coeff 2 (data flow) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: Calibration coefficient 2 for the radar drift coreection. There is a flag that indicates if this value shall be taken into account or not.
```

511. radio inconsistency for juridical recording (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
```

description : tells whether a message error, or a sequence error, or a radio link error has occurred.

512. radio msg repetition delay (data flow, pel) =

**.

rate : N/A
range : 0..255
resolution : 1
units : s
value names : N/A
description : When onboard has sent a message to the RBC, and is expecting an answer from RBC,
the value radio_msg_repetition_delay defines the delay before sending
again the same message to the RBC if the RBC does not answer within the delay.

513. radio network id can be changed (data flow) =

["TRUE" | "FALSE"]

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates that the radio network id can be changed or not.

514. RBC id (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :
RBC ETCS identity number
+ status of this data : ["unknown" | "valid" | "invalid"].

515. RBC id phone validated by CMD (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Information about the RBC id/phone number validated by the cold movement detector.

516. RBC phone number (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :
RBC radio subscriber number.
+ status of this data : ["unknown"|"valid"|"invalid"]

517. RBC session is open (data flow, del) =

["CLOSED" | "OPEN_BY_ONBOARD" | "OPEN_BY_RBC"] .

rate : N/A
value names : N/A
description : Current state of the radio session

518. RBC system version (store) =

not-defined.

full name :
description : Store of the system version of the RBC until the session is opened

519. RBC transition order info (store, pel) =

**.

full name :
description : stored order to switch to another RBC at a given location

520. reaction in case of DMI failure (data flow, del) =

["APPLY_SB" | "ENTRY_IN_SF" | "APPLY_SB_UNTIL_CAB_CLOSURE_AT_STANDSTILL"]

rate : N/A;
range : N/A;
resolution : N/A;
units : N/A;
value names : N/A;
description : indicates which reaction has to be taken
if a DMI failure occurs.

521. received national values (store, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : national values are define in Subset-026, appendix 3.2 of chapter 3.

522. received safe connection established (data flow, del) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A

value names : N/A
description : information coming from RBC that indicates if the safe connection is successfully established

523. received safe connection request (data flow, del) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : information coming from RBC that initiates the communication session

524. regenerative brake used with contact with catenary (data flow) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates if power less sections have to be considered as regenerative brake inhibition profiles or not.

525. Registration status (store) =

["REGISTERED" | "NOT_REGISTERED"].

full name : Registration status
description : Indicates if at least one mobile is registered to the radio network

526. release on tail (data flow, del) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A

value names : TRUE = the display has to be stopped when the min safe REAR end of the train passes the border of the track conditions area
FALSE = the display has to be stopped when the min safe FRONT end of the train passes ...
description : Indicates, for one track condition, if the display has to be stopped when the min safe FRONT end or the min safe REAR end passes ...

527. release_speed_colour (data flow) =

["DARK_YELLOW" | "LIGHT_GREY"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : colour used to display release speed on the speed bargraph

528. release_speed_display (data flow) =

release_speed_colour +
hook_location.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : information to configure the release speed display on the speed bargraph

529. request_overspeed_brake_ack (data flow) =

["FUNCTION_IS_OFF" | "FUNCTION_IS_ON"].

full_name : ;
rate : N/A;
range : N/A;
resolution : N/A;
units : N/A;
value_names : N/A;
component_of : N/A;
description : indicates if an acknowledgement of the driver is displayed to the driver and needed in the release condition or not in case of overspeed brake application (both for EB and SB);

530. request sending of position report (data flow, del) =

["FALSE" | "TRUE"] .

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the sending of a position report to connected RBC(s) has to be performed

531. request to shorten MA granted (store, del) =

["TRUE" | "FALSE" | "IRRELEVANT"] .

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : TRUE = the request is granted, the train can stop before the new EOA.
 FALSE = the request is not granted, the train cannot stop before the new EOA.
 IRRELEVANT = no request for the moment.
description : indicates whether the request to shorten MA is granted or not

532. RESET ATP (data flow) =

** .

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :

533. reset safe connection (data flow, del) =

["TRUE" | "FALSE"] .

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description : indicates if the safe connection has to be released and set-up again.
```

534. reversing area info (store, pel) =

```
**.
```

```
-----
full name   :
description  : stored information about areas where reversing is permitted
```

535. reversing supervision info (store, pel) =

```
**.
```

```
-----
full name   :
description  : stored information about permitted reversing speed and distance
```

536. rotating mass model (data flow) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description : Rotating Mass Model of the train
```

537. route suitability info (store, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
```

```
value names   : N/A
description   :
All route suitability data, received from trackside.
```

538. route unsuitability start location (data flow, pel) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units         : N/A
value names   : N/A
description   :
Indicates if a route unsuitability has been detected [YES/NO].
+ If yes, provide also the location where this route unsuitability starts, according to onboard coordinates.
```

539. safety failure (data flow, pel) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units         : N/A
value names   : N/A
description   : safety failure reported by an onboard function
```

540. SB application monitoring timer (data flow, pel) =

```
**.
```

```
-----
rate          : N/A
range         : 0..255
resolution    : 1
units         : s
value names   : N/A
description   : timer for the monitoring of the service brake application
```

541. SB deceleration model (data flow) =

A_brake_service.

rate	:	N/A
range	:	N/A
resolution	:	N/A
units	:	N/A
value names	:	N/A
description	:	Value of SB Deceleration

542. SB deceleration models (store) =

1{SB_deceleration_model}16.

full name	:	
-----------	---	--

description : set of SB deceleration model retrieved from the data preparation.
In case of flexible data entry, only one SB deceleration model is selected.
Otherwise, a SB deceleration model is selected for each combinaison of the special brakes status.

543. SB delay model (store) =

T_bs
+ T_bs1
+ T_bs2.

full name	:	
-----------	---	--

description : Service Brake Delay Model

544. SB feedback (data flow) =

["NOT_IMPLEMENTED" | "USE_MAIN_BRAKE_PIPE" | "USE_CYLINDER_BRAKE_PIPE"]

rate	:	N/A
range	:	N/A
resolution	:	N/A
units	:	N/A
value names	:	N/A
description	:	SB feedback function implementation (implemented, use the main brake pipe pressure or the cylinder brake pipe pressure).

545. SB feedback available (data flow) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicate if the Service Brake Feedback function is active or not

546. SB fitted (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicate if SB brake are fitted to the train or not.

547. SB monitoring report (data flow, del) =

["OK" | "NOT_OK"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : report of the service brake monitoring

548. SB release monitoring timer (data flow, pel) =

**.

rate : N/A
range : 0..255
resolution : 1
units : s

```
value names   : N/A
description   : Timer for the monitoring of the service brake release
```

549. SB request DMI stack full (data flow) =

```
["SB_REQUESTED" | "SB_NOT_REQUESTED"].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units         : N/A
value names   : N/A
description   : indicates if the service brake application is requested due to a full stack on the DMI side that let not possible the display of an acknowledgeable text message.
```

550. SB request for bg inconsistency (data flow, del) =

```
["SB_REQUESTED" | "SB_NOT_REQUESTED"].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units         : N/A
value names   : N/A
description   : indicates if the service brake application is requested due to BG inconsistency
```

551. SB request for BTM error (data flow) =

```
["SB_REQUESTED" | "SB_NOT_REQUESTED"].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units         : N/A
value names   : N/A
description   : indicates if the service brake application is requested due to BTM error reaction
```

552. SB request for different fixed train data set selected (data flow) =

["SB_REQUESTED" | "SB_NOT_REQUESTED"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the service brake application is requested due to a different fixed train data set selected that would be selected from info on train terface at standstill

553. SB request for distance supervision (data flow) =

["FALSE" | "TRUE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the service brake application is requested for distance supervision purposes.

554. SB request for DMI failure (data flow, del) =

["SB_REQUESTED" | "SB_NOT_REQUESTED"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the service brake application is requested due to DMI failure

555. SB request for IOs monitoring (data flow, del) =

["SB_REQUESTED" | "SB_NOT_REQUESTED"].

rate : N/A

