



COVER DOCUMENT

# **System Pillar / EULYNX**

## **Baseline Set 4 Release 3**

Version: 3.5  
Date: 15-12-2025



## Revision History

Revision #	Revision Date	Description of Change	Author
1	20230630	Mirror Group approval of Release 2	Nico Hurman, Mirko Blazic
2	20231004	Error corrections Release 2	Nico Hurman
3	20240621	Mirror Group approval of Release 3	Nico Hurman, Mirko Blazic
3.1	20240822	Versions of Eu.Doc.38 and Eu.Doc.46 corrected	Nico Hurman
3.2	20241017	Error corrections Release 3	Nico Hurman
3.3	20241213	Additional error corrections Release 3	Nico Hurman
3.4	20250630	Additional error corrections Release 3	Nico Hurman
3.5	20251215	Additional error corrections Release 3	Nico Hurman

# Introduction

*Europe's Rail Joint Undertaking (EU-Rail) is established by Council Regulation (EU) 2021/2085 of 19 November 2021. It is the new European partnership on rail research and innovation established under the Horizon Europe programme (2020-2027) and the universal successor of the Shift2Rail Joint Undertaking. The vision of EU-Rail is to deliver, via an integrated system approach, a high capacity, flexible, multi-modal and reliable integrated European railway network by eliminating barriers to interoperability and providing solutions for full integration, for European citizens and cargo.*

*The EULYNX Consortium (EULYNX) is an initiative of 15 European infrastructure managers, started in 2014 with a common goal for standardisation of signalling systems. Aiming for defining and standardising CCS interfaces, the goal is a significant reduction of the lifecycle cost for signalling systems. EULYNX regularly publishes specification documents as Baseline Sets.*

EU-Rail and EULYNX have published a common documentation release EULYNX Baseline Set 4 Release 3. This release has been prepared in close collaboration with the European rail control-command and signalling (CCS) sector under the organisation of EU-Rail System Pillar, bringing a part of the EULYNX development under technical authority of the EU-Rail System Pillar.

The EULYNX Baseline Set 4 Release 3 is a documentation update release within the EULYNX Baseline Set 4, continuing the development based on previous releases. The primary focus of this release is to incorporate remaining feedback from the industry and reach a stable maturity level, fully integrated into the EU-Rail System Pillar. All specifications related to trackside assets and transversal functions are applicable for both the current EULYNX architecture and the future rail target architecture, agreed in the framework of the EU-Rail System Pillar, therefore published as a single set of specifications under a common publication by EULYNX and EU-Rail, delivering in total 25 specification documents. The EU-Rail System Pillar takes the role of the technical authority for the documents of the common publication and will ensure their maintenance.

In addition to the common documentation release, EULYNX published also additional specifications and supporting documents for the current EULYNX architecture, which are integrated in the EULYNX part of Baseline Set 4 Release 3, delivering additional 29 documents.

All deliverables are available in PDF format. In addition to the PDF documents, the following supporting artefacts are delivered:

- For all deliverables originating from DOORS, the requirements interchange format ReqIF is available.
- For all model-based deliverables, the underlying models are available as an export from the EULYNX model.

- For all EULYNX field element subsystem specifications, the simulators developed by EULYNX for verification and validation of requirements are available.

### **Security specifications**

This release does not provide an update of the specifications related to security. The EULYNX BL4R2 security specifications remain applicable. In future phases, the EULYNX security specifications will be integrated and replaced by harmonised specifications published by the EU-Rail System Pillar Security domain. Publication of the first set of harmonised specifications by the EU-Rail System Pillar Cyber Security domain is currently foreseen for January 2025. This first set will contain 4 specification documents:

- Security Program Requirements
- Secure Component Specification
- Secure Communication Specification
- Shared Security Services Specification

### **Planning next releases**

With this release, the specification documents of Baseline Set 4 have reached a stable maturity level. The current baseline set is closed for changes in functionality or new functions. Individual specifications may receive further updates due to error corrections or change requests.

Further developments in EULYNX and EU-Rail System Pillar will be introduced as part of Baseline Set 5. A concrete timeline for the next baseline set has not yet been defined, its publication will not be earlier than June 2026.

# Documents

The System Pillar / EULYNX Baseline Set 4 Release 3 includes the following documents:

Document ID	Document Name	Document Version	CENELEC Phase	Release
Eu.Doc.18	Maintenance and data management specification	4.0 (2.A)	4	06/2023
Eu.Doc.20	Generic interface and subsystem requirements	4.0 (6.A)	4	06/2024
Eu.Doc.119	Generic interface and subsystem requirements for SCI	1.1 (0.A)	4	06/2024
Eu.Doc.120	Generic interface and subsystem requirements for SMI	1.1 (0.A)	4	06/2024
Eu.Doc.92	Interface definition SCI	4.3 (0.A)	5	06/2024
Eu.Doc.93	Interface specification SCI Generic	3.3 (0.A)	5	06/2024
Eu.Doc.77	Interface definition SDI	3.2 (0.A)	5	06/2024
Eu.Doc.94	Interface specification SDI Generic	4.2 (0.A)	5	06/2024
Eu.Doc.100	Specification of Point of Service - Signalling	2.2 (0.A)	4	06/2024
Eu.Doc.76	Interface definition and specification SMI	2.2 (0.A)	5	06/2024
Eu.Doc.32	Requirements specification for subsystem Light Signal	4.3 (0.A)	4	06/2024
Eu.Doc.33	Interface specification SCI-LS	4.3 (0.A)	5	06/2024
Eu.Doc.78	Interface specification SDI-LS	4.2 (0.A)	5	06/2024
Eu.Doc.36	Requirements specification for subsystem Point	4.4 (0.A)	4	06/2024
Eu.Doc.38	Interface specification SCI-P	4.2 (1.A)	5	06/2024
Eu.Doc.80	Interface specification SDI-P	4.2 (0.A)	5	06/2024
Eu.Doc.45	Requirements specification for subsystem Generic IO	4.3 (0.A)	4	06/2024
Eu.Doc.46	Interface specification SCI-IO	4.0 (3.A)	5	06/2024
Eu.Doc.82	Interface specification SDI-IO	4.2 (0.A)	5	06/2024
Eu.Doc.43	Requirements specification for subsystem TDS	4.2 (0.A)	4	06/2024
Eu.Doc.44	Interface specification SCI-TDS	4.1 (0.A)	5	06/2024
Eu.Doc.81	Interface specification SDI-TDS	4.2 (0.A)	5	06/2024
Eu.Doc.108	Requirements specification for subsystem Level Crossing	2.3 (0.A)	4	06/2024
Eu.Doc.109	Interface specification SCI-LC	2.2 (0.A)	5	06/2024
Eu.Doc.110	Interface specification SDI-LC	3.2 (0.A)	5	06/2024

# Error corrections

The following table will list Change Requests that describe error corrections that shall be considered when applying the documents of EULYNX Baseline Set 4 Release 3.

CR ID	CR Description	IDs of impacted documents	CR date
EUP-576	Wrong transition condition in STM diagram F_Control_And_Observe_4W_PM	Eu.Doc.36	09/2024
EUIO-439	SDI-IO, correction of multiplicities for PhysicalChannelConnection	Eu.Doc.82	09/2024
EUAR-690	Alignment between RJ45 and SPF cage requirement	Eu.Doc.100	09/2024
EUAR-763	Correct missing Operation_State when leaving Data_Update	Eu.Doc.120	11/2024
EULX-644	Correct missing package marking	Eu.Doc.108	04/2025
EUP-577	Missing condition for degraded point position at startup	Eu.Doc.36	06/2025
EUP-584	Correct package marking for crucial point machine configuration	Eu.Doc.36	06/2025
EUAR-720	Removal of redundancy PreloadItemStarted and PreloadItemFinished	Eu.Doc.76 Eu.Doc.120	06/2025
EUAR-731	SDI-XX, diagnostics for SSI	Eu.Doc.94	06/2025
EUAR-739	SDI-XX, express source and target of Interface classes	Eu.Doc.94	06/2025
EUAR-760	Add SDI-XX attribute for expiration of Con_tmax_DataInstallation in SMI	Eu.Doc.94	06/2025
EUAR-763	Correct missing Operation_State when leaving Data_Update	Eu.Doc.120	06/2025
EUAR-765	Add SDI-XX attribute for reporting PDI repetition	Eu.Doc.94	06/2025
EUAR-771	Refine diagnostic attributes for connections status	Eu.Doc.94	06/2025
EUAR-772	Remove enumeration ReplaceableRevalidation	Eu.Doc.94	06/2025
EUAR-774	Version handling of SDI and SMI models in namespaceURI	Eu.Doc.76 Eu.Doc.77	06/2025
EUAR-778	Update reference to security permissions in SDI, SMI	Eu.Doc.76 Eu.Doc.77	06/2025
EUAR-780	Missing general OPC UA requirement for SMI	Eu.Doc.76	06/2025
EUAR-790	Refine version handling of SDI and SMI models in namespaceURI	Eu.Doc.76 Eu.Doc.77	06/2025

		Eu.Doc.94	
EULS-492	LS - Refine version handling of SDI and SMI models in namespaceURI	Eu.Doc.78	06/2025
EUP-588	P - Refine version handling of SDI and SMI models in namespaceURI	Eu.Doc.80	06/2025
EUIO-444	IO - Refine version handling of SDI and SMI models in namespaceURI	Eu.Doc.82	06/2025
EUTDS-537	TDS - Refine version handling of SDI and SMI models in namespaceURI	Eu.Doc.81	06/2025
EULX-651	LC - Refine version handling of SDI and SMI models in namespaceURI	Eu.Doc.110	06/2025
EULX-643	SDI-LC, Is MotorTurnData mandatory for BarrierTurnEvent?	Eu.Doc.110	06/2025
EULS-463	SDI-LS, errors related to balise cabling	Eu.Doc.78	06/2025
EULS-493	Correct missing package marking at logical context diagram	Eu.Doc.32	11/2025
EUP-589	Correct missing package marking at logical context diagram	Eu.Doc.36	11/2025
EUAR-811	SDI-XX, check and align use of value 0 for Unknown in enumerations	Eu.Doc.78 Eu.Doc.81 Eu.Doc.82 Eu.Doc.94	11/2025
EUAR-812	SDI-XX, correct OPC UA version numbers for BL4R4, impact of generic change	Eu.Doc.78 Eu.Doc.81 Eu.Doc.82 Eu.Doc.110	11/2025
EUAR-816	SDI-XX, correct inconsistent data type, trigger values and unused enumerations	Eu.Doc.94 Eu.Doc.110	11/2025
EUTDS-540	SDI-TDS, correct missing value for powerSupplyStatus	Eu.Doc.81	11/2025
EULX-654	SDI-LC, correct diagnostics for WarningLamp	Eu.Doc.110	11/2025
EUTDS-539	Clarify and correct multiplicity of maintainer interface TDS6	Eu.Doc.43	11/2025

# Functional packages

Documents related to the EULYNX field element subsystems (Light Signal, Generic IO, Point, TDS, Level Crossing) are divided into functional packages. These packages define coherent blocks of capabilities that can be implemented in a product. The packages can be used to delimit the required scope of the functionality of a product, either in the context of tenders for specific implementation projects or in the context of generic product testing and/or certification.

There are two types of packages related to the product capabilities:

- 'Basic packages': One or more packages, at least one of them must be implemented. It is optionally allowed to combine and implement more than one 'basic package' in a product.
- 'Optional package': One or more packages that can be optionally implemented in addition to (one of) the basic package(s).

# Backwards compatibility

The specifications documents of Baseline Set 4 do not include automatic backwards compatibility. Products developed according to the EULYNX specifications of BL4 can't communicate with products developed according to earlier baselines of the EULYNX specifications. Products that must support communication with other products of both BL4 and the previous EULYNX baseline, e.g. because of migration scenarios, must be developed according to a superset of specification documents from different baselines.

The specification documents of Baseline Set 4 are structured in such a way that in a future release it is possible to release a new version of the specification documents related to SCI, SDI, SMI or SSI without the need to publish a new version of the specification document related to the other interfaces. In this way, compatibility of different versions of the four EULYNX interfaces can be managed independent from each other.

Even when the specifications for the interfaces SCI, SDI, SMI and SSI are managed independently in separate documents, there can be technical reasons that create interdependencies between them. This can e.g. be the introduction of a new functionality that requires an update on both SCI and SMI. The new functionality can only be used if a EULYNX product implements the newer version of both SCI and SMI.

To manage this, EULYNX will maintain a compatibility matrix for every subsystem/interface. Every time a new version is released of the defining specification document of one of the 4 interfaces, the compatibility matrix will list all defined versions of the other interfaces with which this new interface version can be combined. The compatibility matrices are listed in the document EULYNX BL4 R3 Compatibility matrices.

# Copyright information

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## Further information

Further information is available from EU-Rail System Pillar unit or the EULYNX Consortium Office.

EU-Rail System Pillar can be contacted through <https://rail-research.europa.eu/about-europes-rail/contact>

EULYNX Consortium office can be contacted through [eulynx.eu](http://eulynx.eu) and [consortium@eulynx.eu](mailto:consortium@eulynx.eu)

# Annex 1: Error correction CRs

**[EUP-576] Wrong transition condition in STM diagram****F Control And Observe 4W PM**

Created: 16.07.2024 Updated: 16.07.2024

<b>Status:</b>	Open
<b>Project:</b>	<a href="#">EULYNX CP SCI-P</a>
<b>Component/s:</b>	None

<b>Type:</b>	Error	<b>Priority:</b>	None
<b>Reporter:</b>	<a href="#">Nico Huurman</a>	<b>Assignee:</b>	Unassigned
<b>Resolution:</b>	Unresolved		
<b>Remaining Estimate:</b>	Not Specified		
<b>Time Spent:</b>	Not Specified		
<b>Original Estimate:</b>	Not Specified		

<b>Attachments:</b>	<input type="checkbox"/> 20240710 Point STMs which were basis for BL4R2.pdf	<input type="checkbox"/> [EUP-576] Correct STM diagram.png
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**Description****Current state**

BL4R3

**Problem**

The STM diagram F\_Control\_And\_Observe\_4W\_PM (Eu.P.5823) contains an error. The 2nd transitions from MOVING\_LEFT\_PM / MOVING\_RIGHT\_PM to DETECTION contain `d12in_Required_PM_Position = "LEFT_REACHED" / d12in_Required_PM_Position = "RIGHT_REACHED"`. This condition can never be true, because the values "LEFT\_REACHED" / "RIGHT\_REACHED" are not used for the port `d12in_Required_PM_Position`.

**Intended state**

The correct transition must be `d27in_4W_PM_Position = "LEFT_REACHED" / d27in_4W_PM_Position = "RIGHT_REACHED"`.

The correct transitions are shown in the attached figure.

The latest version of the SubS Point simulator is correct, as it was based on a copied PTC model. See attached .pdf.

**Impact**

ReqSpec SubS P

**Backwards compatibility analysis**

Error correction for the following releases:

- BL4 R2

- BL4 R3

<Provide an answer to the following questions:

Question 1: Can an EfeS implementing the change (new EfeS) operate with an EIL NOT implementing the change (old EIL)?

Question 2: Can an EfeS NOT implementing the change (old EfeS) operate with an EIL implementing the change (new EIL)?

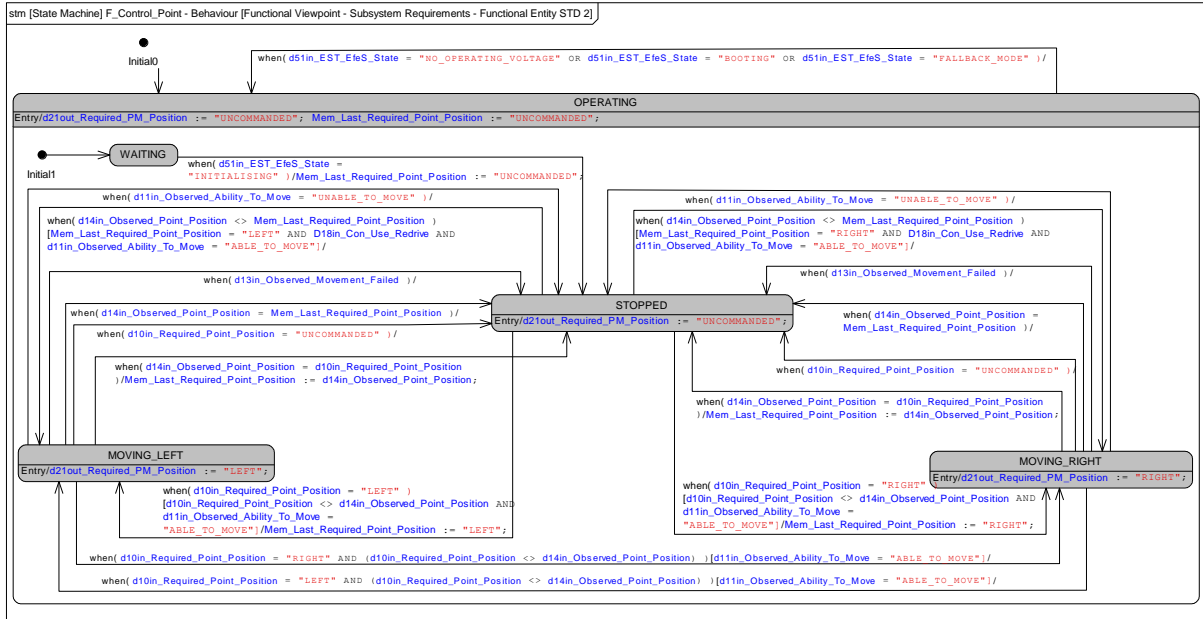
Question 3: Must the PDI version be increased because of this change?>

Generated at Tue Jul 16 10:04:45 CEST 2024 by Nico Hurman using Jira 9.4.23#940023-sha1:042081f26695d2c2012dd9251033ab6e5ed712b1.

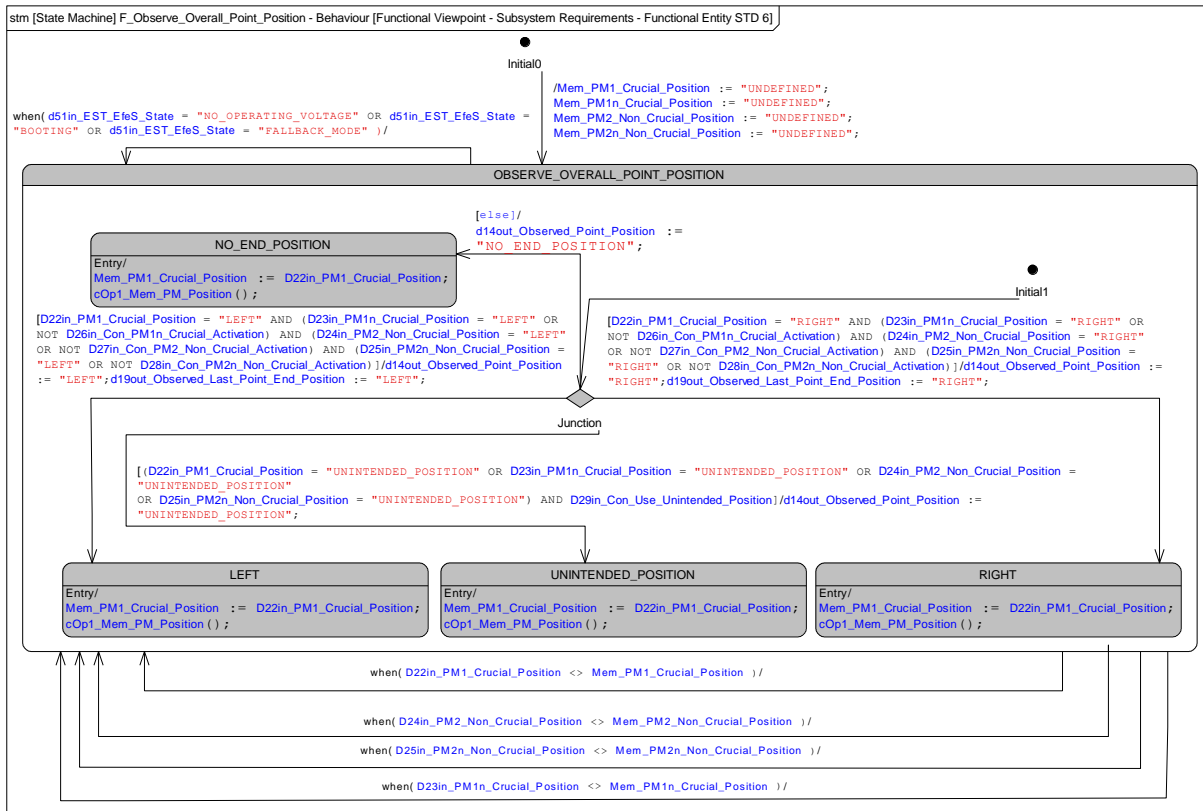


# Point STMs which were basis for BL4R2/3 simulation

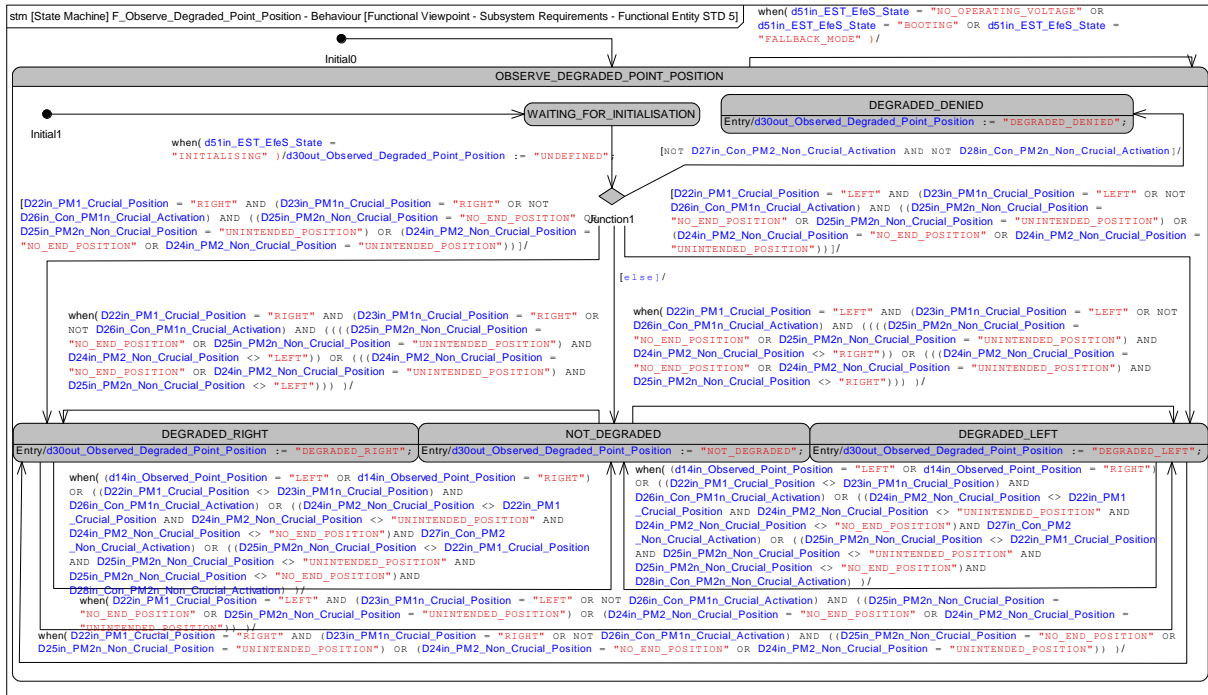
## F\_Control\_Point



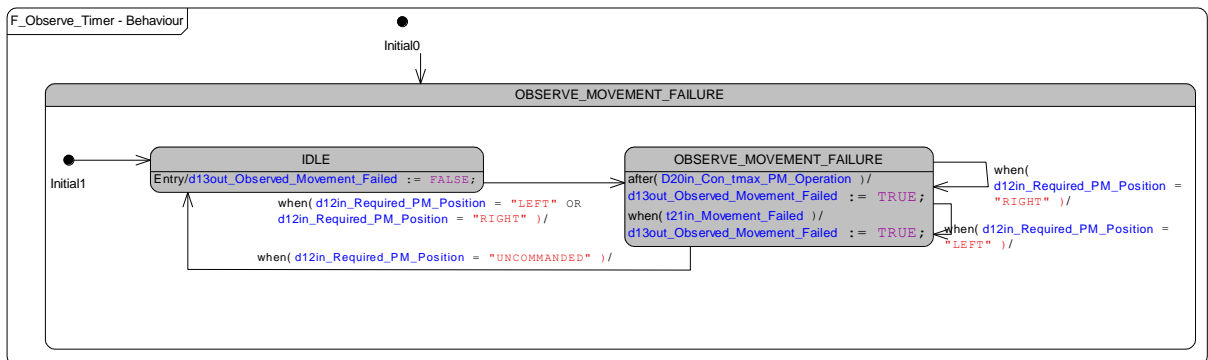
## F\_Observe\_Overall\_Point\_Position



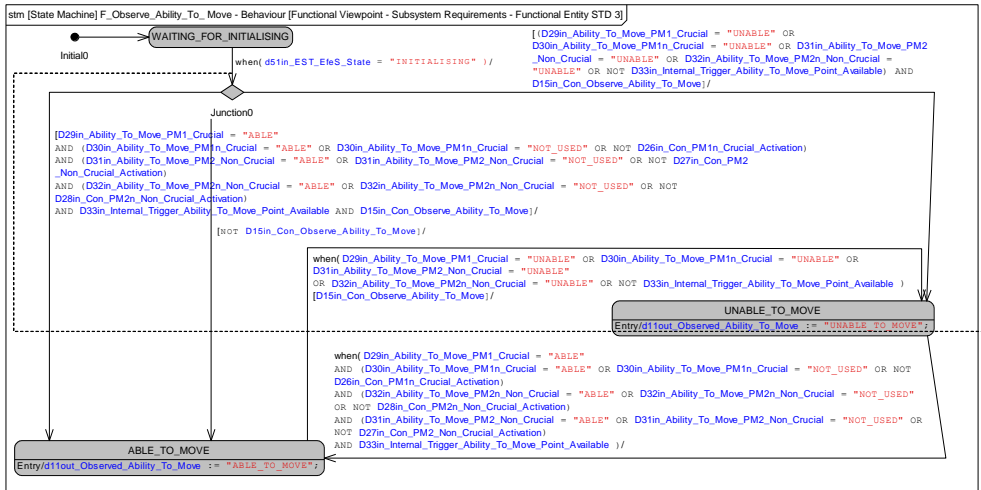
## F\_Observe\_Degraded\_Point\_Position



## F\_Observe\_Movement\_Failed

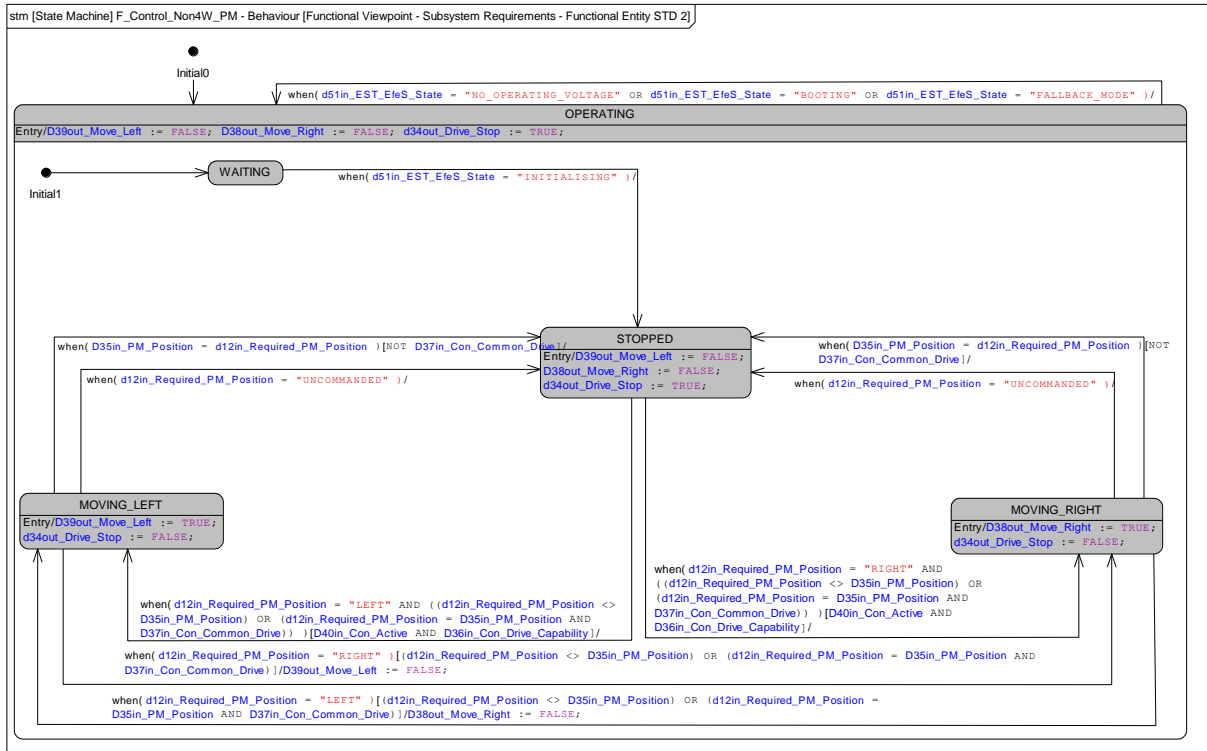


# F\_Observe\_Ability\_To\_Move

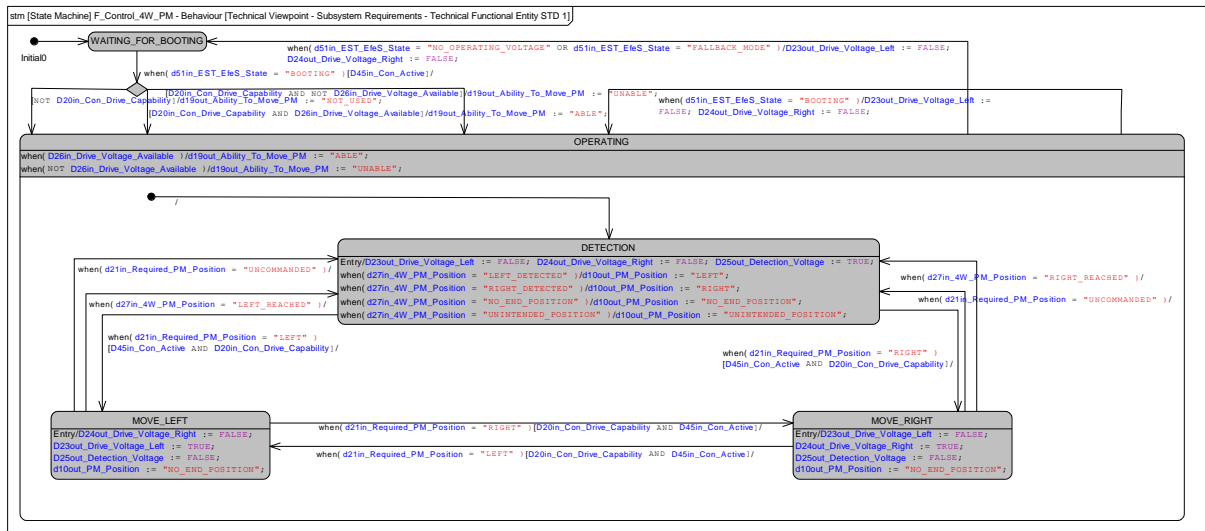


20220905 BFG: Hier muss noch geklärt werden, wann wieder in "WAITING\_FOR\_INITIALISING" zurück gegangen werden kann! Wenn all das hier nur in INITIALISING und OPERATIONAL stattfinden soll, fehlen die Rücktransitionen!