```
range      : N/A
resolution : N/A
units      : N/A
value names: N/A
description: indicates if the service brake application is requested due to IO monitoring
```

556. SB request for level tr ack (data flow, del) =

```
[ "SB_REQUESTED" | "SB_NOT_REQUESTED" ].
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: indicates if the service brake application is requested due to a not acknowledged level transition
```

557. SB request for LS ack (data flow) =

```
[ "SB_REQUESTED" | "SB_NOT_REQUESTED" ].
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: indicates if the service brake application is requested due to a not acknowledged LS mode transition
```

558. SB request for OS ack (data flow, del) =

```
[ "SB_REQUESTED" | "SB_NOT_REQUESTED" ].
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
```

```
value names   : N/A
description   : indicates if the service brake application is requested due to a not acknowledged OS mode transition
```

559. SB request for radio link inconsistency (data flow, del) =

```
[ "SB_REQUESTED" | "SB_NOT_REQUESTED" ].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units         : N/A
value names   : N/A
description   : indicates if the service brake application is requested due to radio link inconsistency
```

560. SB request for repositioning inconsistency (data flow) =

```
[ "SB_REQUESTED" | "SB_NOT_REQUESTED" ].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units         : N/A
value names   : N/A
description   : indicates if the service brake application is requested due to BG repositioning inconsistency
```

561. SB request for SH ack (data flow, del) =

```
[ "SB_REQUESTED" | "SB_NOT_REQUESTED" ].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units         : N/A
value names   : N/A
description   : indicates if the service brake application is requested due to a not acknowledged SH mode transition
```

562. SB request for speed supervision (data flow, del) =

["SB_REQUESTED" | "SB_NOT_REQUESTED"] .

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the service brake application is requested for speed supervision purposes.

563. SB request for STM (data flow) =

["TRUE" | "FALSE"] .

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : TRUE = Apply SB,
 FALSE = release SB
description : STM SB command for the SB

564. SB request for STM not protected (data flow) =

["TRUE" | "FALSE"] .

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : TRUE = Apply SB not protected,
 FALSE = release SB not protected
description : STM SB not protected command for the SB

565. SB request for text ack (data flow, del) =

["SB_REQUESTED" | "SB_NOT_REQUESTED"] .

rate : N/A
range : N/A

```
resolution      : N/A
units          : N/A
value names    : N/A
description    : indicates if the service brake application is requested due to a not acknowledged text message
```

566. SB request for tilting problem (data flow, del) =

```
[ "SB_REQUESTED" | "SB_NOT_REQUESTED" ].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : indicates if the service brake application is requested due to a tilting problem
```

567. SB request packet 44 error (data flow) =

```
[ "FALSE" | "TRUE" ].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : indicates if the service brake application is requested due to a wrong packet 44 received.
```

568. SB speed limit for deceleration (data flow, cel) =

```
**.
```

```
-----
rate          : N/A
range         : 0..25,5
resolution    : 0,1
units          : m/s
value names   : N/A
description   : speed limit under which the SB state deduced from train acceleration is not used
```

569. SB state (data flow, del) =

["SB_NOT_APPLIED" | "SB_APPLIED" | "INFO_NOT_AVAILABLE" | "FAIL_STATE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Current state of the service brake

570. SBDs (store) =

**.

full name :
description : Computed SBD dynamic curves

571. SBDs NSA (store) =

**.

full name :
description : Computed SBD dynamic curves specific for track condition Non Stopping Area

572. selected hidden text message (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :
selection from driver of a hidden text message.

573. selected language (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :
language in which the fixed text messages shall be displayed.

574. sent safe connection established (data flow, del) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates whether the onboard confirms the safe connection when session initiated by RBC

575. sent safe connection request (data flow) =

nid_engine
+nid_RBC
+nid_radio.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names :
"TRUE" : a safe connection is requested.
"FALSE": No safe connection is requested.
description : It indicates whether the onboard requests a safe connection or not.

576. sent safe disconnection request (data flow) =

nid_engine
+nid_RBC
+nid_radio.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names :
 "TRUE" : a safe disconnection is requested.
 "FALSE": No safe disconnection is requested.
description : It indicates whether the onboard requests a safe connection or not.

577. set speed (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : target train speed of an external "cruise control" system.
Used by the trainborne only for display to the driver.

578. sets of corrections factors (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : hold the different correction factors applied to E and S brake and delays models and rotating models (include a default one).

579. Short number (data flow, pel) =

**.

rate : N/A

```
range      : N/A
resolution : N/A
units      : N/A
value names: N/A
description: special value for the RBC phone number
```

580. SIL2 failure detected (store) =

```
**.
```

```
-----
full name   : SIL2 failure output
description : output activated when SIL2 verification mechanism has failed.
               This information is represented as a store and not a dataflow as this dataflow comes from the appendix J.
```

581. sleeping state (data flow, del) =

```
[ "GO_TO_SLEEPING" | "DO_NOT_GO_TO_SLEEPING" | "INFO_NOT_AVAILABLE" | "FAIL_STATE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: indicates if the EVC is requested to go to SL mode
```

582. sound command (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: refer to FFFIS STM Application Layer packet 46
```

583. spec max time for an STM to enter an ordered state (data flow) =

**.

rate : N/A
range : 0..1023
resolution : 0.01
units : s
value names : N/A
description : Specific Maximum time for an STM to enter an ordered state (different from DA state)

584. spec max time for an STM to enter DA state (data flow) =

**.

rate : N/A
range : 0..1023
resolution : 0.01
units : s
value names : N/A
description : Specific Maximum time for an STM to enter DA state.

585. spec max time for an STM to send a data request (data flow) =

**.

rate : N/A
range : 0..1023
resolution : 0.01
units : s
value names : N/A
description : Specific Maximum time for an STM data request during its data entry

586. special brakes inhibition acceleration profile (data flow) =

**.

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Profile that indicates the special brakes inhibition locations further on the track deduced from track conditions (and current status of the special brakes).
```

587. special brakes interface (data flow) =

```
**.
```

```
-----  
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates if special brakes (regenerative, magnetic shoe, electropneumatic and eddy current brakes) influence the EB, the SB, both EB and SB, or are not interfaced with EB and SB (only used for JRU publish).
```

588. special brakes status (data flow) =

```
**.
```

```
-----  
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Hold the current status (received from train interface) of the regenerative, magnetic shoe, eddy current and electropneumatic special brakes.
```

589. specific brake models (data flow) =

```
**.
```

```
-----  
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
```

description : Hold the different SB/EB specific braking models (different one may be configured to take into account the special brakes effects on the braking models depending on their current status).

590. specific comm session validity delay (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Specific communication session validity delay.

591. specific d_metal in level_0 (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : specific d_metal value to consider in level_0

592. specific data entry flag (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to packet STM-184 in "FFFIS STM Application Layer"

593. specific data need (store, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to "FFFIS STM Application Layer" packet 181

594. specific no rel speed at ma sec timeout (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : As indicated by the name.

595. specific reset t_nvcontact at RBC border (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Specific reset of the the T_NVCONTACT timer at RBC border

596. specific STM data entry request (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to packet STM-179 in "FFFIS STM Application Layer"

597. specific STM data need (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to packet STM-181 in "FFFIS STM Application Layer"

598. specific STM data values request to STM (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to packet STM-182 in "FFFIS STM Application Layer"

599. specific STM data view values (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to packet STM-183 in "FFIS STM Application Layer"

600. specific STM data within telegram to STM (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A