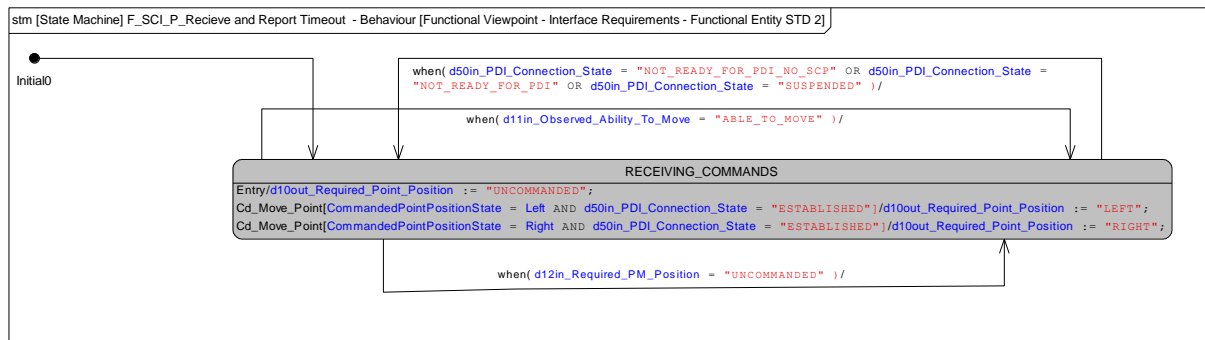
# F\_Control\_Non4W\_PM



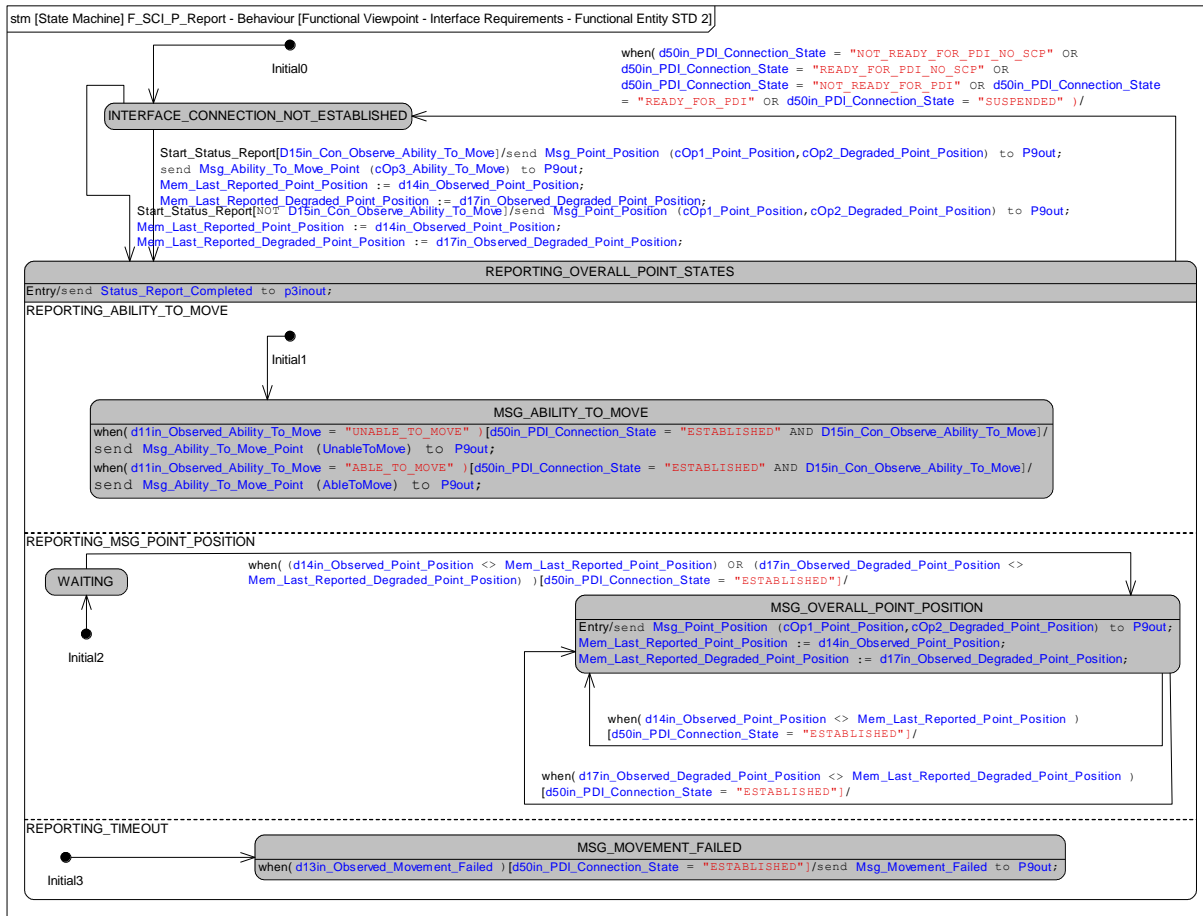
## F\_Control\_4W\_PM



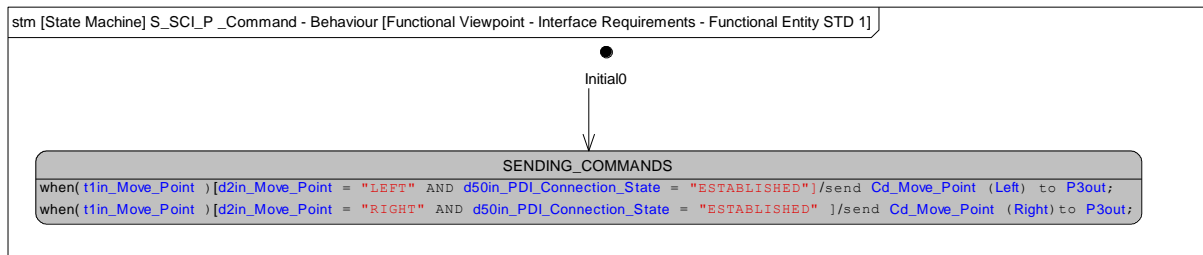
## F\_SCI\_P\_Rcieve



## F\_SCI\_P\_Report



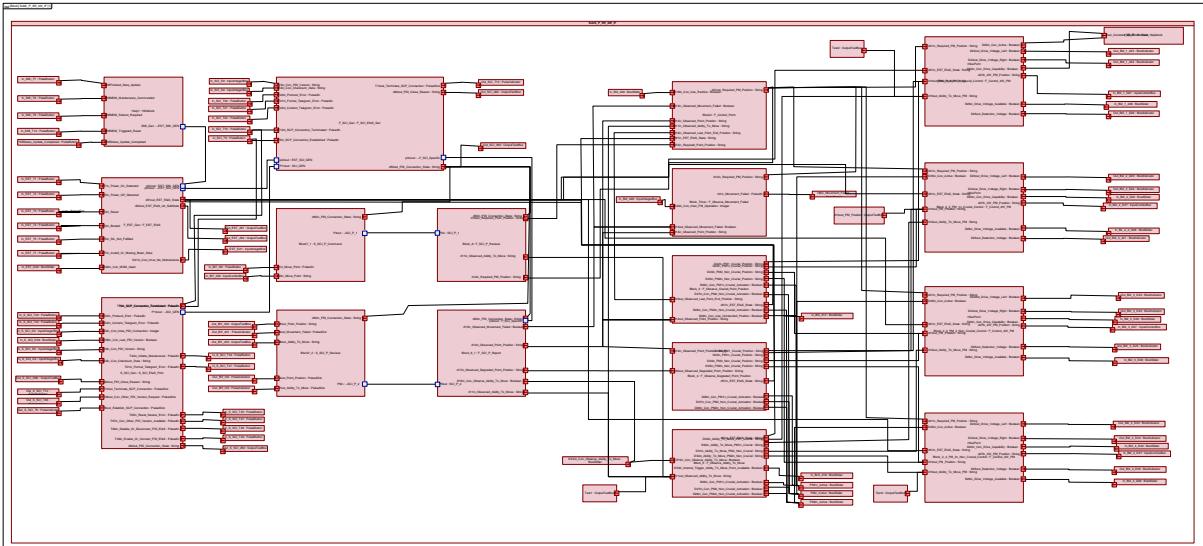
## S\_SCI\_P\_Command



# S\_SCI\_P\_Recieve



# Simulator



**[EUIO-439] [SDI-IO, correction of multiplicities for PhysicalChannelConnection](#)** Created: 26.07.2024 Updated: 26.07.2024

<b>Status:</b>	Open
<b>Project:</b>	<a href="#">EULYNX CP SCI-IO</a>
<b>Component/s:</b>	None

<b>Type:</b>	Error	<b>Priority:</b>	None
<b>Reporter:</b>	<a href="#">Nico Huurman</a>	<b>Assignee:</b>	Unassigned
<b>Resolution:</b>	Unresolved		
<b>Remaining Estimate:</b>	Not Specified		
<b>Time Spent:</b>	Not Specified		
<b>Original Estimate:</b>	Not Specified		

<b>Attachments:</b>	 Figure SDI-IO multiplicity corrections.png
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**Description**

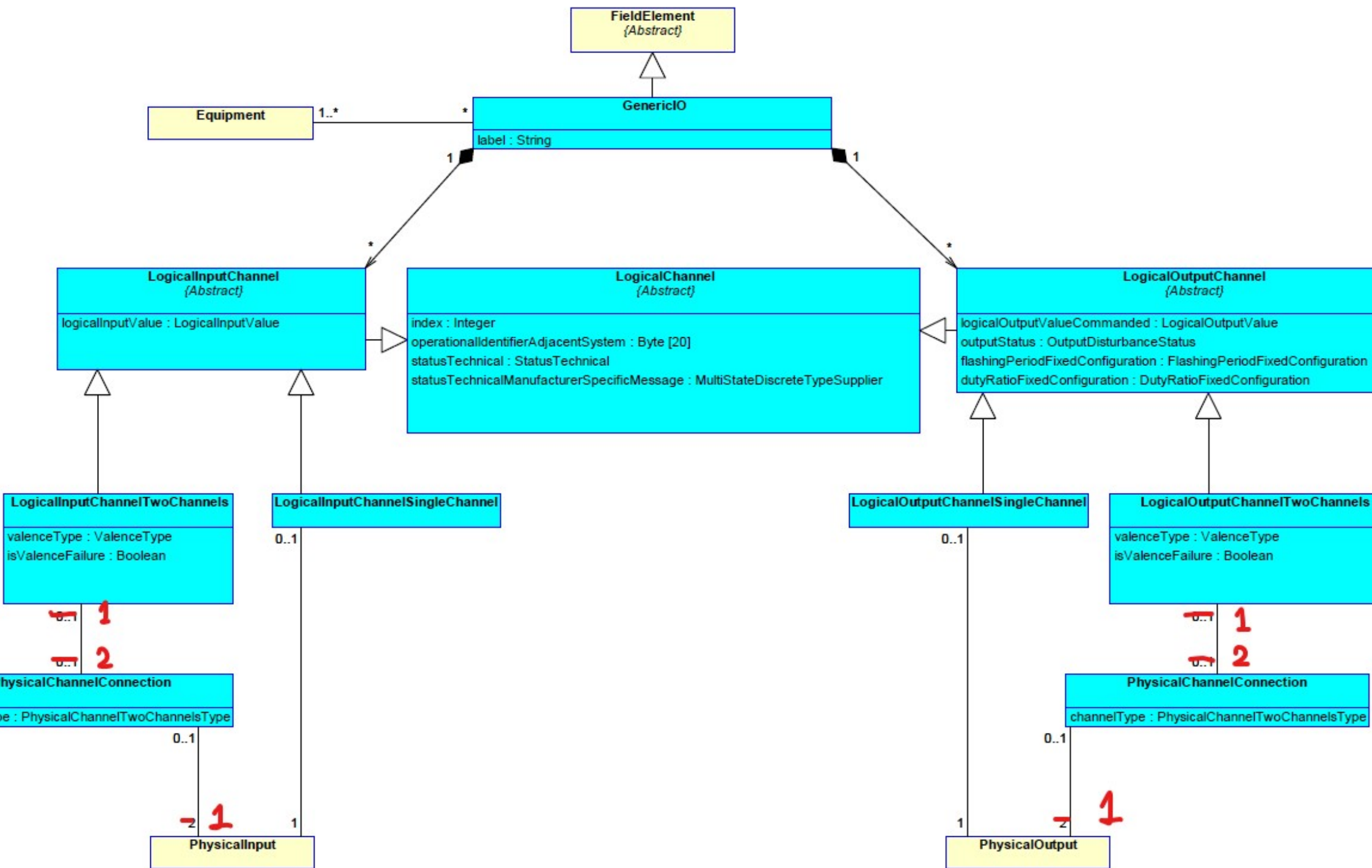
**Current state**  
BL4R3

**Problem**  
The multiplicities between LogicalInputChannelTwoChannels, PhysicalChannelConnection and PhysicalInput are incorrect.  
Also valid for the multiplicities between LogicalOutputChannelTwoChannels, PhysicalChannelConnection and PhysicalOutput.

**Intended state**  
See figure.

**Impact**  
SDI-IO, only diagram.

**Backwards compatibility analysis**  
Error correction for BL4R3.



[EUAR-690] [Alignment between RJ45 and SPF cage requirement](#) Created:  
16.02.2024 Updated: 19.07.2024

<b>Status:</b>	Open
<b>Project:</b>	<a href="#">EULYNX CP Reference Architecture</a>
<b>Component/s:</b>	None

<b>Type:</b>	Clarification	<b>Priority:</b>	None
<b>Reporter:</b>	<a href="#">Nico Huurman</a>	<b>Assignee:</b>	Unassigned
<b>Resolution:</b>	Unresolved		
<b>Remaining Estimate:</b>	Not Specified		
<b>Time Spent:</b>	Not Specified		
<b>Original Estimate:</b>	Not Specified		

<b>Sprint:</b>	Postponed to later BL4 release
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### Description

#### Current state

BL4R3 draft

Follow-up of [EUAR-607](#)

#### Problem

Review comment raised by ProRail (EvG).

*Is it wise to have two different bandwidth specifications (100BASE-T (or more) vs. 1000BASE-T) for the same RJ45 hardware interface?*

This was seemingly the intention of [EUAR-607](#) as agreed.

The original proposal was to define 1000Base-T also for the RJ45 variant, but this was contested by industry. SBB found out that 100Base-T is sufficient for the traffic of single EfeS, so the proposal was scaled down.

The consistency with the requirements for the SFP cage variant was not discussed.

#### Intended state

To be discussed and confirmed in RA WG.

#### [Proposal RefArch 20240304](#)

Change Eu.PoS.1203 to:

- [100BASE-T \(bandwidth of 100 Mbit/s\) or 1000BASE-T \(bandwidth of 1000 Mbit/s\)](#) (RJ45 [IEC 60603-7], copper dual twisted pair, reach of 100 m, as specified by [\[IEEE 802.3u\]](#) or [\[IEEE 802.3ab\]](#))

[Note: The bandwidth must be chosen such that the QoS-Parameter are met.](#)

Correct reference in Eu.PoS.1217:

If the physical implementation with RJ45 is used, the interface shall implement BASE-T

(RJ45, copper dual twisted pair, reach of 100 m, as specified by [IEEE [802.3u](#) or [802.3ab](#)]) with a bandwidth of 100mbit/s (100Base-T) or more.

**Impact**

POS

**Backwards compatibility analysis**

Same as [EUAR-607](#)

**Comments**

Comment by [Nico Hurman](#) [ 19.07.2024 ]

Not implemented in BL4R3! To be implemented as error correction?

Comment by [Nico Hurman](#) [ 02.04.2024 ]

Approved by TACS MG/CCB on 20240320 for implementation in BL4R3

Generated at Fri Jul 19 14:29:11 CEST 2024 by Nico Hurman using Jira 9.4.23#940023-sha1:042081f26695d2c2012dd9251033ab6e5ed712b1.

SPT2TACS-950

## SPT2TACS-8740 - Correct missing Operation\_State when leaving Data\_Update

Type: <b>Change Request</b>	Assignee(s):	Initial Estimate:
Change Type: <b>Error</b>	Owner(s):	Time Spent:
Local ID: <b>EUAR-763</b>	Owning Group: <b>SPT2TACS-552 - Reference Architecture-Board-EWG</b>	Due Date:
Severity: <b>Normal</b>	To be Derived by Team:	Due Date:
Blocker:	Priority: <b>Medium [50.0]</b>	
Requires CCB: <b>No</b>	Status: <b>Created</b>	
Author: <b>Nico Huurman</b>	Planned In:	
Project: <b>SPT2-Trackside Assets CS</b>	Resolution:	
Categories:		

### Custom Fields

Notes:

Current State: BL4R3

**Problem Description:** PILZ raised that the reaction D10out\_Operation\_State = "NotMaintenance" is missing at the transitions going out of Data\_Update. This means that the value of D10out\_Operation\_State is not defined in the state SMI\_CONNECTION\_ESTABLISHED, it can be either "NotMaintenance" or "Maintenance". This unclarity is not intended, the value must be "NotMaintenance".

With this correction, the value of D10out\_Operation\_State will always be "NotMaintenance" in case the state DATA\_UPDATE is entered because of the trigger T19in\_Start\_async\_preload. This fact can be used as condition to allow Activation of a configuration item (only allowed in "Maintenance". In this way, the reference to the EST\_EfeS\_init\_SubState is no longer needed.

**Proposed Solution:** Add D10out\_Operation\_State = "NotMaintenance" in 3 transitions going out of the state DATA\_UPDATE.

In the transition from MDM\_INTERACTION\_FOR\_ITEM\_I to ACTIVATING, delete the condition d52in\_EST\_EfeS\_init\_SubState = "WAITING\_FOR\_DATA\_UPDATE" and replace it with D10out\_Operation\_State = "Maintenance". The port d52in is no longer needed.

Risk:

Potential Side Effects:

Architecture Changes:

Affected Architecture Elements:

Affected Functions:

Affected Interfaces:

Affected Features:

Affected Specifications: Gen-SMI [Eu.Doc.120]

Backwards Compatability: Error correction

Changed/New Requirements:

Change of Safety Relevant Areas:

Affected Domains:

Affected Subsystems:

Estimated Effort:

Estimated Schedule:


Economic Impact:

### Linked Work Items

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-950 - Reference Architecture-Board	SPT2-Trackside Assets CS			

**Attachments**

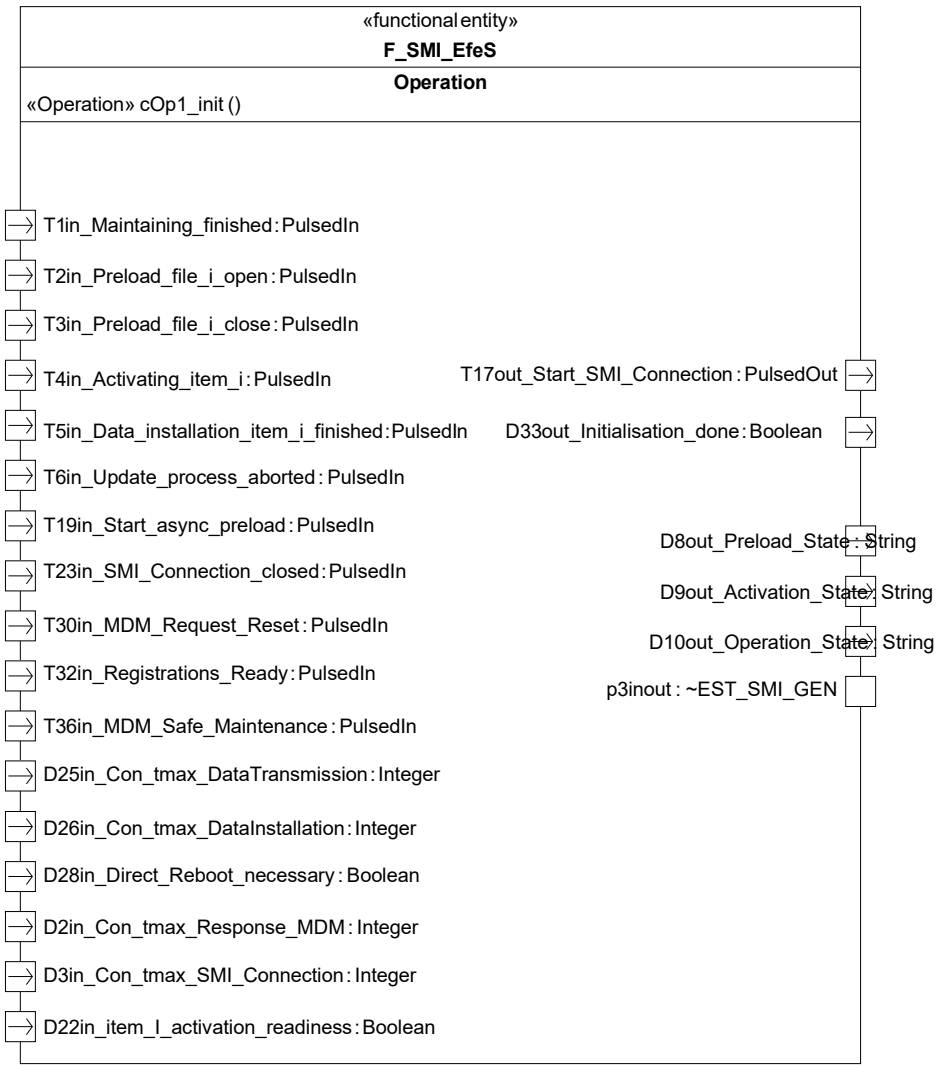
+



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files or folders here**  
or  
[Browse files](#)

Created: **2024-10-15 15:20** , Updated: **2024-12-04 17:54**

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SPT2TACS-1718

### SPT2TACS-9301 - Correct missing package marking

Type: **Change Request**      Assignee(s): **Nico Hurman**      Initial Estimate:

Change Type: **Error**      Owner(s):      Time Spent:

Local ID: **EULX-644**      Owing Group: **SPT2TACS-456 - Level Crossing WG**      Remaining Estimate:

Severity: **Normal**      Affected Domains:      Due Date:

Blocker:      To be Derived by Team:

Architecture Changes:      Priority: **Medium [50.0]**

Requires CCB:      Status: **In verification**

Changed/New Requirements:      Planned In: **Error correction after BL4R3**

Change of Safety Relevant Areas:      Resolution:

Author: **Nico Hurman**

Project: **SPT2-Trackside Assets CS**

Categories:

#### Current State

BL4R3

#### Problem Description

Marking of the functional package is missing in SD 2.2.3, Eu.LC.3865.

#### Proposed Solution

Add marking of package 'Basic LC'

#### Affected Specifications

ReqSpec SubS LC

#### Backwards Compatability

Error correction for BL4R3 and BL4R2

#### Linked Work Items

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-1718 - LX-Board	SPT2-Trackside Assets CS			

#### Attachments

+

**Drag & drop**  
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Created: 2025-02-26 12:48 , Updated: 2025-05-05 10:34

SPT2TACS-870

**SPT2TACS-871 - Missing condition for degraded point position at startup**

Type: <b>Change Request</b>	Assignee(s): <b>Philipp Wolber</b>	Initial Estimate:
Change Type: <b>Error</b>	Owner(s):	Time Spent:
Local ID: <b>EUP-577</b>	Owning Group: <b>SPT2TACS-427 - Point WG</b>	Remaining Estimate:
Severity: <b>Normal</b>	Affected Domains:	Due Date:
Blocker:	To be Derived by Team:	
Architecture Changes:	Priority: <b>Medium [50.0]</b>	
Requires CCB: <b>No</b>	Status: <b>In verification</b>	
Changed/New Requirements:	Planned In: <b>Error correction after BL4R3</b>	
Change of Safety Relevant Areas:	Resolution:	
Author: <b>Nico Huurman</b>		
Project: <b>SPT2-Trackside Assets CS</b>		
Categories:		

**Current State**

BL4R3

**Problem Description**

The STM diagram F\_Observe\_Degraded\_Point\_Position (Eu.P.6015) contains an error.

The transitions from Junction1 after WAITING\_FOR\_INITIALISATION to DEGRADED\_RIGHT / DEGRADED\_LEFT have the conditions:

[D10in\_PM1\_Crucial\_Position = "RIGHT" AND (D10in\_PMi\_Crucial\_Position = "RIGHT" OR NOT D26in\_Con\_PMi\_Crucial\_Activation) AND ((D10in\_Pmk\_Non\_Crucial\_Position = "NO\_END\_POSITION" OR D10in\_Pmk\_Non\_Crucial\_Position = "UNINTENDED\_POSITION") OR (D10in\_PM1\_Non\_Crucial\_Position = "NO\_END\_POSITION" OR D10in\_PM1\_Non\_Crucial\_Position = "UNINTENDED\_POSITION"))]

This does not exclude that the Point can be reported as 'Degraded Left' if one of the Non-crucial PMs is detected in the opposite position 'Right'. This is incorrect. The functional definition of degraded position does not allow that one of the Non-crucial PMs is detected in a position that is opposite to the end position detected by all Crucial PMs.

**Proposed Solution**

Extend the conditions of these 2 transitions to cover D10in\_PM1\_Non\_Crucial\_Position <> "LEFT" AND D10in\_Pmk\_Non\_Crucial\_Position <> "LEFT" And equivalent correction for <> "RIGHT".

New V&V with a corrected simulator probably needed.

**Affected Specifications**

ReqSpec SubS P

**Backwards Compatibility**

Error correction for the following releases:

- BL4 R1
- BL4 R2
- BL4 R3

<Provide an answer to the following questions:

Question 1: Can an EfeS implementing the change (new EfeS) operate with an EIL NOT implementing the change (old EIL)?

Question 2: Can an EfeS NOT implementing the change (old EfeS) operate with an EIL implementing the change (new EIL)?

Question 3: Must the PDI version be increased because of this change?>

**Custom Fields**

currentState:

**Comments**

#1 **Change in STM is done, Codegeneration is still needed** by **Philipp Wolber** on 2024-09-26 09:42

The change in PTC on the STM is done, Codegeneration is currently not working, waiting for a solution for the Framework Error between PTC and Visual Studios. NewSimulator version needed.

### Linked Work Items


Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	 SPT2TACS-870 - P-Board	SPT2-Trackside Assets CS			

### Hyperlinks

Role	URL	Actions
external reference	<a href="https://dsd-jira.jaas.service.deutschebahn.com/browse/EUP-577">https://dsd-jira.jaas.service.deutschebahn.com/browse/EUP-577</a>	

### Attachments

+



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Created: **2024-08-15 11:21** , Updated: **2025-04-29 10:33**

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SPT2TACS-870

## SPT2TACS-9638 - Correct package marking for crucial point machine configuration

Type: <b>Change Request</b>	Assignee(s): <b>Nico Huurman</b>	Initial Estimate:
Change Type: <b>Error</b>	Owner(s):	Time Spent:
Local ID: <b>EUP-584</b>	Owning Group: <b>SPT2TACS-427 - Point WG</b>	Remaining Estimate:
Severity: <b>Normal</b>	Affected Domains:	Due Date:
Blocker:	To be Derived by Team:	
Architecture Changes:	Priority: <b>Medium [50.0]</b>	
Requires CCB:	Status: <b>In verification</b>	
Changed/New Requirements:	Planned In: <b>Error correction after BL4R3</b>	
Change of Safety Relevant Areas:	Resolution:	
Author: <b>Nico Huurman</b>		
Project: <b>SPT2-Trackside Assets CS</b>		
Categories:		

### Current State

BL4R3

### Problem Description

The specific configuration data for the Subsystem Point contains:  
 - For each configured Point Machine, whether it is crucial or non-crucial (Eu.P.6295).  
 This information is needed for the determination of degraded point position, which is only relevant for multiple point machines.  
 The functional package marking contains incorrectly also Basic non-4-wire single P and Basic 4-wire single P

### Proposed Solution

Remove package marking Basic non-4-wire single P and Basic 4-wire single P from Eu.P.6295.

### Affected Specifications

ReqSpec SubS Point

### Backwards Compatability

Error correction

### Linked Work Items

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-870 - P-Board	SPT2-Trackside Assets CS			

### Attachments

**Drag & drop**  
**files or folders here**  
 or  
[Browse files](#)



SPT2TACS-950

**SPT2TACS-966 - Removal of redundancy PreloadItemStarted and PreLoadItemFinished**

Type: <b>Change Request</b>	Assignee(s): <b>Nico Huurman</b>	Initial Estimate:
Change Type: <b>Enhancement - Clarification</b>	Owner(s):	Time Spent:
Local ID: <b>EUAR-720</b>	Owning Group: <b>SPT2TACS-552 - Reference Architecture Board - EWG</b>	Due Date:
Severity: <b>Normal</b>	Affected Domains:	Due Date:
Blocker:	To be Derived by Team:	
Architecture Changes:	Priority: <b>Medium [50.0]</b>	
Requires CCB: <b>No</b>	Status: <b>In verification</b>	
Changed/New Requirements:	Planned In: <b>Baseline 4 Release 4 (2025-12-31)</b> <b>Error correction after BL4R3</b>	
Change of Safety Relevant Areas:	Resolution:	
Author: <b>Nico Huurman</b>		
Project: <b>SPT2-Trackside Assets CS</b>		
Categories:		

**Description****Problem Description**

Topic raised by Thales and Siemens

BL4R3, Batch 3, Eu.Doc.76, lines 8, 21, 22.

The method call PreloadItemStarted can be superseded with PreloadFile.Open; the Open method is part of the file transfer and must be called in any case.

The method call PreloadItemFinished can be superseded with PreloadFile.Close; the Close method is part of the file transfer and must be called in any case.

The PreloadedItemStarted and PreloadedItemFinished are strictly speaking redundant, as their functionality can also be covered by OPC UA FileType Open and FileType Close.

It is agreed to keep this redundancy in BL4R3. The mechanism can work okay with this redundancy.

Removing the redundancy is considered as an improvement/extension of the SMI specifications after BL4R3.

**Proposed Solution**

Additional minor change agreed in SMI Task Force 20241217:

- Delete class 'Items' as hierarchy level between 'Subsystem 1..n' and 'Item 1..n'. The classes 'Item 1..n' will be directly below the class 'Subsystem 1..n'.

A. Technical changes in the specifications:

[Eu.Doc.120]

1. In several SDs, the arrow Preload\_item\_i\_Started must be replaced with PreloadFile.Open. With description:

Subsystem - Maintenance and Data Management

~~sends information about start of item~~

[opens preload file.](#)

Eu.Gen-SMI.46, .47, .50

2. In several SDs, the arrow Preload\_item\_i\_Finished must be replaced with PreloadFile.Close. With description:

Subsystem - Maintenance and Data Management

~~informs about finished~~

[closes preload file](#)

~~item~~

Eu.Gen-SMI.46, .47, .50

3. In the STM, two ports and two FlowProperties must be renamed and description aligned.

T2in\_Preload\_item\_i\_started > T2in\_Preload\_file\_i\_open

T3in\_Preload\_item\_i\_finished > T3in\_Preload\_file\_i\_close

Preload\_item\_i\_started > PreloadFile.Open

Preload\_item\_i\_finished > PreloadFile.Close

[Eu.Doc.76]

4. Delete PreloadItemFinished and PreloadItemStarted from the information model figure and tables.

5. Improve and extend description of PreloadFile to describe the interactions PreloadFile.Open, PreloadFile.Write and PreloadFile.Close.

All exact changes in Eu.Doc.120 and Eu.Doc.76 are worked out in the attached files.

B. Pros and cons to (not) implement the described changes

Is it better to remove the redundancy?

What concrete benefits will it give in the loading of configuration items?

What is the impact on backwards compatibility and stability of the specifications?

Some industry partners raise that it is important to consider the compatibility with earlier releases of Baseline 4 (1, 2, 3).  
 Some industry partners raise that it is important to have a robust mechanism for the loading procedure for use on a broader scope in the System Pillar architecture.  
 Redundancy in the specifications is error prone.  
 > Arguments collected and compared by industry partners. See attached slide.  
 > Recommended decision: Accept change request as error correction for BL4 R3, BL4 R2 and BL4 R1.  
 On this specific content, the functionality is reversed to how it was specified in Baseline 3.

### Affected Specifications

Gen-SMI  
IntDef+Spec SMI

No other documents

### Backwards Compatibility

Implemented as error correction, as agreed in SP TACS MG on 20240912.

### Linked Work Items


Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-950 - Reference Architecture-Board	SPT2-Trackside Assets CS			

### Hyperlinks

Role	URL	Actions
external reference	<a href="https://dsd-jira.jaas.service.deutschebahn.com/browse/EUAR-720">https://dsd-jira.jaas.service.deutschebahn.com/browse/EUAR-720</a>	

### Attachments

+



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### Attachments

Title	File Name	Size	Author	Last Modified	Actions
	EUAR-720 Pros and cons.pptx	36917 B	Ricky Holz	2024-08-20 16:19	
	EUAR-720_Changes in Eu.Doc.76 v3.docx	300272 B	Nico Hurman	2025-03-21 14:39	
	EUAR-720_Current_Changes_Eu.doc.120.docx	583245 B	Nico Hurman	2025-03-21 14:39	

Created: **2024-08-15 11:30** , Updated: **2025-03-21 14:39**

# EUAR-720

## Changes:

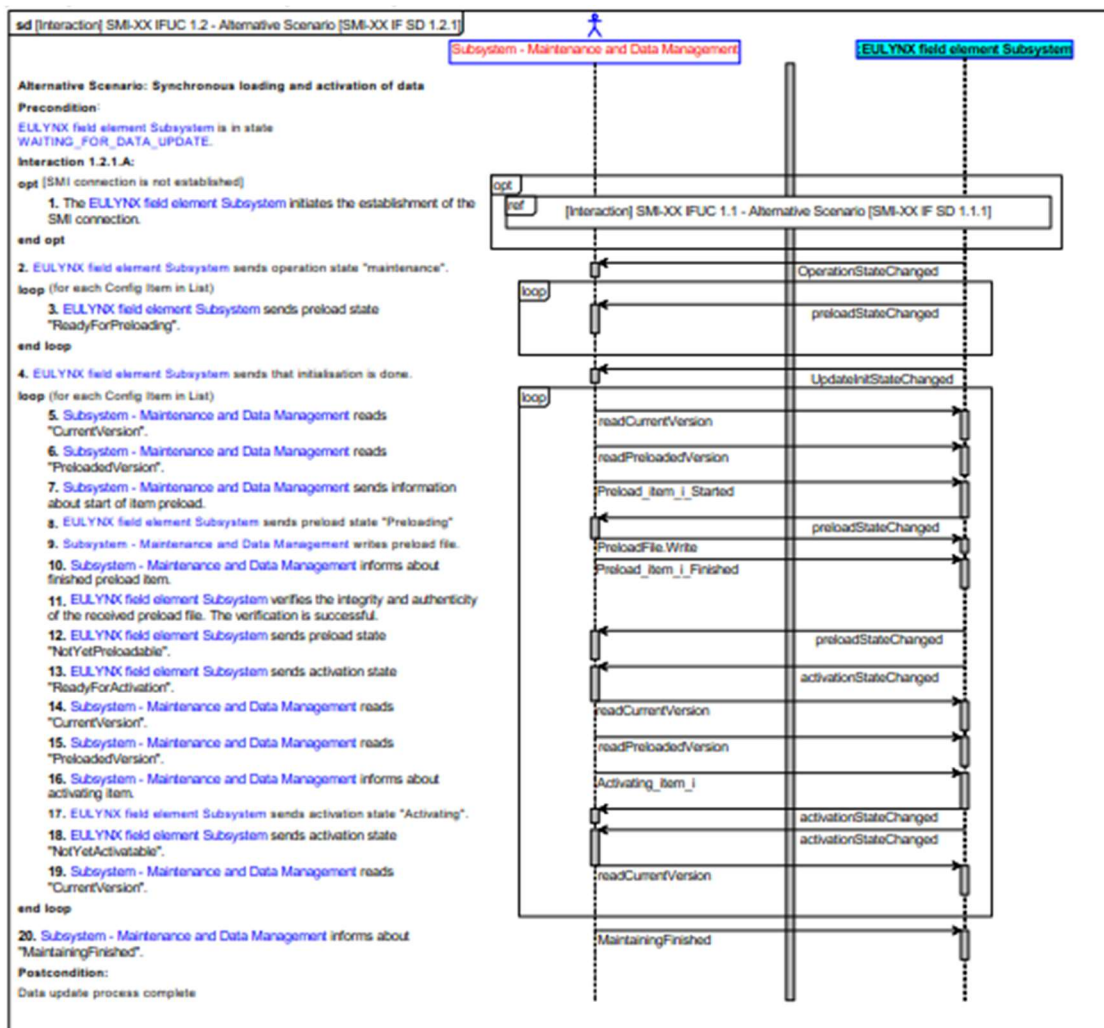
- ~~sends information about start of item~~
- ~~opens preload file.~~