```
units      : N/A
value names : N/A
description : refer to packet STM-180 in "FFFIS STM Application Layer"
```

601. speed and distance default display (data flow) =

```
[ "FUNCTION_IS_OFF" | "FUNCTION_IS_ON" ].
```

```
-----
full_name   : ;
rate         : N/A;
range        : N/A;
resolution   : N/A;
units         : N/A;
value_names  : N/A;
component_of : N/A;
description  : indicates if the speed and distance info are displayed by default (in a mode that can display them when the driver presses a button) is active or not;
```

602. speed dial type (data flow, del) =

```
[ "250km/h" | "400km/h" ].
```

```
-----
rate         : N/A
range        : N/A
resolution   : N/A
units         : N/A
value names  : N/A
description  : range of speed on the speed dial.
```

603. speed profile to display on planning area (data flow, del) =

```
[ "NOT_DISPLAYED" | "DISPLAYED" ].
```

```
-----
rate         : N/A
range        : N/A
resolution   : N/A
units         : N/A
value names  : N/A
description  : Defines if the speed profile shall be displayed in the planning area.
```

604. Speed Sup EOA (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Relevant EOA used for the computation of the dynamic braking curves.

605. Speed Sup LOA (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Relevant LOA used for the computation of the dynamic braking curves.

606. Speed Sup Monitoring type (data flow) =

["NONE" | "CSM" | "PIM" | "TSM" | "RSM"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates the current speed supervision monitoring type.

607. Speed sup SVL (data flow) =

**.

rate : N/A
range : N/A

```
resolution      : N/A
units          : N/A
value names    : N/A
description    : Relevant SVL used for the computation of the dynamic braking curves.
```

608. speed threshold (data flow, cel) =

```
**.
```

```
-----
rate          : N/A
range         : 0..25,5
resolution    : 0,1
units          : m/s
value names   : N/A
description   :
An onboard function detects if measured train speed is higher or lower
than this speed_threshold.
```

609. SR distance (store, pel) =

```
**.
```

```
-----
full name     :
rate          : N/A
range         : 0..327670
resolution    : 0,1
units          : m
value names   : N/A
description   : allowed distance to run in SR.
```

610. SR max speed (store) =

```
**.
```

```
-----
full name     :
description   : maximum permitted speed for SR mode.
```

611. SRS Brake Percentage Def (data flow) =

```
["FALSE" | "TRUE"].
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates if the brake percentage used in the train data entry by the project respect or not the definition of /52/.
This has an impact on the train classification to consider for the train.

612. SSP gradient profile (store, pel) =

**.

full name :
description : SSP information and gradient profile information which is stored and used onboard.

613. start mission in SH granted (data flow, pel) =

["GRANTED" | "NOT_GRANTED"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if, in level 2|3, the start of mission in SH mode is granted (or not) by the RBC.

614. STM additional train control command to train interface (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to "FFFIS STM Application Layer" document.

615. STM baseline (data flow) =

**.

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : Baseline associated to the nid_stm
```

616. STM commands to train interface (data flow) =

**.

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : Refer to FFFIS STM Application layer packet 130
```

617. STM confirmation for additional data entry (data flow, pel) =

**.

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : refer to "FFFIS STM Application Layer" document.
```

618. STM connection state (data flow, del) =

["CONNECTED" | "DISCONNECTED"] .

```
-----  
rate      : N/A  
range     : N/A
```

```
resolution      : N/A
units          : N/A
value names    : N/A
description    : Current state of the STM connection
```

619. STM control connection from ETCS to STM National (data flow, pel) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : Refer to FFFIS STM Application Layer : chapter about "Telegram Header".
```

620. STM control connection from STM to ETCS (data flow, pel) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : Refer to FFFIS STM Application Layer : chapter about "Telegram Header".
```

621. STM data (store) =

```
STM_selected_by_driver.
```

```
-----
full name     :
description   : stored data about STM selected by driver
```

622. STM display in NL authorised (data flow) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
```

```
resolution      : N/A
units          : N/A
value names    : N/A
description    : Authorise the STM to display in NL.
```

623. STM emergency and service brake command to train interface (data flow, pel) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : refer to FFFIS STM Application Layer packet 128
```

624. STM emergency and service brake command train interface to JRU (data flow, pel) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : refer to "FFFIS STM Application Layer" document.
```

625. STM failure info (data flow) =

```
0 {STM_in_failure} 1.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
```

value names : N/A
description : indicates info about STM failure

626. STM functionality is used (data flow, del) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates whether the STM functionalities are used on board

627. STM ID (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : ID number of the STM.

628. STM in failure (data flow, del) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if a STM has gone to FA mode

629. STM INAT AVAILABLE (data flow, del) =

["TRUE" | "FALSE"].

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : transmission to the INAT function of the availability state of the national equipment.
               See paragraph 4.2.2.3.3 of doc ref/28/, input = "isolation equipment".
```

630. STM INAT state (data flow, del) =

["NOT ACTIVATED" | "ACTIVATED"].

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Transmission to the INAT function of the state
               of the national equipment. See paragraph 4.2.2.3.3 of doc ref/28/, input = "status".
```

631. STM isolation status (data flow) =

["STM_ISOLATED" | "STM_NOT_ISOLATED"].

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Current isolation state of the STM equipment
```

632. STM manager data (data flow, pel) =

**.

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description :
```

Parameters for connection to STMs :

- 1 - version of "FFFIS Specific Transmission Module" document supported onboard (SUBSET-035)
- 2 - version of "FFFIS STM Application Layer" document supported onboard (SUBSET-058)
- 3 - version of "SRS Class 1" document supported onboard

Refer to FFFIS Application Layer packet 1

633. STM max speed (data flow, cel) =

**.

rate : N/A
range : 0..600
resolution : 5
units : km/h
value names : N/A
description : STM max speed see SUBSET-058

634. STM MMI confirmation for additional data entry to JRU (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to "FFFIS STM Application Layer" document.

635. STM MMI information to JRU (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A

```
units      : N/A
value names : N/A
description : refer to "FFFIS STM Application Layer" document.
```

636. STM name (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : 16 ASCII characters, name of an STM
```

637. STM national trackside information from STM to JRU (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : refer to "FFFIS STM Application Layer" document.
```

638. STM OVERRIDE ACTIVATION (data flow) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
```

description :

639. STM override activation (data flow, del) =

["TRUE" | "FALSE"]

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates whether the national STM override is active

640. STM parameters data (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to FFFIS STM Application layer packet 4

641. STM present (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :

642. STM request for additional data entry (data flow, pel) =

**.

rate : N/A

```
range      : N/A
resolution : N/A
units      : N/A
value names: N/A
description: refer to "FFFIS STM Application Layer" document.
```

643. STM selected by driver (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: STM selected by driver at start of mission
```

644. STM specific brake control command (data flow) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: refer to FFFIS STM application layer packet 129
```

645. STM state (data flow, del) =

```
[ "POWER_ON" | "CONFIGURATION" | "DATA_ENTRY" | "COLD_STANDBY" | "HOT_STANDBY" | "DATA_AVAILABLE" | "SHUTDOWN" | "FAILURE" | "UNKNOWN" ].
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: Current state of the STM
```

646. STM state order (data flow, del) =

```
[ "PO" | "CO" | "DE" | "CS" | "HS" | "DA" | "FA" ].
```

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : state order sent to the STM
```

647. STM state report (data flow, del) =

```
[ "PO" | "CO" | "DE" | "CS" | "HS" | "DA" | "FA" ].
```

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : state report of the STM
```

648. STM state request (data flow, del) =