And

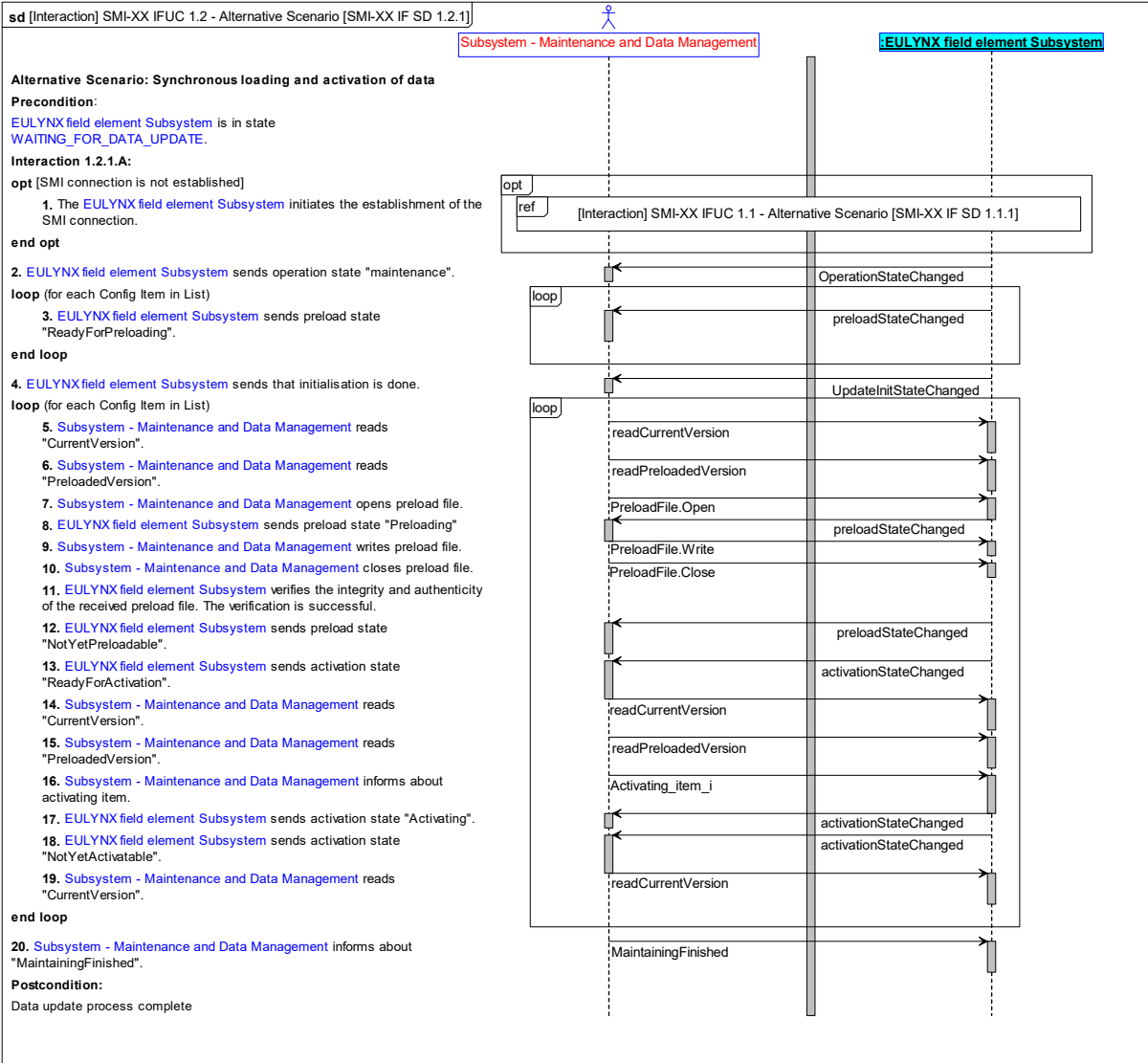
- ~~informs about finished item~~
- ~~closes preload file~~

Eu.Gen-SMI.46

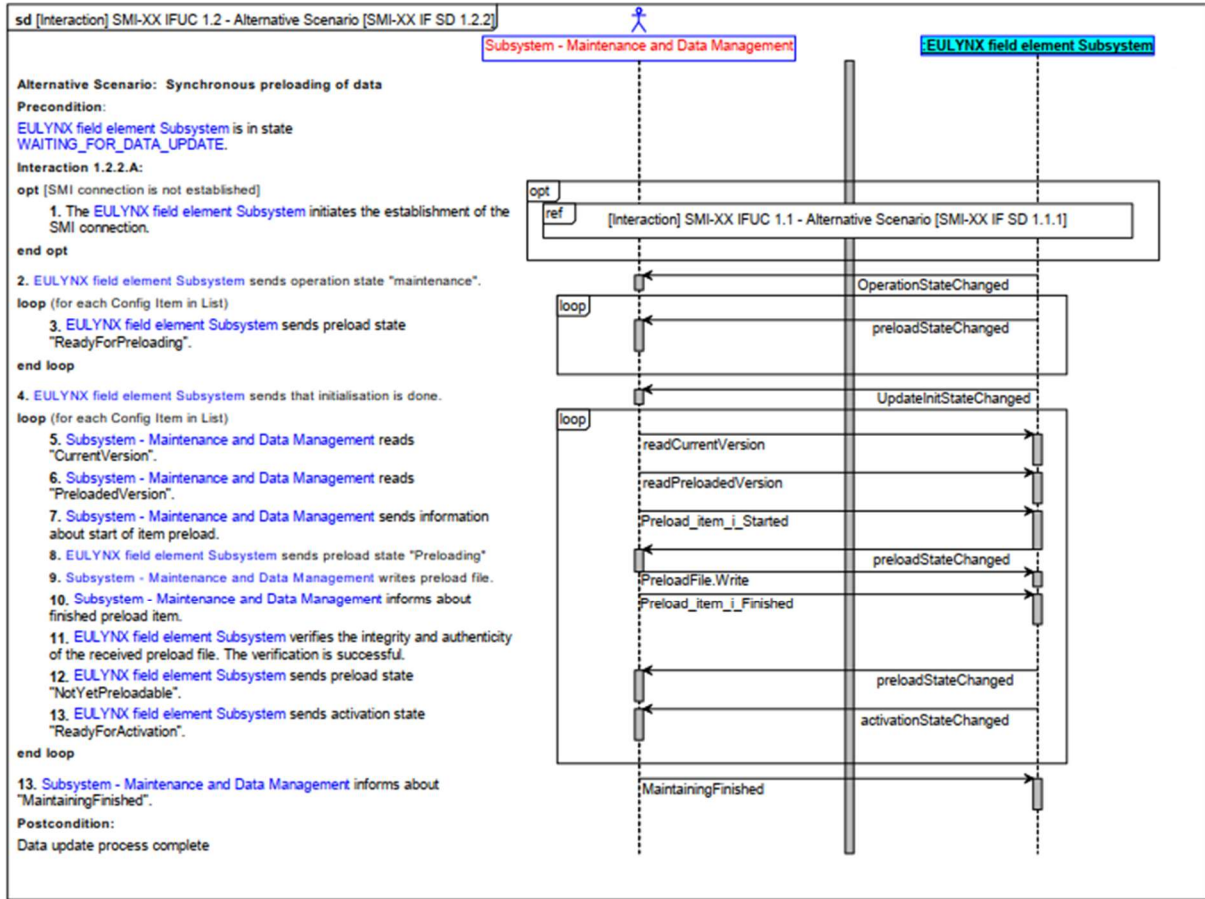
Old



New



Old



New

sd [Interaction] SMI-XX IFUC 1.2 - Alternative Scenario [SMI-XX IF SD 1.2.2]

Subsystem - Maintenance and Data Management

EULYNX field element Subsystem

Alternative Scenario: Synchronous preloading of data

Precondition:

EULYNX field element Subsystem is in state WAITING\_FOR\_DATA\_UPDATE.

Interaction 1.2.2.A:

opt [SMI connection is not established]

- The EULYNX field element Subsystem initiates the establishment of the SMI connection.

end opt

- EULYNX field element Subsystem sends operation state "maintenance".

loop (for each Config Item in List)

- EULYNX field element Subsystem sends preload state "ReadyForPreloading".

end loop

- EULYNX field element Subsystem sends that initialisation is done.

loop (for each Config Item in List)

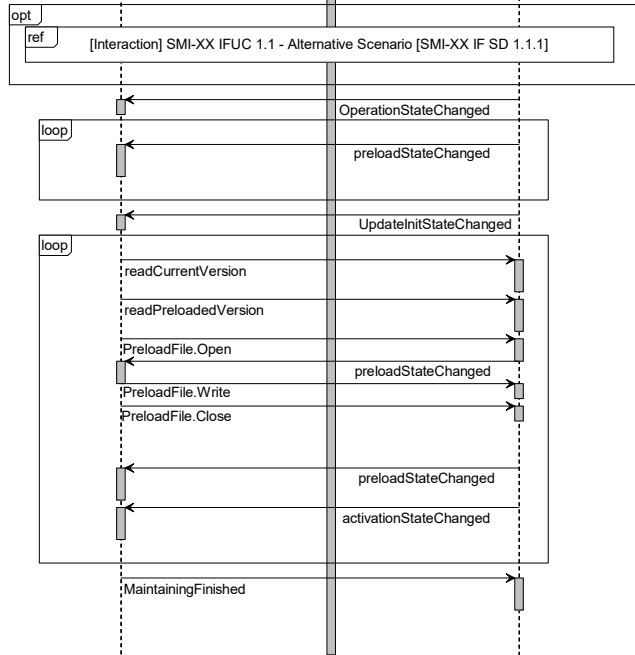
- Subsystem - Maintenance and Data Management reads "CurrentVersion".
- Subsystem - Maintenance and Data Management reads "PreloadedVersion".
- Subsystem - Maintenance and Data Management opens preload file.
- EULYNX field element Subsystem sends preload state "Preloading".
- Subsystem - Maintenance and Data Management writes preload file.
- Subsystem - Maintenance and Data Management closes preload file.
- EULYNX field element Subsystem verifies the integrity and authenticity of the received preload file. The verification is successful.
- EULYNX field element Subsystem sends preload state "NotYetPreloadable".
- EULYNX field element Subsystem sends activation state "ReadyForActivation".

end loop

- Subsystem - Maintenance and Data Management informs about "MaintainingFinished".

Postcondition:

Data update process complete



Eu.Gen-SMI.50

Old

[Interaction] SMI-XX IFUC 1.3 - Alternative Scenario [SMI-XX IF SD 1.3.1]

sd [Interaction] SMI-XX IFUC 1.3 - Alternative Scenario [SMI-XX IF SD 1.3.1]

Subsystem - Maintenance and Data Management

EULYNX field element Subsystem

Alternative Scenario: Asynchronous preloading of data

Precondition:

SMI connection is established

Interaction 1.3.1.A:

- Subsystem - Maintenance and Data Management starts asynchronous preload.

loop (for each Config Item in List)

- EULYNX field element Subsystem sends preload state "ReadyForPreloading".

end loop

- EULYNX field element Subsystem sends that initialisation is done.

loop (for each Config Item in List)

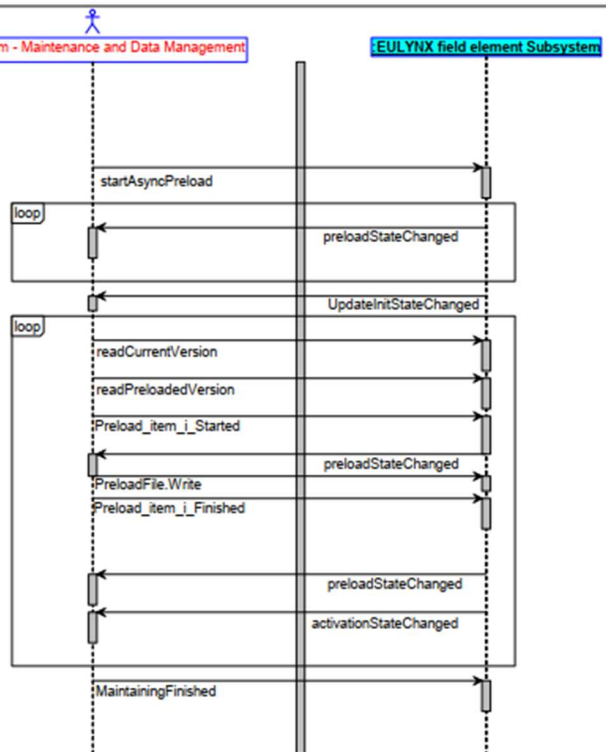
- Subsystem - Maintenance and Data Management reads "CurrentVersion".
- Subsystem - Maintenance and Data Management reads "PreloadedVersion".
- Subsystem - Maintenance and Data Management sends information about start of item preload.
- EULYNX field element Subsystem sends preload state "Preloading".
- Subsystem - Maintenance and Data Management writes preload file.
- Subsystem - Maintenance and Data Management informs about finished preload item.
- EULYNX field element Subsystem verifies the integrity and authenticity of the received preload file. The verification is successful.
- EULYNX field element Subsystem sends preload state "NotYetPreloadable".
- EULYNX field element Subsystem sends activation state "ReadyForActivation".

end loop

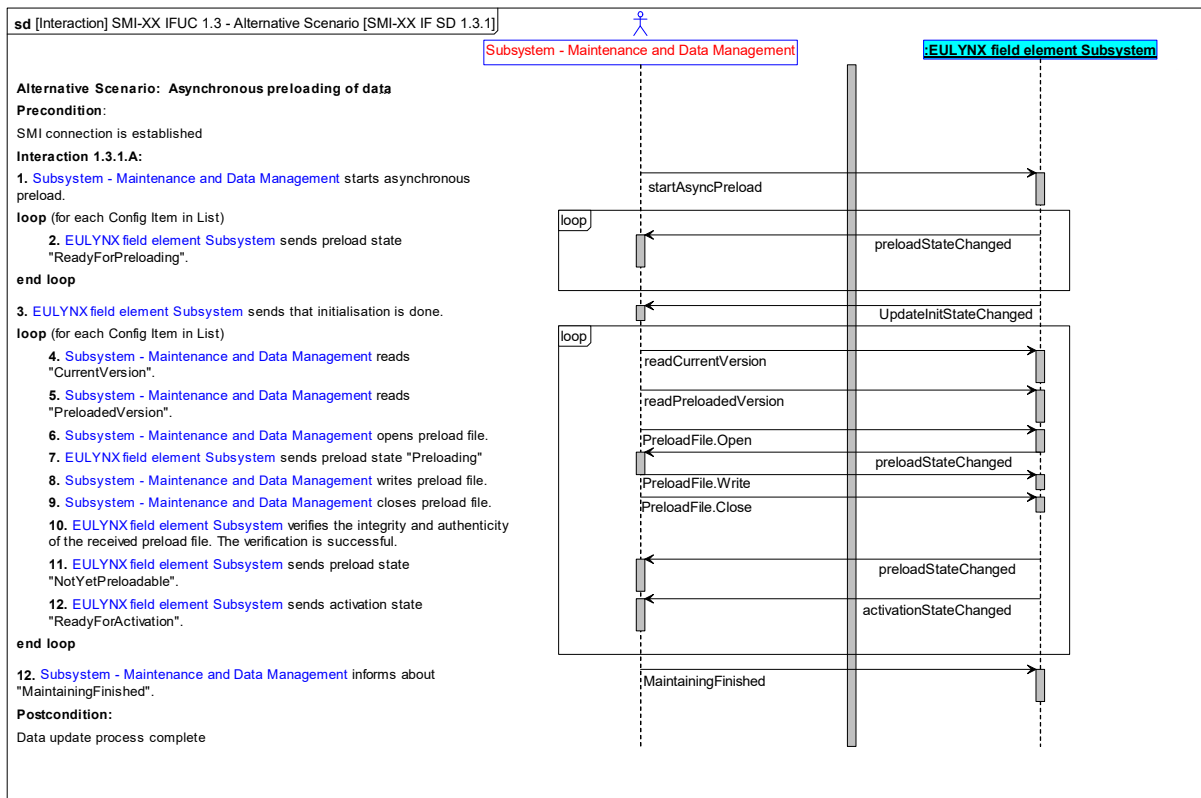
- Subsystem - Maintenance and Data Management informs about "MaintainingFinished".

Postcondition:

Data update process complete



## New



## New STM F\_SMI\_EfeS

### Changes:

$T2in\_Preload\_item\_i\_started > T2in\_Preload\_file\_i\_open$

$T3in\_Preload\_item\_i\_finished > T3in\_Preload\_file\_i\_close$

$Preload\_item\_i\_started > PreloadFile.Open$

$Preload\_item\_i\_finished > PreloadFile.Close$

### New:

The port [T2in\\_Preload\\_file\\_i\\_open](#) refines the FlowProperty [PreloadFile.Open](#).

The port [T3in\\_Preload\\_file\\_i\\_close](#) refines the FlowProperty [PreloadFile.Close](#).



Eu.SMI.233

- ▼ Objects
  - > Aliases
  - ▼ Configuration
    - ▼ Subsystem1
      - ▼ Item1
        - AbortUpdateProcess
        - ActivateItem
        - ActivationState
        - CurrentVersion
        - PreloadedVersion
        - > PreloadFile
          - PreloadState
      - ▼ Item2
        - AbortUpdateProcess
        - ActivateItem
        - ActivationState
        - CurrentVersion
        - PreloadedVersion
        - > PreloadFile
          - PreloadState
        - MaintainingFinished
        - MDMRequestReset
        - MDMSafeMaintenance
        - OperationState
        - RegistrationsReady
        - StartAsyncPreload
        - Subsys\_ID
        - UpdateInitState
  - > Server

Eu.SMI.244

Name	NodeClass	Parent	Additional Information	Description	Permission
Subsystem 1, ... , Subsystem n	Object	Configuration (global)		Contains all Configuration Items (CIs), methods and status variables used for maintaining a specific EULYNX field element Subsystem.	
Version	Variable	Configuration (global)	<b>DataType:</b> String <b>Value:</b> "M.m (E.A)"	Version of the SMI information model expressed as the document version of the Interface definition and specifications SMI [Eu.Doc.76]. This is used for version handling.	
<b>Items</b>	<b>Object</b>	<b>Subsystem(n)</b>		<b>Group that contains all Configuration Items (data) for EULYNX field element Subsystem n.</b>	<b>Data-distribute</b> <b>Data-activate</b>
Item 1, ..., Item n	Object	<b>Items</b> <b>Subsystem(n)</b>		CIs can contain configuration and engineering data or device software. There can be 1..n CIs.	<b>Data-distribute</b> <b>Data-activate</b>

## Eu.SMI.254

Name	NodeClass	Parent	Additional Information	Description	Permission
PreloadedVersion	Variable	Item(n)	<b>DataType:</b> String	Version of a preloaded Configuration Item. Preloaded items can be activated immediately or at a later time if a two-step update procedure is applied. This value is set by the EULYNX field element Subsystem based on the version information read from the preloaded file.	Data-distribute Data-activate
PreloadFile	Object	Item(n)	<b>DataType:</b> FileType (OPC UA)	The preload file for Configuration Item n. <a href="#">PreloadFile.Open</a> indicates that the MDM has opened the preload file before preloading. <a href="#">PreloadFile.Write</a> indicates that the MDM loads the preload file to the EULYNX field element Subsystem. <a href="#">PreloadFile.Close</a> indicates that the MDM has closed the preload file after preloading.	Data-distribute
PreloadItemFinished	Method	Item(n)	<b>Inputs:</b> no input arguments <b>Outputs:</b> no output arguments	Indicates that the preloading of the Configuration Item has been completed.	Data-distribute
PreloadItemStarted	Method	Item(n)	<b>Inputs:</b> no input arguments <b>Outputs:</b> no output arguments	Indicates that the preloading of the Configuration Item has been started.	Data-distribute

## Eu.SMI.234

~~T2in\_Preload\_item\_i\_started~~ [T2in\\_Preload\\_item\\_i\\_started](#) shall be triggered by calling ~~PreloadItemStarted~~ [PreloadFile.Open](#)

## Eu.SMI.235

~~T3in\_Preload\_item\_i\_finished~~ [T3in\\_Preload\\_file\\_i\\_close](#) shall be triggered by calling ~~PreloadItemFinished~~ [PreloadFile.Close](#)

# EUAR-720

## Arguments against change

- **Development:** Some companies already started developements based on the existing specification
- The requested changed is minor but would break the **backwards compatibility**.

## Arguments for change

- **System Pillar:** As the SP work is starting, it is advisable to correct possible errors as soon as these are discovered. This would prevent future costs and reduce complexity. This is mostly relevant as the SMI interface is foreseen for all subsystems within the SP and not only for TACS.
- **backwards compatibility:** the argument on backwards compatibility is understandable and applies if many companies have already implemented the feature as is. If the development / implementation are not too advanced, backwards compatibility can be ensured via an error correction.

### Next steps:

- Decision on change to be taken by the TACS Group: September '24.
- Planning of the change: several tickets / changes should be gathered in order to publish the changes in a planned way.

SPT2TACS-950

### SPT2TACS-963 - SDI-XX, diagnostics for SSI

Type: **Change Request** Assignee(s): **Nico Hurman** Initial Estimate:

Change Type: **Enhancement - Clarification** Owner(s): Time Spent:

Local ID: **EUAR-731** Owing Group: **SPT2TACS-552 - Reference Architecture-Board-EWG** Create:

Severity: **Normal** Affected Domains: Due Date:

Blocker: To be Derived by Team:

Architecture Changes: Priority: **Low [30.0]**

Requires CCB: **No** Status: **In verification**

Changed/New Requirements: Planned In: **Baseline 4 Release 4 (2025-12-31)**

Change of Safety Relevant Areas: Resolution:

Author: **Nico Hurman**

Project: **SPT2-Trackside Assets CS**

Categories:

### Problem Description

Proposal Thales (Christian Löffler):  
SMI and SSI will also partly depend on TLS but there is no relation to TlsCertificate class.  
Diagnostics for SSI to be covered in future version.

### Proposed Solution

Draft updated after alignment with Cybersecurity domain, 20241204  
Version 3 attached.

### Affected Specifications

SDI-XX  
Further impact to be analysed

### Backwards Compatability

To be analysed  
<Provide an answer to the following questions:  
Question 1: Can an EfeS implementing the change (new EfeS) operate with an EIL NOT implementing the change (old EIL)?  
Question 2: Can an EfeS NOT implementing the change (old EfeS) operate with an EIL implementing the change (new EIL)?  
Question 3: Must the PDI version be increased because of this change?>

### Comments

#1 **Word file Explanation** by **Philipp Wolber** on 2025-01-15 16:15  
The Attached Word File is hard to understand and to implement.

Can the necessary changes be shown step by step? Where something should be renamed, deleted or added. For new objects, the meaning should also be added if necessary

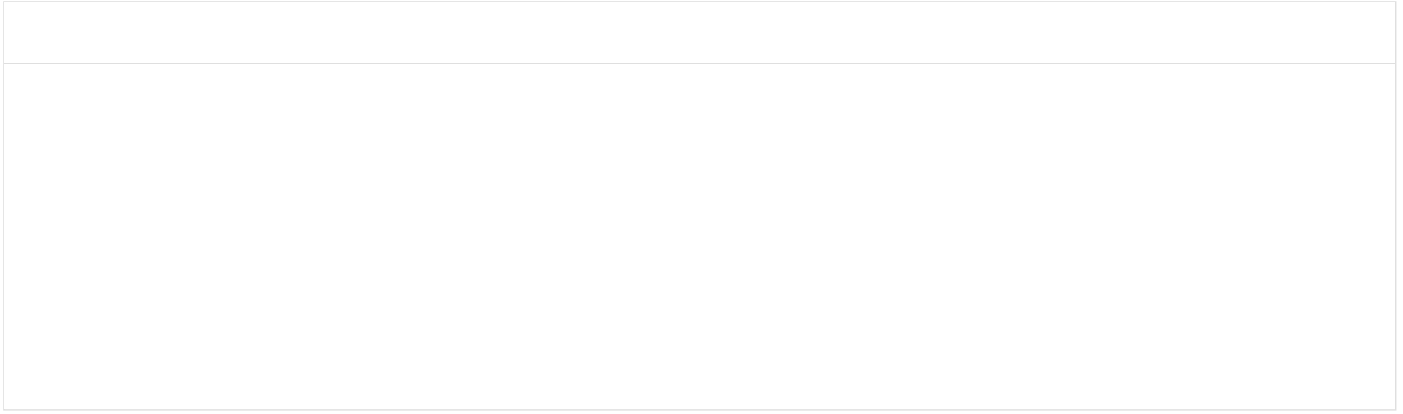
### Linked Work Items

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-950 - Reference Architecture-Board	SPT2-Trackside Assets CS			

### Hyperlinks

Role	URL	Actions
external reference	<a href="https://dsd-jira.jaas.service.deutschebahn.com/browse/EUAR-731">https://dsd-jira.jaas.service.deutschebahn.com/browse/EUAR-731</a>	

### Attachments



**Attachments**

Title	File Name	Size	Author	Last Modified	Actions
	Diagnostics for SSI draft4.docx	33374 B	Nico Huurman	2025-03-18 15:19	

Created: **2024-08-15 11:30** , Updated: **2025-03-18 15:19**

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SPT2TACS-950

**SPT2TACS-9635 - Refine version handling of SDI and SMI models in namespaceURI**

SPT2TACS-9787 SPT2TACS-9788 SPT2TACS-9789 SPT2TACS-9790 SPT2TACS-9791

Type: <b>Change Request</b>	Assignee(s): <b>Nico Hurman</b>	Initial Estimate:
Change Type: <b>Enhancement - Clarification</b>	Owner(s):	Time Spent:
Local ID: <b>EUAR-790</b>	Owning Group: <b>SPT2TACS-552 - Reference Architecture Board - EWG</b>	Due Date:
Severity: <b>Normal</b>	Affected Domains:	Due Date:
Blocker:	To be Derived by Team:	
Architecture Changes:	Priority: <b>Medium [50.0]</b>	
Requires CCB:	Status: <b>In verification</b>	
Changed/New Requirements:	Planned In: <b>Baseline 4 Release 4 (2025-12-31)</b>	
Change of Safety Relevant Areas:	Resolution:	
Author: <b>Nico Hurman</b>		
Project: <b>SPT2-Trackside Assets CS</b>		
Categories:		

**Current State**

BL4R3  
Drafts for BL4R4

**Problem Description**

Follow-up of EUAR-774.

Remark CLO in SMI Task Force 20250507: Should we remove the (E.A) part from the namespaceURI? These kind of version changes should not impact the compatibility of the model.

**Proposed Solution**

[New proposal 20250521]

- Decouple OPC UA model version from specification document version
- Define the OPC UA model version in the specification, as with PDI-version
- Use 3-tier version number
- Tier 1 (BL4R3: 1):
  - Reflects major functional model changes, definitely not 'OPC UA compatible'
  - Included in OPC UA namespaceURI
- Tier 2 (BL4R3: 1.0):
  - Reflects minor functional model changes, either not 'OPC UA compatible' or 'OPC UA compatible' but intentionally non-comaptible
  - Included in OPC UA namespaceURI
- Tier 3 (BL4R3: 1.0.0):
  - Reflects minor model changes, 'OPC UA compatible'
  - Only included in OPC UA meta-attribute 'version'

Exact textual changes/additions in IntDef SDI and IntDef+Spec SMI to be worked out.

In IntDefSDI

NEW Req object

The overall OPC UA Information model on the connected systems shall be composed of two OPC UA Information models, a generic and a specific part.

Eu.SDI.246

The version number of the OPC UA Information model shall consist of 3 levels, M.m.c., expressing Major, minor and compatible changes in the information model.  
The upper two levels, M.m., shall be marked in the namespaceURI. All three levels, M.m.c., shall be marked in the OPC UA variable 'version', be marked in the namespaceURI. The version number shall be in the format "M.m (E.A)" and equal to the document version of the specific Interface specification SDI corresponding to type of the EULYNX field element subsystem [Eu.Doc.78], [Eu.Doc.80], [Eu.Doc.81], [Eu.Doc.82] or [Eu.Doc.110]:

NEW Info object

The applicable value of the version number of the specific part is defined in the specific Interface specification SDI corresponding to type of the EULYNX field element subsystem [Eu.Doc.78], [Eu.Doc.80], [Eu.Doc.81], [Eu.Doc.82] or [Eu.Doc.110]. The applicable value of the version number of the generic part is defined in the Interface specification SDI Generic [Eu.Doc.94].

In IntSpec SDI Generic

NEW Req object in section 2.

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [error correction BL4R3]

[The version number of the OPC UA Information model as described in this document is 1.1.0.](#) [in BL4R4]

In IntSpec SDI-P

NEW Req object in section 2.

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [error correction BL4R3]

[The version number of the OPC UA Information model as described in this document is 1.1.0.](#) [in BL4R4]

In IntSpec SDI-LC

NEW Req object in section 2.

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [error correction BL4R3]

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [in BL4R4]

In IntSpec SDI-LS

NEW Req object in section 2.

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [error correction BL4R3]

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [in BL4R4]

In IntSpec SDI-IO

NEW Req object in section 2.

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [error correction BL4R3]

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [in BL4R4]

In IntSpec SDI-TDS

NEW Req object in section 2.

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [error correction BL4R3]

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [in BL4R4]

In IntDef+Spec SMI

Eu.SMI.292

The version number of the OPC UA Information model shall [consist of 3 levels, M.m.c., expressing Major, minor and compatible changes in the information model.](#)

[The upper two levels, M.m., shall be marked in the namespaceURI. All three levels, M.m.c., shall be marked in the OPC UA variable 'version'. be marked in the namespaceURI. The version number shall be in the format "M.m \(E.A\)" and equal to the document version of the specific Interface specification SDI corresponding to type of the EULYNX field element](#)

[subsystem \[Eu.Doc.78\], \[Eu.Doc.80\], \[Eu.Doc.81\], \[Eu.Doc.82\] or \[Eu.Doc.110\].](#)

NEW Req object is section 2.

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [error correction BL4R3]

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [in BL4R4]

[outdated proposal] The task force agrees.

Refine Eu.SMI.292:

The version number of the OPC UA Information model shall be marked in the namespaceURI. The version number shall be in the format "M.m ~~(E.A)~~" and equal to the document version of the Interface definition and specification SMI [Eu.Doc.76].

Refine Eu.SDI.246 (see also changes in EUAR-781):

The version number of the OPC UA Information model shall be marked in the namespaceURI. The version number shall be in the format "M.m ~~(E.A)~~" for both the specific and generic part of the OPC UA Information model. The version number of the specific part shall be equal to the document version of the specific Interface specification SDI corresponding to type of the EULYNX field element subsystem [Eu.Doc.78], [Eu.Doc.80], [Eu.Doc.81], [Eu.Doc.82] or [Eu.Doc.110]. The version number of the generic part shall be equal to the document version of the Interface specification SDI Generic [Eu.Doc.94].

## Affected Specifications

IntDef+Spec SMI

IntDef SDI

## Backwards Compatibility

See EUAR-774

Extension of OPC UA models for SMI and diagnostics.


Backwards compatibility handled via version management of the OPC UA models for SMI and diagnostics.

## Linked Work Items

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
---------	------	-------	---------	----------	--------	-------------

has parent	SPT2TACS-950 - Reference Architecture-Board	SPT2-Trackside Assets CS	
_ is derived by	SPT2TACS-9787 - LS - Refine version handling of SDI and SMI models in namespaceURI	SPT2-Trackside Assets CS	In verification Nico Huurman
_ is derived by	SPT2TACS-9788 - P - Refine version handling of SDI and SMI models in namespaceURI	SPT2-Trackside Assets CS	
_ is derived by	SPT2TACS-9789 - IO - Refine version handling of SDI and SMI models in namespaceURI	SPT2-Trackside Assets CS	
_ is derived by	SPT2TACS-9790 - TDS - Refine version handling of SDI and SMI models in namespaceURI	SPT2-Trackside Assets CS	
_ is derived by	SPT2TACS-9791 - LC - Refine version handling of SDI and SMI models in namespaceURI	SPT2-Trackside Assets CS	

### Attachments

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Created: 2025-05-12 06:43 , Updated: 2025-06-24 09:08

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# Diagnostics for SSI

## Extention proposal for SDI Generic

### Class: SSISharedCybersecurityServiceInterface

Rename existing class 'SSI' to new name.