```
[ "CONFIGURATION" | "DATA_ENTRY" | "COLD_STANDBY" ].
```

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A  
value names : N/A  
description : State requested by the STM (See NID_STMSTATEREQUEST in SUBSET-058)
```

649. STM still available (data flow, del) =

```
[ "YES" | "NO" ].
```

```
-----  
rate      : N/A  
range     : N/A  
resolution : N/A  
units     : N/A
```

value names : N/A
description : indicates if the STM is still available (i.e. not in FA state and connected to the ETCS)

650. STM system speed (data flow, cel) =

**.

rate : N/A
range : 0..600
resolution : 5
units : km/h
value names : N/A
description : STM system speed, see SUBSET-058

651. STM test request (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to FFFIS STM Application Layer packet STM-19

652. STM transmission is continuous (data flow, pel) =

["FALSE" | "TRUE"]

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates whether an STM transmission is continuous

653. STM trip info (data flow, pel) =

**.

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates whether a packet 18 (trip message) is sent by the STM
```

654. stop radio link supervision (data flow, del) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : TRUE : stop the supervision of the radio link
                  FALSE: supervise radio link if necessary
description : indicate whether the on board equipment has to check the radio transmission loss or not
```

655. summer winter table (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : summer/winter correction timetable.
```

656. supervision speeds (store) =

```
**.
```

```
-----
full name   :
description : Hold the different supervision speeds (EBI,SBI,W,P,P2_LX,P1_LX,GUI_SVL_speed_LX,GUI_EOA_speed_LX) to supervise:
```

657. system failure due to evc stack of text msg full (data flow) =

```
[ "TRUE" | "FALSE" ].
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates if a system failure has to be triggered because of EVC buffer to DMI full.

658. T_B acknowledgement of termination of communication session (data flow) =

T_B_radio_message_header.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : RBC acknowledgement of termination of communication session see SRS message ID 39
constituent of data/control flow: T_B_radio_messages

659. T_B acknowledgement of train characteristics (data flow) =

T_B_radio_message_header
+AG_t_train_for_train_data.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : RBC acknowledgement of train data, see SRS message ID 8
constituent of data/control flow: T_B_radio_messages

660. T_B assignment of coordinate system (data flow) =

T_B_radio_message_header
+AG_q_orientation.

rate : N/A
range : N/A
resolution : N/A

```
units      : N/A
value names : N/A
description : "Assignment of coordinate system" message, see SRS , message ID 45
constituent of data/control flow: T_B_radio_messages
```

661. T_B balise group message (data flow) =

```
0{telegram_from_eurobalise}8.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : BG message.
```

662. T_B balise telegram header (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : see SRS chapter 8
Note : the header of a balise telegram contains the following ERTMS/ETCS variables
Q_UPDOWN, M_VERSION, N_PIG, N_TOTAL, M_DUP, M_MCOUNT, NID_C, NID_BG, Q_LINK.
```

663. T_B conditional emergency stop (data flow) =

```
T_B_radio_message_header
+AG_nid_em
+AG_q_scale
+AG_d_emergencystop
+AG_q_dir.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
```

value names : N/A
description : conditional emergency stop message, see SRS message ID 15
constituent of data/control flow: T_B_radio_messages

664. T_B_euroloop_header (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS
Note : the header of a euroloop message contains the following ERTMS/ETCS variables
Q_UPDOWN, M_VERSION, Q_MEDIA, NID_C, NID_LOOP.

665. T_B_euroloop_message (data flow) =

T_B_euroloop_header +
0{T_Bp_national_values}1 +
0{T_Bp_national_values_for_braking_curves}1 +
0{T_Bp_linking}1 +
0{T_Bp_level_1_movement_authority}1 +
0{T_Bp_repositioning_information}1 +
0{T_Bp_gradient_profile}1+
0{T_Bp_international_SSP} 1+
0{T_Bp_track_condition_change_of_traction_power}1 +
0{T_Bp_level_transition_order}1 +
0{T_Bp_session_management}1 +
0{T_Bp_data_used_by_application_outside_ertms}1 +
0{T_Bp_list_of_balises_for_SH_area}1 +
0{T_Bp_axle_load_speed_profile}1 +
0{T_Bp_temporary_speed_restriction}1 +
0{T_Bp_temporary_speed_restriction_revocation}1 +
0{T_Bp_track_condition_big_metal_masses}1 +
0{T_Bp_track_condition}1 +
0{T_Bp_route_suitability_data}1 +
0{T_Bp_adhesion_factor}1 +
0{T_Bp_plain_text_message}1 +
0{T_Bp_fixed_text_message}1 +
0{T_Bp_geographical_position_info}1 +
0{T_Bp_mode_profile}1 +

0{T_Bp_RBC_transition_order}1 +
0{T_Bp_danger_for_shunting_information}1 +
0{T_Bp_EOLM_packet}1 +
0{T_Bp_stop_if_in_SR}1 +
0{T_Bp_reversing_area_info}1 +
0{T_Bp_reversing_supervision_info}1 +
0{T_Bp_default_balise_information}1 +
0{T_Bp_infill_location_reference}1 +
0{T_Bp_radio_infill_area_information}1 +
0{T_Bp_TAF_up_to_level_2_3_transition_location}1 +
0{T_Bp_radio_network_registration}1 +
0{T_Bp_loop_SR_distance_info}1.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :
"Euroloop message" is defined in SRS.

666. T_B general message (data flow) =

T_B_radio_message_header
+0{T_Bp_gradient_profile}N
+0{T_Bp_international_SSP}N
+0{T_Bp_national_values}N
+0{T_Bp_linking}N
+0{T_Bp_track_condition_change_of_traction_power}N
+0{T_Bp_axle_load_speed_profile}N
+0{T_Bp_level_transition_order}N
+0{T_Bp_session_management}N
+0{T_Bp_MA_request_parameters}N
+0{T_Bp_position_report_parameters}N
+0{T_Bp_temporary_speed_restriction}Nmax_TSR
+0{T_Bp_temporary_speed_restriction_revocation}Nmax_TSR
+0{T_Bp_track_condition}N
+0{T_Bp_route_suitability_data}N
+0{T_Bp_adhesion_factor}N
+0{T_Bp_plain_text_message}N
+0{T_Bp_fixed_text_message}N
+0{T_Bp_geographical_position_info}N
+0{T_Bp_RBC_transition_order}N
+0{T_Bp_reversing_area_info}N

```
+0{T_Bp_reversing_supervision_info}N
+0{T_Bp_train_running_number_from_RBC}N
+0{T_Bp_default_gradient_for_temporary_speed_restriction}N.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : General radio message, see SRS chapter 8, message ID 24
constituent of data/control flow: T_B_radio_messages

667. T_B information (data flow) =

```
T_B_radio_messages +
T_B_balise_group_message +
T_B_euroloop_message
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : information from track to train, including radio messages, balises messages and euroloop messages.

668. T_B initiation of communication session (data flow) =

```
T_B_radio_message_header.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : message from RBC to initiate the communication session, see SRS message ID 38
constituent of data/control flow: T_B_radio_messages

669. T_B MA with shifted location reference (data flow) =

```
T_B_radio_message_header
+AG_q_scale
+AG_d_ref
+T_Bp_level_2_3_movement_authority
+T_Bp_gradient_profile
+T_Bp_international_SSP
+T_Bp_MA_optional_packets.

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Movement Authority from trackside with a shifted location reference, see SRS message ID 33
constituent of data/control flow: T_B_radio_messages
```

670. T_B movement authority (data flow) =

```
T_B_radio_message_header
+T_Bp_level_2_3_movement_authority
+T_Bp_gradient_profile
+T_Bp_international_SSP
+T_Bp_MA_optional_packets.

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Movement Authority from trackside, see SRS message ID 3
constituent of data/control flow: T_B_radio_messages
```