Instantiation of parent class Interface

Associated to class TransportChannelOther

Attribute: `interfaceRevisionSSISpecificationGeneric`

**Proposed updated definition:** *Indicates the version of the Shared Cybersecurity Services Specification which was used for development and production of the connected system. For example the connected system is developed and produced based on Shared Cybersecurity Services Specification version 1.6 (1.A), the `interfaceRevisionSSISpecification` has the value "1.6 (1.A)".*

Question: Does the updated definition fit for the new SP specification structure?

**Current definition:** *Indicates the version of the Interface specification for SSI Generic which was used for development and production of the connected system. For example the connected system is developed and produced based on Interface specification for SSI Generic version 1.6 (1.A), the `interfaceRevisionSSIGeneric` has the value "1.6 (1.A)".*

Attribute: `serviceConnectionStatus`

Proposed updated Enumeration values

- Unknown: The status unknown is used when the state is not yet established e.g. if connection to the system is lost
- IntentionallyNotConnected: The service function interface is intentionally not connected.
- NotConnectedDisturbed: The service function interface is not connected and disturbed
- Connected: The service function interface is connected

Enumeration [same values as ConnectionStatus]

- Unknown: The status unknown is used when the state is not yet established e.g. if connection to the system is lost
- NotAvailableNotConnected: The service function interface is neither available nor connected
- AvailableNotConnected: The service function interface is available but not connected
- Connected: The service function interface is connected
- NotConnectedDisturbed: The service function interface is not connected and disturbed

Attribute: `connectionLastTimeDate`

DateTime

**Met opmerkingen [RP1]:** Can we bind that to release versions of the new Security Guideline?

e.g. new Guideline for BL4R4 referring to a certain set of EU-Rail Sec documents should be a precise definition. Otherwise we need to use the versioning scheme of EU-Rail

**Met opmerkingen [NH2R1]:** Refer to SP-Cybersecurity-SharedCybersecurityServices

**Met opmerkingen [NH3R1]:** Nico will update drafted name and definition.

**Met opmerkingen [NH4R1]:** Draft updated

**heeft opmaak toegepast:** Niet Doorhalen

**Met opmerkingen [RP5]:** How can we determine (from a client point of view) if the service is available when no connection is established?

**Met opmerkingen [RP6R5]:** I'd assume that from a client point of view we can just differentiate between

Connected  
NotConnected (intentionally)  
Error (Tried to connect but was not possible/connection lost)

**Met opmerkingen [NH7R5]:** 'Available' is meant to indicate that on the side of the field element (reporting device) there is no condition blocking this interface.

**Met opmerkingen [NH8R5]:** May need to refine to express:  
Availability (of the EfeS/connection system) can be: Available, intentionally not available, disturbed.  
Connection (to the partner) can be: Connected, intentionally not connection, connection disturbed.

**Met opmerkingen [NH9R5]:** Simplify for security services?

**Met opmerkingen [NH10R5]:** Merge NotAvailableNotConnected and AvailableNotConnected into IntentionallyNotConnected. Draft meaning.

**Met opmerkingen [NH11R5]:** Draft updated

**Class: SecureTimeSynchronisation**

Instantiation of parent class SharedCybersecurityServiceInterface

**Class: PublicKeyInfrastructure**

Instantiation of parent class SharedCybersecurityServiceInterface

**Class: IdentityAndAccessManagement**

Instantiation of parent class SharedCybersecurityServiceInterface

**Class: SecurityLogging**

Instantiation of parent class SharedCybersecurityServiceInterface

**Class: TransportChannelOther**

Instantiation of parent class TransportChannel

**Met opmerkingen [RP12]:** Should we already align these class names with the EU-Rail drafts?

**Met opmerkingen [NH13R12]:** Should be aligned in this version

**Met opmerkingen [RP14]:** What's the meaning of this class?

**Met opmerkingen [NH15R14]:** Fine

SPT2TACS-950

## SPT2TACS-958 - SDI-XX, express source and target of Interface classes

Type: **Change Request** Assignee(s): **Philipp Wolber** Initial Estimate:

Change Type: **Enhancement - Clarification** Owner(s): Time Spent:

Local ID: **EUAR-739** Owing Group: **SPT2TACS-552 - Reference Architecture-Board - EWG** Create:

Severity: **Normal** Affected Domains: Due Date:

Blocker: To be Derived by Team:

Architecture Changes: Priority: **Medium [50.0]**

Requires CCB: **No** Status: **In verification**

Changed/New Requirements: Planned In: **Baseline 4 Release 4 (2025-12-31)**

Change of Safety Relevant Areas: Resolution:

Author: **Nico Huurman**

Project: **SPT2-Trackside Assets CS**

Categories:

### Problem Description

Comment Siemens (GBo) about LogEventInterface  
 Intended content of NodeIDSource and NodeIDTarget to be clarified. Understandable 'meaning' to be drafted.  
 Decided on 20240516 to delete these attributes in BL4R3.  
 To consider improving and re-introducing these attributes after BL4R3

### Proposed Solution

Agreed in SDI Task Force 20241108  
 The following changes agreed (see attached diagram)  
 - Add association between classes Interface and Subsystem  
 - Add Attribute communicationPartnerSubsystemIdentification in class Interface.  
 > Description: The technical identifier of the subsystem or adjacent systems (see Eu.SAS.77 in [Eu.Doc.16]) that is the communication partner on the interface.

Discussed in SDI Task Force 20241017  
 Title updated from: SDI-XX, clarify and maybe re-introduce NodeIDSource and NodeIDTarget  
 Title updated to: SDI-XX, express source and target of Interface classes

To be discussed after BL4R3.

### Affected Specifications

Eu.Doc.94 (SDI-XX)  
 No further impact

### Backwards Compatability

Extension of diagnostic model.  
 Backwards compatibility handled via version management of diagnostic model.

### Linked Work Items


Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-950 - Reference Architecture-Board	SPT2-Trackside Assets CS			

### Hyperlinks

Role	URL	Actions
external reference	<a href="https://dsd-jira.jaas.service.deutschebahn.com/browse/EUAR-739">https://dsd-jira.jaas.service.deutschebahn.com/browse/EUAR-739</a>	

### Attachments

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**Attachments**

Title	File Name	Size	Author	Last Modified	Actions
	Updated SDI-XX interface_diagram for EUAR-739.pdf	248768 B	Nico Huurman	2024-11-09 17:01	

Created: **2024-08-15 11:30** , Updated: **2024-12-09 12:03**

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SPT2TACS-950

### SPT2TACS-8737 - Add SDI-XX attribute for expiration of Con\_tmax\_DataInstallation in SMI

Type: **Change Request** Assignee(s): **Philipp Wolber** Initial Estimate:

Change Type: **Enhancement - Clarification** Owner(s): Time Spent:

Local ID: **EUAR-760** Owing Group: **SPT2TACS-552 - Reference Architecture-Board-EWG** Create:

Severity: **Normal** Affected Domains: Due Date:

Blocker: To be Derived by Team:

Architecture Changes: Priority: **Medium [50.0]**

Requires CCB: **No** Status: **In verification**

Changed/New Requirements: Planned In: **Baseline 4 Release 4 (2025-12-31)**

Change of Safety Relevant Areas: Resolution:

Author: **Nico Huurman**

Project: **SPT2-Trackside Assets CS**

Categories:

#### Current State

BL4R3

#### Problem Description

In Eu.Doc.120 (Gen-SMI), the description of the time Con\_tmax\_DataInstallation states 'A diagnostic message is issued.' when the timer expires. The diagnostic data model for SDI-XX does not contain a message for this information.

#### Proposed Solution

Add an attribute in the class ConfigurationItem names IsDataInstallationTimeExceeded, type Boolean.  
With meaning:  
TRUE if the last try to activate and install a new version of the configuration item was not completed within the configured time period.

#### Affected Specifications

SDI-XX

#### Backwards Compatibility

Extension of diagnostic model.  
Backwards compatibility handled via version management of diagnostic model.

#### Comments

#1 **Missing Informations for types** by **Philipp Wolber** on 2024-12-09 11:31  
see Attachements for "Modelling Rule", "Accurancy", "Sampling" and "Attribute Type"

#### Linked Work Items

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-950 - Reference Architecture-Board	SPT2-Trackside Assets CS			

#### Attachments

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### Attachments

Title	File Name	Size	Author	Last Modified	Actions
	values.png	20019 B	Philipp Wolber	2024-12-09 11:30	

Created: **2024-10-15 14:13** , Updated: **2025-04-08 12:57**

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## Properties of 'IsDataInstallationTimeExceeded'

General Text Options Data Type Signature Changes Style Items VB Attribute Meta Data

Tag Definition Name	Tag Value
Attribute Type	diagnosis
Name (de)	
Meaning (de)	
Name (en)	
Meaning (en)	TRUE if the last try to activate and install a new version of the configuration item was not completed within the configured time period.
Update	
Scope	
Rule	
Old Physical Unit	
Physical Unit	
<b>Modelling Rule</b>	<b>Mandatory</b>
Accuracy	Current value
Sampling Rate	1000

SPT2TACS-950

### SPT2TACS-8740 - Correct missing Operation\_State when leaving Data\_Update

Type: **Change Request**      Assignee(s): **Nico Huurman**      Initial Estimate:

Change Type: **Error**      Owner(s):      Time Spent:

Local ID: **EUAR-763**      Owing Group: **SPT2TACS-552 - Reference Architecture-Board-EWG**      Due Date:

Severity: **Normal**      Affected Domains:      Due Date:

Blocker:      To be Derived by Team:

Architecture Changes:      Priority: **Medium [50.0]**

Requires CCB: **No**      Status: **In verification**

Changed/New Requirements:      Planned In: **Error correction after BL4R3**

Change of Safety Relevant Areas:      Resolution:

Author: **Nico Huurman**

Project: **SPT2-Trackside Assets CS**

Categories:

#### Current State

BL4R3

#### Problem Description

PILZ raised that the reaction D10out\_Operation\_State = "NotMaintenance" is missing at the transitions going out of Data\_Update. This means that the value of D10out\_Operation\_State is not defined in the state SMI\_CONNECTION\_ESTABLISHED, it can be either "NotMaintenance" or "Maintenance". This unclarity is not intended, the value must be "NotMaintenance".

With this correction, the value of D10out\_Operation\_State will always be "NotMaintenance" in case the state DATA\_UPDATE is entered because of the trigger T19in\_Start\_async\_preload. This fact can be used as condition to allow Activation of a configuration item (only allowed in "Maintenance". In this way, the reference to the EST\_EfeS\_init\_SubState is no longer needed.

#### Proposed Solution

Add D10out\_Operation\_State = "NotMaintenance" in 3 transitions going out of the state DATA\_UPDATE.

In the transition from MDM\_INTERACTION\_FOR\_ITEM\_I to ACTIVATING, delete the condition d52in\_EST\_EfeS\_init\_SubState = "WAITING\_FOR\_DATA\_UPDATE" and replace it with D10out\_Operation\_State = "Maintenance". The port d52in is no longer needed.

#### Affected Specifications

Gen-SMI [Eu.Doc.120]

#### Backwards Compatability


Error correction for:  
BL4 Release 1  
BL4 Release 2  
BL4 Release 3

#### Linked Work Items

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-950 - Reference Architecture-Board	SPT2-Trackside Assets CS			

#### Attachments

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**Attachments**

Title	File Name	Size	Author	Last Modified	Actions
	[EUAR-763] F_SMI_efes_stm.pdf	96837 B	Nico Huurman	2024-12-04 17:54	
	[EUAR-763] F_SMI_efes_ibd.pdf	69776 B	Nico Huurman	2024-12-04 17:54	

Created: **2024-10-15 15:20** , Updated: **2025-04-08 13:03**

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SPT2TACS-950

## SPT2TACS-9038 - Add SDI-XX attribute for reporting PDI repetition

Type: **Change Request** Assignee(s): **Nico Huurman** Initial Estimate:

Change Type: **Enhancement - Clarification** Owner(s): Time Spent:

Local ID: **EUAR-765** Owing Group: **SPT2TACS-552 - Reference Architecture-Board-EWG** Date:

Severity: **Normal** Affected Domains: Due Date:

Blocker: To be Derived by Team:

Architecture Changes: Priority: **Medium [50.0]**

Requires CCB: Status: **In verification**

Changed/New Requirements: Planned In: **Baseline 4 Release 4 (2025-12-31)**

Change of Safety Relevant Areas: Resolution:

Author: **Nico Huurman**

Project: **SPT2-Trackside Assets CS**

Categories:

### Current State

BL4R3

### Problem Description

In the SAS [Eu.Doc.16], specifically Eu.SAS.2078 requires that a diagnostic message be sent when a communication partner receives a repeated command or message. The diagnostic data model for SDI-XX does not contain a message for this information.

### Proposed Solution

Add an enumeration value in the list for the attribute PdiEventNotification  
11. 'pdiRepetition'

### Affected Specifications

SDI-XX

### Backwards Compatability

Extension of diagnostic model.  
Backwards compatibility handled via version management of diagnostic model.

### Comments

#1 **Meaning needed** by **Philipp Wolber** on 2025-01-15 15:37  
New value "11. 'pdiRepetition'" needs a defined "meaning"

### Linked Work Items

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-950 - Reference Architecture-Board	SPT2-Trackside Assets CS			

### Attachments

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Created: **2024-12-02 11:20** , Updated: **2025-06-24 09:08**

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SPT2TACS-950

## SPT2TACS-9394 - Refine diagnostic attributes for connections status

Type: <b>Change Request</b>	Assignee(s): <b>Nico Hurman</b>	Initial Estimate:
Change Type: <b>Enhancement - Clarification</b>	Owner(s):	Time Spent:
Local ID: <b>EUAR-771</b>	Owning Group: <b>SPT2TACS-552 - Reference Architecture Board EWG</b>	Due Date:
Severity: <b>Normal</b>	Affected Domains:	Due Date:
Blocker:	To be Derived by Team:	
Architecture Changes:	Priority: <b>Medium [50.0]</b>	
Requires CCB:	Status: <b>In verification</b>	
Changed/New Requirements:	Planned In: <b>Baseline 4 Release 4 (2025-12-31)</b>	
Change of Safety Relevant Areas:	Resolution:	
Author: <b>Nico Hurman</b>		
Project: <b>SPT2-Trackside Assets CS</b>		
Categories:		

### Current State

BL4R3  
Drafts for BL4R4

### Problem Description

Comment raised by PZie. The diagnostic attributes for connection status must be more aligned with the RaSTA connection status information.

### Proposed Solution

Change ConnectionStatus in class Interface to a boolean IsConnectionAvailable.  
Meaning: TRUE if the interface is available at the subsystem.

Update the enumeration values for ScpConnectionStatus

Unknown	0: The status Unknown is used when the state is not yet established e.g. if connection to the system is lost
Closed	1: The connection is terminated
Down	2: The service "Open Connection" has been invoked; the connection is ready to be established
Start	3: Client: A connection request has been sent and a connection response is expected. Server: A connection response has been sent and a heartbeat is expected.
Up	4: The connection is established; messages can be received and sent
RetrReq	5: A retransmission request has been sent and a retransmission response is expected
RetrRun	6: After the retransmission response is received, retransmitted data are accepted until a heartbeat or regular data is/are received

Update the enumeration values for TransportChannelRastaStatus

Unknown	0: The status unknown is used when the state is not yet established
Closed	1: TCP: The connection is terminated UDP: Port is closed and no data exchange is possible
Established	2: TCP: The connection is established and data exchange is possible UDP: Port is open and data exchange is possible

Add attribute status in class TransportChannelOpcua with enumeration values TransportChannelOpcuaStatus

Unknown	0: The status Unknown is used when the state is not yet established e.g. if connection to the system is lost
Connected	1: The channel is connected
NotConnected	2: The channel is not connected



### Affected Specifications

SDI-XX

### Backwards Compatability

Extension of diagnostic model.  
Backwards compatibility handled via version management of diagnostic model.

### Linked Work Items

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	 SPT2TACS-950 - Reference Architecture-Board	SPT2-Trackside Assets CS			

### Attachments

Created: 2025-03-18 12:39 , Updated: 2025-06-24 09:08

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SPT2TACS-950

### SPT2TACS-9395 - Remove enumeration ReplaceableRevalidation

Type: **Change Request** Assignee(s): **Nico Huurman** Initial Estimate:

Change Type: **Enhancement - Clarification** Owner(s): Time Spent:

Local ID: **EUAR-772** Owing Group: **SPT2TACS-552 - Reference Architecture-Board - EWG** Date:

Severity: **Normal** Affected Domains: Due Date:

Blocker: To be Derived by Team:

Architecture Changes: Priority: **Medium [50.0]**

Requires CCB: Status: **In verification**

Changed/New Requirements: Planned In: **Baseline 4 Release 4 (2025-12-31)**

Change of Safety Relevant Areas: Resolution:

Author: **Nico Huurman**

Project: **SPT2-Trackside Assets CS**

Categories:

#### Current State

BL4R3  
Drafts for BL4R4

#### Problem Description

The definition of the enumeration value ReplaceableRevalidation in the attribute replacementIndication is not clear.