671. T_B radio message header (data flow) =

```
AG_nid_message
+AG_l_message
+AG_t_train
+AG_m_ack
+AG_nid_LRBG.

-----
rate      : N/A
```

```
range      : N/A
resolution : N/A
units      : N/A
value names: N/A
description: Header of the radio messages, refer to SRS.
Note : the header contains the following variables :
NID_MESSAGE, L_MESSAGE, T_TRAIN, M_ACK, NID_LRBG
```

672. T_B radio messages (data flow) =

```
T_B_SR_authorisation
+ T_B_movement_authority
+ T_B_recognition_of_exit_from(TR_mode)
+ T_B_acknowledgement_of_train_characteristics
+ T_B_conditional_emergency_stop
+ T_B_unconditional_emergency_stop
+ T_B_revocation_of_emergency_stop
+ T_B_general_message
+ T_B_shunting_refused
+ T_B_shunting_authorised
+ T_B_RBC_system_version
+ T_B_MA_with_shifted_location_reference
+ T_B_track_ahead_free_request
+ T_B_acknowledgement_of_termination_of_communication_session
+ T_B_initiation_of_communication_session
+ T_B_request_to_shorten_MA
+ T_B_som_position_report_confirmed_by_RBC
+ T_B_train_accepted
+ T_B_assignment_of_coordinate_system
+ T_B_train_rejected.

-----
rate      : N/A
range      : N/A
resolution : N/A
units      : N/A
value names: N/A
description: all radio messages
constituent of data/control flow: T_B_information
```

673. T_B RBC system version (data flow) =

```
T_B_radio_message_header
+AG_m_version.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : system version received from trackside, see SRS message ID 32
constituent of data/control flow: T_B_radio_messages

674. T_B recognition of exit from TR mode (data flow) =

T_B_radio_message_header.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : recognition of exit from TR mode, see SRS message ID 6
constituent of data/control flow: T_B_radio_messages

675. T_B request to shorten MA (data flow) =

T_B_radio_message_header
+T_Bp_level_2_3_movement_authority
+T_Bp_gradient_profile
+T_Bp_international_SSP
+T_Bp_MA_optional_packets.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : new shorter MA with request to shorten the current MA (from trackside), see SRS message ID 9

676. T_B revocation of emergency stop (data flow) =

T_B_radio_message_header
+AG_nid_em.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : revocation of an emergency stop received from trackside, see SRS message ID 18
constituent of data/control flow: T_B_radio_messages

677. T_B_shunting AUTHORISED (data flow) =

T_B_radio_message_header
+ AG_t_train_for_shunting
+ 0{T_Bp_list_of_balises_for_SH_area}1.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : permission received from RBC to go to SH mode, see SRS message ID 28
constituent of data/control flow: T_B_Radio_messages

678. T_B_shunting REFUSED (data flow) =

T_B_radio_message_header
+AG_t_train_for_shunting.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : "SH refused" message received from RBC, see SRS message ID 27
constituent of data/control flow: T_B_radio_messages

679. T_B som position report confirmed by RBC (data flow) =

T_B_radio_message_header.

rate : N/A

```
range      : N/A
resolution : N/A
units      : N/A
value names: N/A
description: reported position validated by RBC, see SRS message ID 43
constituent of data/control flow: T_B_radio_messages
```

680. T_B_SR authorisation (data flow) =

```
T_B_radio_message_header
+AG_q_scale
+AG_d_sr
+ 0 {T_Bp_list_of_balises_in_SR_authority}1.

-----
rate      : N/A
range     : N/A
resolution: N/A
units      : N/A
value names: N/A
description: "SR authorisation" message, see SRS , message ID 2
constituent of data/control flow: T_B_radio_messages
```

681. T_B track ahead free request (data flow) =

```
T_B_radio_message_header
+AG_q_scale
+AG_q_dir
+AG_d_tafdisplay
+AG_l_tafdisplay.

-----
rate      : N/A
range     : N/A
resolution: N/A
units      : N/A
value names: N/A
description: track ahead free request from RBC, see SRS message ID 34
constituent of data/control flow: T_B_radio_messages
```

682. T_B train accepted (data flow) =

```
T_B_radio_message_header.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : "train accepted by RBC" message, see SRS message ID 41
constituent of data/control flow: T_B_radio_messages

683. T_B train rejected (data flow) =

T_B_radio_message_header.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : "train rejected" message from RBC, see SRS message ID 40
constituent of data/control flow: T_B_radio_messages

684. T_B unconditional emergency stop (data flow) =

T_B_radio_message_header
+AG_nid_em.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : unconditional emergency stop message, see SRS message ID 16
constituent of data/control flow: T_B_radio_messages

685. T_be (data flow) =

**.

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description : Applicable Emergency Brake equivalent build up time.
```

686. T berem (store) =

```
**.
```

```
-----
full name   :
description  : Applicable Model for the remaining EB delay (after traction cut off)
```

687. T Bp adhesion factor (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description : see SRS packet from track to train number 71
```

688. T Bp assignment of coordinate system (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names: N/A
description : see SRS chapter 7 packet from track to train number 135
constituent of data/control flow: telegram_from_eurobalise
```

689. T Bp axle load speed profile (data flow, pel) =

```
**.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 51

690. T_Bp_BG msg consistency reaction inhibition (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 145

691. T_Bp danger for shunting information (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 132.

692. T_Bp data used by application outside ertms (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet number 44, Track to Train.

693. T_Bp default balise information (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 254

694. T_Bp default gradient for temporary speed restriction (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see Subset-026 chapter 7 packet from track to train number 141

695. T_Bp EOLM packet (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : See SRS packet from track to train number 134

696. T_Bp fixed text message (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 76

697. T_Bp geographical position info (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 79

698. T_Bp gradient profile (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : See SRS packet from track to train number 21

699. T_Bp infill location reference (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 136

700. T_Bp international SSP (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : See SRS packet from track to train number 27

701. T_Bp level 1 movement authority (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : See SRS packet from track to train number 12

702. T_Bp level 2 3 movement authority (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : See SRS packet from track to train number 15

703. T_Bp level transition order (data flow, pel) =

**.

rate : N/A
range : N/A

```
resolution      : N/A
units          : N/A
value names    : N/A
description    : see SRS packet from track to train number 41
```

704. T_Bp linking (data flow, pel) =

```
**.
```

```
-----  
rate      : N/A
range     : N/A
resolution : N/A
units     : N/A
value names : N/A
description : see SRS packet from track to train number 5
```

705. T_Bp list of balises for SH area (data flow, pel) =

```
**.
```

```
-----  
rate      : N/A
range     : N/A
resolution : N/A
units     : N/A
value names : N/A
description : see SRS packet from track to train number 49
```

706. T_Bp list of balises in SR authority (data flow, pel) =

```
**.
```

```
-----  
rate      : N/A
range     : N/A
resolution : N/A
units     : N/A
value names : N/A
description : see SRS packet from track to train number 63
```

707. T_Bp loop SR distance info (data flow) =

```
**.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS chapter 7 packet from track to train number 13

708. T_Bp_MA optional packets (data flow) =

```
0{T_Bp_mode_profile}1
+0{T_Bp_national_values}1
+0{T_Bp_linking}1
+0{T_Bp_track_condition_change_of_traction_power}1
+0{T_Bp_level_transition_order}1
+0{T_Bp_axle_load_speed_profile}1
+0{T_Bp_MA_request_parameters}1
+0{T_Bp_position_report_parameters}1
+0{T_Bp_temporary_speed_restriction}Nmax_TSR
+0{T_Bp_track_condition}1
+0{T_Bp_route_suitability_data}1
+0{T_Bp_RBC_transition_order}1
+0{T_Bp_reversing_area_info}1
+0{T_Bp_reversing_supervision_info}1.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Optional packets with a "MA" radio message

709. T_Bp_MA request parameters (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A

value names : N/A
description : see SRS packet from track to train number 57

710. T_Bp mode profile (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to SRS packet from track to train number 80

711. T_Bp national values (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 3

712. T_Bp national values for braking curves (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 203

713. T_Bp plain text message (data flow, pel) =

**.

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : see SRS packet from track to train number 72
```

714. T_Bp position report parameters (data flow, pel) =

```
**.
```

```
-----  
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : see SRS packet from track to train number 58
```

715. T_Bp radio infill area information (data flow, pel) =

```
**.
```

```
-----  
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : refer to SRS packet from track to train number 133
```

716. T_Bp radio network registration (data flow) =

```
**.
```

```
-----  
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : see SRS packet from track to train number 45
```

717. T_Bp RBC transition order (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 131

718. T_Bp repositioning information (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 16

719. T_Bp reversing area info (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 138

720. T_Bp reversing supervision info (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A

```
units      : N/A
value names : N/A
description : see SRS packet from track to train number 139
```

721. T_Bp revocable TSR from balise inhibition (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : see SRS packet from track to train number 64
```

722. T_Bp route suitability data (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : see SRS packet from track to train number 70
```

723. T_Bp session management (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : see SRS packet from track to train number 42
```

724. T_Bp stop if in SR (data flow, pel) =

```
**.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 137

725. T_Bp TAF up to level 2 3 transition location (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 90

726. T_Bp temporary speed restriction (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 65

727. T_Bp temporary speed restriction revocation (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 66

728. T_Bp track condition (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 68

729. T_Bp track condition big metal masses (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 67

730. T_Bp track condition change of traction power (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : see SRS packet from track to train number 39

731. T_Bp train running number from RBC (data flow, pel) =

**.

rate : N/A
range : N/A

```
resolution      : N/A
units          : N/A
value names    : N/A
description    : see SRS chapter 7 packet from track to train number 140
```

732. T_bs (data flow) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : Applicable Service Brake equivalent build up time
```

733. T_bs1 (data flow) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : Applicable model SB1 delay (for SBI1)
```

734. T_bs2 (data flow) =

```
**.
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : Applicable model SB2 delay (for SBI2)
```

735. T_driver (store) =

```
**.
```

full name :
description : Delay between the permitted speed supervision limit and the first brake intervention (SB/EB). SRS fixed value.

736. T indication (store) =

**.

full name :
description : Applicable Model for indication delay.

737. T traction (store) =

**.

full name :
description : Applicable model for the traction cut off delay.

738. t waitmsg (data flow, pel) =

**.

rate : N/A
range : 0..32
resolution : 1
units : s
value names : N/A
description : delay maximum, without receiving message from RBC after t_nvcontact expiration,
before disconnection-reconnection of radio if reaction is service brake

739. T warning (store) =

**.

full name :
description : Delay between the warning speed supervision limit and the first brake intervention (SB/EB). SRS fixed value.

740. TAP (store) =

```
gradient
+ A_gradient
+ adhesion
+ special_brakes_inhibition_acceleration_profile.

-----
full name      :
description   : Track Acceleration Profile (used in the computation of the dynamic Braking curves)
```

741. tbl1 config parameters (data flow) =

```
**.

-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : hold the different config parameters needed by the TBL1+ Applicative Bowl.
```

742. TBL1 is active (data flow) =

```
[ "FUNCTION_IS_OFF" | "FUNCTION_IS_ON" ].

-----
full_name     : ;
rate          : N/A;
range         : N/A;
resolution    : N/A;
units          : N/A;
value_names   : N/A;
component_of  : N/A;
description   : indicates if the function bowl TBL1+ is active or not;
```

743. TCMS redundancy status (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates about the redundancy status of the redundant media used to transmit the brake degraded status from the TCMS.

744. TCO application for EVC reset (data flow) =

["FALSE" | "TRUE"] .

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Indicates if traction has to be cut off to stop the train and force its reset.

745. telegram from eurobalise (data flow) =

T_B_balise_telegram_header +
0{T_Bp_national_values}1 +
0{T_Bp_national_values_for_braking_curves}1 +
0{T_Bp_linking}1 +
0{T_Bp_level_1_movement_authority}1 +
0{T_Bp_repositioning_information}1 +
0{T_Bp_gradient_profile}1 +
0{T_Bp_international_SSP} 1 +
0{T_Bp_track_condition_change_of_traction_power}1 +
0{T_Bp_level_transition_order}1 +
0{T_Bp_session_management}1 +
0{T_Bp_data_used_by_application_outside_ertms}1 +
0{T_Bp_list_of_balises_for_SH_area}1 +
0{T_Bp_axle_load_speed_profile}1 +
0{T_Bp_temporary_speed_restriction}1 +
0{T_Bp_temporary_speed_restriction_revocation}1 +
0{T_Bp_track_condition_big_metal_masses}1 +
0{T_Bp_track_condition}1 +
0{T_Bp_route_suitability_data}1 +
0{T_Bp_adhesion_factor}1 +

0{T_Bp_plain_text_message}1 +
0{T_Bp_fixed_text_message}1 +
0{T_Bp_geographical_position_info}1 +
0{T_Bp_mode_profile}1 +
0{T_Bp_RBC_transition_order}1 +
0{T_Bp_danger_for_shunting_information}1 +
0{T_Bp_EOLM_packet}1 +
0{T_Bp_stop_if_in_SR}1 +
0{T_Bp_reversing_area_info}1 +
0{T_Bp_reversing_supervision_info}1 +
0{T_Bp_revocable_TSR_from_balise_inhibition}1 +
0{T_Bp_default_balise_information}1 +
0{T_Bp_infill_location_reference}1 +
0{T_Bp_radio_infill_area_information}1 +
0{T_Bp_TAF_up_to_level_2_3_transition_location}1 +
0{T_Bp_radio_network_registration}1 +
0{T_Bp_BG_msg_consistency_reaction_inhibition}1.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :
"Telegram from eurobalise" is defined in SRS.

746. **telegram from STM (data flow) =**

header_of_telegram_from_STM +
0 {update_buttons} N +
0 {update_indicator} N +
0 {text_message} N +
0 {delete_text_message} N +
0 {sound_command} N +
0 {diagnostic_message} N +
0 {STM_emergency_and_service_brake_command_to_train_interface} 1 +
0 {STM_additional_train_control_command_to_train_interface} 1 +
0 {STM_emergency_and_service_brake_command_train_interface_to_JRU} 1 +
0 {STM_national_trackside_information_from_STM_to_JRU} N +
0 {STM_MMI_information_to_JRU} N +
0 {STM_MMI_confirmation_for_additional_data_entry_to_JRU} N +
0 {STM_request_for_additional_data_entry} N +
0 {STM_confirmation_for_additional_data_entry} N +
0 {STM_state_report} 1 +

0 {STM_override_activation} 1 +
0 {STM_max_speed} 1 +
0 {STM_system_speed} 1 +
0 {STM_manager_data} 1 +
0 {STM_state_request} 1 +
0 {STM_trip_info} 1 +
0 {specific_STM_data_need} 1 +
0 {specific_STM_data_entry_request} 1 +
0 {end_of_specific_STM_data_entry} 1 +
0 {specific_STM_data_view_values} 1 +
0 {STM_test_request} 1 +
0 {configuration_request_from_STM} 1 +
0 {STM_parameters_data} 1 +
0 {STM_specific_brake_control_command} 1 +
0 {STM_commands_to_train_interface} 1 +
0 {specific_data_entry_flag} 1.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : telegram from the STMs sent to alls STM-functions

747. telegram to STM (data flow) =

header_of_telegram_to_STM +
0 {additional_data_values_to_STM} 1 +
0 {train_data_additional_braking_characteristic_to_STM} 1 +
0 {national_values_to_STM} 1 +
0 {odometer_multicast} 1 +
0 {odometer_parameters} 1 +
0 {button_event_report} 1 +
0 {train_interface_cab_control_state_to_STM} 1 +
0 {additional_train_interface_control_state_to_STM} 1 +
0 {train_interface_command_configuration_to_STM} 1 +
0 {driver_selection_for_specific_STM_data_entry_to_STM} 1 +
0 {specific_STM_data_values_request_to_STM} 1 +
0 {STM_state_order} 1 +
0 {EVC_status} 1 +
0 {EVC_override_status_to_STM} 1 +
0 {train_data_to_STM} 1 +

```
0 {specific STM data within telegram to STM} 1 +
0 {active DMI channel} 1 +
0 {brake interface parameters to STM} 1 +
0 {BTM alarm data} 1.
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : telegram sent to STM

748. terminate session (data flow, del) =

```
["TRUE" | "FALSE"].
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates whether the onboard equipment has triggered the termination of the communication session

749. text display if partially failed (data flow, del) =

```
["FALSE" | "TRUE"].
```

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates whether a text has to be displayed in case of EB tests partially failed

750. text message (data flow, psl) =

```
**.
```

rate : N/A

```
range      : N/A
resolution : N/A
units      : N/A
value names: N/A
description: refer to FFFIS STM Application Layer packet 38.
```

751. tilting state (data flow, del) =

```
[ "OK" | "FAIL_STATE" | "INFO_NOT_AVAILABLE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: current state of the tilting equipment
```

752. tip to display in planning area (data flow, del) =

```
[ "NOT_DISPLAYED" | "DISPLAYED" ].
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: Defines if the target indication point shall be displayed in the planning area.
```

753. TR mode request (data flow, del) =

```
[ "TRIP_MODE_REQUESTED" | "TRIP_MODE_NOT_REQUESTED" ].
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
```

value names : N/A
description : indicates whether the TR mode is requested or not

754. track condition displayed (data flow, del) =

["NOT_DISPLAYED" | "DISPLAYED"]

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Defines if the related track condition
shall be displayed in the planning area.

755. track conditions info (store, pel) =

**.

full name :
description :
All track conditions received from trackside.

756. traction cut off application monitoring timer (data flow, pel) =

**.

rate : N/A
range : 0..255
resolution : 1
units : s
value names : N/A
description : Timer used for the traction cut-off application monitoring

757. traction cut off for change of traction power (data flow, del) =

["FALSE" | "TRUE"].

rate : N/A
range : N/A

```
resolution      : N/A
units          : N/A
value names    : N/A
description    : Indicates whether the traction must be cut off or not when the train passes a "change of traction power" location
```

758. traction cut off for powerless section circuit breaker (data flow, del) =

```
[ "FALSE" | "TRUE" ].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : Indicates whether the traction must be cut off when the train passes a powerless section for circuit breaker (main switch)
```

759. traction cut off for powerless section pantograph (data flow, del) =

```
[ "FALSE" | "TRUE" ].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : Indicates whether the traction must be cut off when the train passes a powerless section for pantograph
```

760. traction cut off on warning (data flow) =

```
[ "NO" | "YES_WITH_EBI_IMPACT" | "YES_NO_EBI_IMPACT" ].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : indicates if the traction is cut off when passing the warning supervision speed.
It also indicates if the T_traction is reduced (SRS) or not (and thus impact EBI supervision limit computation).
```

761. traction cut off release monitoring timer (data flow, pel) =

**.

rate : N/A
range : 0..255
resolution : 1
units : s
value names : N/A
description : timer used for the traction cut-off release monitoring

762. traction cut off state (data flow, del) =

["TRACTION_CUT_OFF_APPLIED" | "TRACTION_CUT_OFF_NOT_APPLIED" | "INFO_NOT_AVAILABLE" | "FAIL_STATE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : current state of the traction cut-off equipment

763. train acceleration (data flow, cel) =

**

rate : Continously available since the power-on of the equipment.
range : -6.35..6.35
resolution : 0.01
units : m/s2
value names : N/A
description : Train acceleration measurement, which does not take into account the associated accuracy, provided by the function handling the MMU equipment.

764. train adhesion (data flow) =

["SLIP" | "SLIDE"]

rate : Continously available since the power-on of the equipment.
range : N/A

```
resolution      : N/A
units          : N/A
value names    : N/A
description    : Current train adhesion qualifier measured/computed by the odometry subsystem.
```

765. train classification (data flow) =

```
[ "GAMMA" | "LAMBDA" ].
```

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units          : N/A
value names   : N/A
description   : Indicates the train classification to consider namely in terms of braking curves computations.
```

766. train commands (data flow) =

```
command_pantograph
+ command_circuit_breaker
+ command_air_tightness
+ command_traction_cut_off
+ command_passenger_emergency_brake_inhibition
+ command_regenerative_brake_inhibition
+ command_magnetic_shoe_brake_inhibition
+ command_eddy_current_brake_inhibition_for_SB
+ command_eddy_current_brake_inhibition_for_EB
+ command_SB
+ command_EB
+ EB_sw_cmd
+ go_to_sleeping
+ mode
+ level
+ train_speed_higher_than_threshold
+ vigilance_disable_order
+ vigilance_reset_order
+ changing_traction_command
+ command_EB_for_test
+ command_EB_not_for_test.
```

```
-----
rate          : N/A
```

```
range      : N/A
resolution : N/A
units      : N/A
value names: N/A
description: commands sent to the train interface
```

767. train configuration data (store) =

```
0 {activate_output_on_DA_state} N +
adhesion_independent_brake_config +
antenna_configuration +
allowed_train_inputs +
allowed_train_outputs +
EVC_connected_to_SB +
circuit_breaker_open_for_change_of_traction_power +
circuit_breaker_open_for_powerless_section +
circuit_breaker_open_for_powerless_section_pantograph +
cylinder_brake_pipe_pressure +
delay_cut_off +
delay_close_circuit_breaker +
delay_lower_panto +
delay_open_circuit_breaker +
delay_raise_panto +
dist_desk_antenna +
EB_application_monitoring_timer +
EB_release_monitoring_timer +
EB_sw_cmd +
engine_length +
main_brake_pipe_pressure +
NL_input_signal +
panto_down_for_powerless_section +
panto_down_for_change_of_traction_power +
panto_position_method +
panto_window_start_distance +
panto_window_end_distance +
SB_application_monitoring_timer +
SB_release_monitoring_timer +
SB_speed_limit_for_deceleration +
traction_cut_off_application_monitoring_timer +
traction_cut_off_for_powerless_section_pantograph +
traction_cut_off_for_powerless_section_circuit_breaker +
traction_cut_off_for_change_of_traction_power +
traction_cut_off_release_monitoring_timer +
train_IOs_to_monitor +
train_wheel_diameter +
```

ZUB_vitality.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : train configuration data.

768. train data additional braking characteristic to STM (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Refer to "FFFIS STM Application Layer", packet STM-176

769. train data to STM (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Refer to packet STM-175 FFFIS STM Application Layer.

770. train data values (store, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A

value names : N/A
description : Refer to list of "train data" defined in Subset-026.

771. train enters BMM (data flow, pel) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Flag for the train entering a BMM

772. train exits BMM (data flow) =

["TRUE" | "FALSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Flag when the train exits a BMM

773. train front end versus LRBG side (data flow, del) =

["NOMINAL" | "REVERSE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : side of the LRBG where the estimated front end of the train is located

774. train integrity state (data flow, del) =

["INTEGRITY_OK" | "INTEGRITY_NOT_OK" | "INFO_NOT_AVAILABLE" | "FAIL_STATE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : current train integrity state

775. train interface cab control state to STM (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to FFFIS STM Application Layer packet 139

776. train interface command configuration to STM (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to packet STM-141 in "FFFIS STM Application Layer"

777. train IOs to monitor (data flow) =

```
nbr_of_IOs_to_monitor{  
    output_to_monitor +  
    input_to_monitor +  
    monitoring_delay +  
    brake_action +  
    display_action
```

```
 }nbr_of_IOs_to_monitor.

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : IOs monitored by the onboard equipment.
```

778. train location info (store) =

```
data_stored_status
+ estimated_train_front_end_location
+ max_safe_train_front_end_location
+ min_safe_train_front_end_location
+ min_safe_train_rear_end_location
+ max_safe_active_EUROBALISE_antenna_location
+ min_safe_active_EUROBALISE_antenna_location
+ train_orientation
+ train_front_end_versus_LRBG_side
+ last_bg_crossed.

-----
full name   :
description : information about train location
```

779. train max acc table (data flow) =

```
**.

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Table allowing to define the train max acceleration according to the train length entered by the driver.
```

780. train movement info (data flow) =

```
absolute_distance_counter
+ train_speed
```

```
+ train_acceleration
+ motion_direction
+ motion_state
+ train_adhesion.

-----
rate      : Continously available since the power-on of the equipment.
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: train movement information provided by the function handling the MMU equipment.
```

781. train orientation (data flow, del) =

```
[ "NOMINAL" | "REVERSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: orientation of the train versus the LRBG orientation
```

782. train position validated by CMD (data flow) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description: Flag about the validation of the train position by the cold movement detector
```

783. train running number (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
```

```
resolution      : N/A
units          : N/A
value names    : N/A
description    :
train running number (= NID_OPERATIONAL),
and status of this data : ["valid"|"invalid"|"unknown"].
```

784. train speed (data flow, cel) =

**

```
-----
rate          : Available continuously since the power-on of the equipment.
range         : 0..600km/h
resolution    : 1km/h
units         : km/h
value names   : N/A
description   : Estimated train speed measurement, which does not take into account the associated accuracy.
```

785. train speed higher than threshold (data flow, del) =

["LOWER" | "HIGHER"].

```
-----
rate          : N/A
range         : N/A
resolution    : N/A
units         : N/A
value names   : N/A
description   : indicates whether the estimated speed of the train is higher or lower than the speed threshold
```

786. train states (store) =

```
power_from_train +
isolation_state +
desks_state +
sleeping_state +
direction_controller_state +
EB_state +
SB_state +
traction_cut_off_state +
pantograph_state +
circuit_breaker_state +
train_integrity_state +
```

tilting_state +
cold_movement_detector_state +
pneumatic_insertion_state +
info_on_STMs_isolation_status.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : states of train equipments

787. train wheel diameter (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Diameter of train wheels

788. traindataentry STM response timeout (data flow, cel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : s
value names : N/A
description : timeout : from sending the ETCS Train Data by the ETCS while the NTC data entry procedure is running until reception of NTC data entry request or the End of NTC data entry from STM AND from each sending NTC data by the ETCS until reception

789. traindataview STM response timeout (data flow, cel) =

**.

rate : N/A

```
range      : 0..1023
resolution : 1
units      : s
value names: N/A
description: timeout from sending the Request for specific NTC data view values until the reception of the values or the No Specific Data View values from the respective STM.
```

790. trip override is active (data flow, del) =

```
[ "TRUE" | "FALSE" ]
```

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: "TRUE" = the trip override function is active
              "FALSE" = the trip override function is not active
description: the trip override function is active or not active
```

791. TRN displayed as a train data (store) =

```
[ "FUNCTION_IS_OFF" | "FUNCTION_IS_ON" ].
```

```
-----
full_name   : ;
rate        : N/A;
range       : N/A;
resolution  : N/A;
units       : N/A;
value_names : N/A;
component_of: N/A;
Description : indicates if the function that displays the TRN as a train data in the confirmation screen is active or not.
              This implies a return to the TRN entry screen if train data are not confirmed by the driver.
```

792. trn screen skipped (data flow) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate        : N/A
range       : N/A
resolution  : N/A
```

units : N/A
value names : N/A
description : indicates if the train running number entry screen shall be skipped during SOM or data entry or not.

793. TSR info (store, pel) =

**.

full name :
description : Temporary Speed Restriction (TSR) information which is stored and used onboard.

794. type of data entry behaviour (data flow) =

["NONE" | "TRAIN_DATA_SET_SELECTION" | "PREDEF_VALUE_FROM_TRAIN_INTERFACE"].

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : indicates if the data entry is "NONE" --> UNISIG,
"TRAIN_DATA_SET_SELECTION" --> automatic selection of fixed train data set,
"PREDEF_VALUE_FROM_TRAIN_INTERFACE" --> use train interface for predefined value of dynamic data.
.

795. update buttons (data flow, pel) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : refer to FFFIS STM Application Layer packet 32

796. update indicator (data flow, pel) =

**.

```
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : refer to FFFIS STM Application Layer packet 35.
```

797. use of maintenance parameters plug (data flow) =

```
[ "TRUE" | "FALSE" ].
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : Indicates if there is a specific maintenance parameters plug available to be loaded or not.
```

798. used national values (store, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : national values are define in Subset-026, appendix 3.2 of chapter 3.
```

799. UTC reference (data flow, pel) =

```
**.
```

```
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
```

description : Reference which allows the UTC clock to generate a time which is "Universal Time Co-ordinated".

800. UTC time (data flow, pel) =

* * .

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Time which is "Universal Time Co-ordinated".

801. V delta (data flow) =

not-defined.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :

802. V delta0 (data flow) =

not-defined.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description :

803. V delta1 (data flow) =

not-defined.

rate : N/A

```
range      : N/A
resolution : N/A
units      : N/A
value names: N/A
description:
```

804. V_delta2 (data flow) =

not-defined.

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description:
```

805. V_STMMAX (data flow) =

**.

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description:
```

806. V_STMSYS (data flow) =

**.

```
-----
rate      : N/A
range     : N/A
resolution: N/A
units     : N/A
value names: N/A
description:
```

807. vigilance disable order (data flow, del) =

```
[ "TRUE" | "FALSE" ]
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates if the "driver vigilance" device has to be active or not.
```

808. vigilance reset order (data flow, del) =

```
[ "TRUE" | "FALSE" ]
-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates if the "driver vigilance" device has to be reset or not.
```

809. way to command EB1 and EB2 (data flow, del) =

```
[ "SIMULTANEOUS" | "ALTERNATE" ].

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
description : indicates the way to command the EB :
    - simultaneous = EB1 and EB2 commanded simultaneously
    - alternate = EB1 and EB2 commanded alternatively
```

810. wheel diameter A (data flow) =

```
**.

-----
rate      : N/A
range     : N/A
resolution : N/A
units      : N/A
value names : N/A
```

description : Diameter of the wheel where the wheel sensor A is installed. There is a flag that indicates if this value shall be taken into account or not.

811. wheel diameter B (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : Diameter of the wheel where the wheel sensor B is installed. There is a flag that indicates if this value shall be taken into account or not.

812. ZUB vitality (data flow) =

**.

rate : N/A
range : N/A
resolution : N/A
units : N/A
value names : N/A
description : generic input related to the current state (active or not) of the ZUB.