#### Proposed Solution

Delete the enumeration value ReplaceableRevalidation

#### Affected Specifications

SDI-XX

#### Backwards Compatibility

Extension of diagnostic model.  
Backwards compatibility handled via version management of diagnostic model.

#### Linked Work Items

Suspect	Role	Title	Project	Revision
	has parent	SPT2TACS-950 - Reference Architecture-Board	SPT2-Trackside Assets CS	

#### Attachments

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Created: 2025-03-1

SPT2TACS-950

### SPT2TACS-9399 - Version handling of SDI and SMI models in namespaceURI

Type: **Change Request** Assignee(s): **Nico Hurman** Initial Estimate:

Change Type: **Enhancement - Clarification** Owner(s): Time Spent:

Local ID: **EUAR-774** Owing Group: **SPT2TACS-552 - Reference Architecture-Board - EWG** Date:

Severity: **Normal** Affected Domains: Due Date:

Blocker: To be Derived by Team:

Architecture Changes: Priority: **Medium [50.0]**

Requires CCB: Status: **In verification**

Changed/New Requirements: Planned In: **Baseline 4 Release 4 (2025-12-31)**

Change of Safety Relevant Areas: Resolution:

Author: **Nico Hurman**

Project: **SPT2-Trackside Assets CS**

Categories:

#### Current State

BL4R3  
Drafts for BL4R4

#### Problem Description

KKI raised that there is no need to have an explicit attribute 'Version' on the top level of the OPC UA model for SMI. Such an attribute was added in BL4R3 with ticket EUAR-641.

#### Proposed Solution

Remove again the attribute 'Version' from the OPC UA model of SMI.  
In figure in Eu.SMI.233 and in table in Eu.SMI.244.

Instead, a general OPC UA requirement will be added in section 3.2.2, between Eu.SMI.287 and Eu.SMI.268.  
[The version number of the OPC UA Information model shall be marked in the namespaceURI. The version number shall be in the format "M.m \(E.A\)" and equal to the document version of specification SMI \[Eu.Doc.76\].](#)

A similar general OPC UA requirement will also be added for SDI, in section 3.3, between Eu.SDI.237 and Eu.SDI.217.  
[The version number of the OPC UA Information model shall be marked in the namespaceURI. The version number shall be in the format "M.m \(E.A\)" and equal to the document version of SDI corresponding to type of the EULYNX field element subsystem \[Eu.Doc.78\],\[Eu.Doc.80\],\[Eu.Doc.81\],\[Eu.Doc.82\] or \[Eu.Doc.110\].](#)

#### Affected Specifications

IntDef SDI  
IntDef+Spec SMI

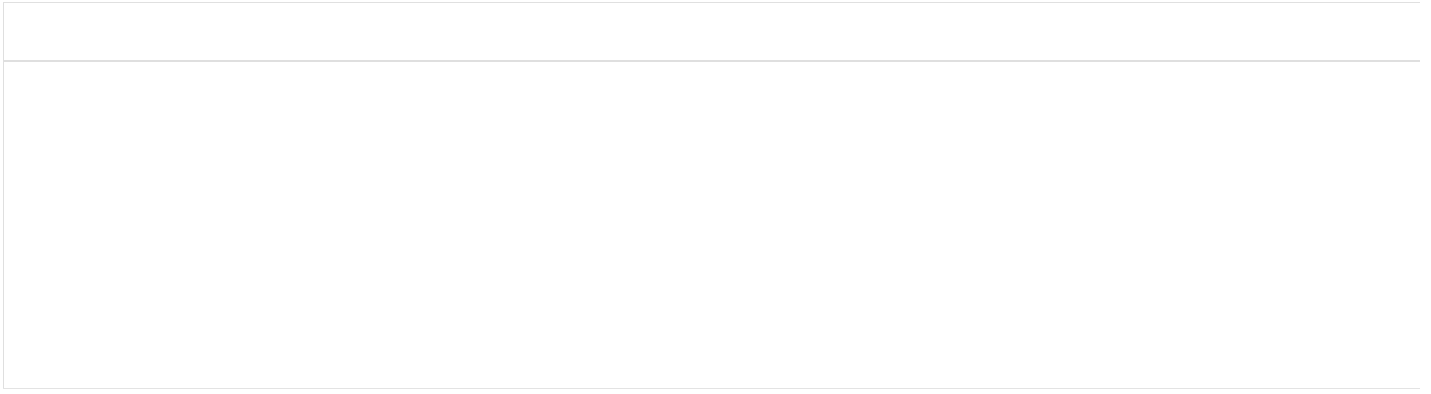
#### Backwards Compatibility

Extension of OPC UA models for SMI and diagnostics.  
Backwards compatibility handled via version management of the OPC UA models for SMI and diagnostics.

#### Linked Work Items

Suspect	Role	Title	Project	Revision
	has parent	SPT2TACS-950 - Reference Architecture-Board	SPT2-Trackside Assets CS	

#### Attachments



SPT2TACS-950

**SPT2TACS-9553 - Update reference to security permissions in SDI, SMI**

Type: <b>Change Request</b>	Assignee(s): <b>Nico Huurman</b>	Initial Estimate:
Change Type: <b>Enhancement - Clarification</b>	Owner(s):	Time Spent:
Local ID: <b>EUAR-778</b>	Owning Group: <b>SPT2TACS-552 - Reference Architecture Board EWG</b>	Due Date:
Severity: <b>Normal</b>	Affected Domains:	Due Date:
Blocker:	To be Derived by Team:	
Architecture Changes:	Priority: <b>Medium [50.0]</b>	
Requires CCB:	Status: <b>In verification</b>	
Changed/New Requirements:	Planned In: <b>Baseline 4 Release 4 (2025-12-31)</b>	
Change of Safety Relevant Areas:	Resolution:	
Author: <b>Nico Huurman</b>		
Project: <b>SPT2-Trackside Assets CS</b>		
Categories:		

**Current State**

BL4R3  
Drafts for BL4R4

**Problem Description**

See additions described in EUAR-747.

Contrary to previous agreements, the SP Cybersecurity domain decided to not include any content related to the security permissions for SDI and SMI in their publication in early 2025.

The topic has been handed over to the Transversal domain.

Some changes were drafted by TCCS after the previous agreement.

**Proposed Solution**

Change Eu.SMI.290

The OPC UA server on the connected system shall respect the security permissions.

The following security permissions are used:

- eu.rail.smi.configuration-read
- eu.rail.smi.configuration-distribute
- eu.rail.smi.configuration-activate
- eu.rail.smi.component-reset

Gert Bolz to provide table marking for configuration-read > Ticket to be updated when available.

The new permission 'Configuration-read' will be added in the tables at the following rows:

- Item 1, ..., Item n
- ActivationState
- CurrentVersion
- PreloadedVersion
- PreloadFile
- PreloadState
- OperationState
- Subsys\_ID
- UpdateInitState

In the other entries in the column 'Permission', two out of 3 permissions will be renamed:

- Data-distribute > Configuration-distribute
- Data-activate > Configuration-activate

For consistency, the equivalent change is needed in Eu.SDI.241.

The OPC UA server on the connected system shall respect the security permissions.

The following security permissions are used:

- eu.rail.sdi.diagnostics-read

**Affected Specifications**



SMI [Eu.Doc.76]

SDI [Eu.Doc.77]

**Backwards Compatability**


Transversal CCS (Gert Bolz) has confirmed that there is no impact on backwards compatibility.

### Linked Work Items

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	 SPT2TACS-950 - Reference Architecture-Board	SPT2-Trackside Assets CS			

### Attachments

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SPT2TACS-950

### SPT2TACS-9555 - Missing general OPC UA requirement for SMI

Type: **Change Request**      Assignee(s): **Nico Hurman**      Initial Estimate:

Change Type: **Enhancement - Clarification**      Owner(s):      Time Spent:

Local ID: **EUAR-780**      Owing Group: **SPT2TACS-552 - Reference Architecture-Board - EWG**      Gate:

Severity: **Normal**      Affected Domains:      Due Date:

Blocker:      To be Derived by Team:

Architecture Changes:      Priority: **Medium [50.0]**

Requires CCB:      Status: **In verification**

Changed/New Requirements:      Planned In: **Baseline 4 Release 4 (2025-12-31)**

Change of Safety Relevant Areas:      Resolution:

Author: **Nico Hurman**

Project: **SPT2-Trackside Assets CS**

Categories:

#### Current State

BL4R3  
Drafts for BL4R4

#### Problem Description

During review for BL4R4, the SMI task force noted that a general OPC UA requirement is missing for SMI. Eu.SDI.214 is present in the IntDef SDI [Eu.Doc.77], but the equivalent requirement is missing in the IntDef and Spec SMI [Eu.Doc.76]

#### Proposed Solution

Copy the content of Eu.SDI.214 to IntDef and Spec SMI [Eu.Doc.76]  
After Eu.SMI.267.

#### Affected Specifications

IntDef and Spec SMI [Eu.Doc.76]


#### Backwards Compatability

Not a new functional requirement, already included for SDI

#### Linked Work Items

Suspect	Role	Title	Project	Revision	St:
has parent		SPT2TACS-950 - Reference Architecture-Board	SPT2-Trackside Assets CS		

#### Attachments



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Created: 2025-04-17

SPT2TACS-950

**SPT2TACS-9635 - Refine version handling of SDI and SMI models in namespaceURI**

SPT2TACS-9787 SPT2TACS-9788 SPT2TACS-9789 SPT2TACS-9790 SPT2TACS-9791

Type: <b>Change Request</b>	Assignee(s): <b>Nico Hurman</b>	Initial Estimate:
Change Type: <b>Enhancement - Clarification</b>	Owner(s):	Time Spent:
Local ID: <b>EUAR-790</b>	Owning Group: <b>SPT2TACS-552 - Reference Architecture Board - EWG</b>	Due Date:
Severity: <b>Normal</b>	Affected Domains:	Due Date:
Blocker:	To be Derived by Team:	
Architecture Changes:	Priority: <b>Medium [50.0]</b>	
Requires CCB:	Status: <b>In verification</b>	
Changed/New Requirements:	Planned In: <b>Baseline 4 Release 4 (2025-12-31)</b>	
Change of Safety Relevant Areas:	Resolution:	
Author: <b>Nico Hurman</b>		
Project: <b>SPT2-Trackside Assets CS</b>		
Categories:		

**Current State**

BL4R3  
Drafts for BL4R4

**Problem Description**

Follow-up of EUAR-774.

Remark CLO in SMI Task Force 20250507: Should we remove the (E.A) part from the namespaceURI? These kind of version changes should not impact the compatibility of the model.

**Proposed Solution**

[New proposal 20250521]

- Decouple OPC UA model version from specification document version
- Define the OPC UA model version in the specification, as with PDI-version
- Use 3-tier version number
- Tier 1 (BL4R3: 1):
  - Reflects major functional model changes, definitely not 'OPC UA compatible'
  - Included in OPC UA namespaceURI
- Tier 2 (BL4R3: 1.0):
  - Reflects minor functional model changes, either not 'OPC UA compatible' or 'OPC UA compatible' but intentionally non-compatible
  - Included in OPC UA namespaceURI
- Tier 3 (BL4R3: 1.0.0):
  - Reflects minor model changes, 'OPC UA compatible'
  - Only included in OPC UA meta-attribute 'version'

Exact textual changes/additions in IntDef SDI and IntDef+Spec SMI to be worked out.

In IntDefSDI

NEW Req object

The overall OPC UA Information model on the connected systems shall be composed of two OPC UA Information models, a generic and a specific part.

Eu.SDI.246

The version number of the OPC UA Information model shall consist of 3 levels, M.m.c., expressing Major, minor and compatible changes in the information model.  
The upper two levels, M.m., shall be marked in the namespaceURI. All three levels, M.m.c., shall be marked in the OPC UA variable 'version', be marked in the namespaceURI. The version number shall be in the format "M.m (E.A)" and equal to the document version of the specific Interface specification SDI corresponding to type of the EULYNX field element subsystem [Eu.Doc.78], [Eu.Doc.80], [Eu.Doc.81], [Eu.Doc.82] or [Eu.Doc.110].

NEW Info object

The applicable value of the version number of the specific part is defined in the specific Interface specification SDI corresponding to type of the EULYNX field element subsystem [Eu.Doc.78], [Eu.Doc.80], [Eu.Doc.81], [Eu.Doc.82] or [Eu.Doc.110]. The applicable value of the version number of the generic part is defined in the Interface specification SDI Generic [Eu.Doc.94].

In IntSpec SDI Generic

NEW Req object in section 2.

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [error correction BL4R3]

[The version number of the OPC UA Information model as described in this document is 1.1.0.](#) [in BL4R4]

In IntSpec SDI-P

NEW Req object in section 2.

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [error correction BL4R3]

[The version number of the OPC UA Information model as described in this document is 1.1.0.](#) [in BL4R4]

In IntSpec SDI-LC

NEW Req object in section 2.

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [error correction BL4R3]

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [in BL4R4]

In IntSpec SDI-LS

NEW Req object in section 2.

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [error correction BL4R3]

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [in BL4R4]

In IntSpec SDI-IO

NEW Req object in section 2.

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [error correction BL4R3]

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [in BL4R4]

In IntSpec SDI-TDS

NEW Req object in section 2.

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [error correction BL4R3]

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [in BL4R4]

In IntDef+Spec SMI

Eu.SMI.292

The version number of the OPC UA Information model shall [consist of 3 levels, M.m.c., expressing Major, minor and compatible changes in the information model.](#)

[The upper two levels, M.m., shall be marked in the namespaceURI. All three levels, M.m.c., shall be marked in the OPC UA variable 'version'. be marked in the namespaceURI. The version number shall be in the format "M.m \(E.A\)" and equal to the document version of the specific Interface specification SDI corresponding to type of the EULYNX field element](#)

[subsystem \[Eu.Doc.78\], \[Eu.Doc.80\], \[Eu.Doc.81\], \[Eu.Doc.82\] or \[Eu.Doc.110\].](#)

NEW Req object is section 2.

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [error correction BL4R3]

[The version number of the OPC UA Information model as described in this document is 1.0.0.](#) [in BL4R4]

[outdated proposal] The task force agrees.

Refine Eu.SMI.292:

The version number of the OPC UA Information model shall be marked in the namespaceURI. The version number shall be in the format "M.m ~~(E.A)~~" and equal to the document version of the Interface definition and specification SMI [Eu.Doc.76].

Refine Eu.SDI.246 (see also changes in EUAR-781):

The version number of the OPC UA Information model shall be marked in the namespaceURI. The version number shall be in the format "M.m ~~(E.A)~~" for both the specific and generic part of the OPC UA Information model. The version number of the specific part shall be equal to the document version of the specific Interface specification SDI corresponding to type of the EULYNX field element subsystem [Eu.Doc.78], [Eu.Doc.80], [Eu.Doc.81], [Eu.Doc.82] or [Eu.Doc.110]. The version number of the generic part shall be equal to the document version of the Interface specification SDI Generic [Eu.Doc.94].

## Affected Specifications

IntDef+Spec SMI

IntDef SDI

## Backwards Compatibility

See EUAR-774

Extension of OPC UA models for SMI and diagnostics.


Backwards compatibility handled via version management of the OPC UA models for SMI and diagnostics.

## Linked Work Items

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
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has parent	SPT2TACS-950 - Reference Architecture-Board	SPT2-Trackside Assets CS	
_ is derived by	SPT2TACS-9787 - LS - Refine version handling of SDI and SMI models in namespaceURI	SPT2-Trackside Assets CS	In verification Nico Huurman
_ is derived by	SPT2TACS-9788 - P - Refine version handling of SDI and SMI models in namespaceURI	SPT2-Trackside Assets CS	
_ is derived by	SPT2TACS-9789 - IO - Refine version handling of SDI and SMI models in namespaceURI	SPT2-Trackside Assets CS	
_ is derived by	SPT2TACS-9790 - TDS - Refine version handling of SDI and SMI models in namespaceURI	SPT2-Trackside Assets CS	
_ is derived by	SPT2TACS-9791 - LC - Refine version handling of SDI and SMI models in namespaceURI	SPT2-Trackside Assets CS	

### Attachments

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SPT2TACS-1718

### SPT2TACS-9242 - SDI-LC, Is MotorTurnData mandatory for BarrierTurnEvent?

Type: **Change Request** Assignee(s): **Nico Huurman** Initial Estimate:

Change Type: **Enhancement - Clarification** Owner(s): Time Spent:

Local ID: **EULX-643** Owing Group: **SPT2TACS-456 - Level Crossing WG** Remaining Estimate:

Severity: **Normal** Affected Domains: Due Date:

Blocker: To be Derived by Team:

Architecture Changes: Priority: **Medium [50.0]**

Requires CCB: Status: **In verification**

Changed/New Requirements: Planned In: **Baseline 4 Release 4 (2025-12-31)**

Change of Safety Relevant Areas: Resolution:

Author: **Nico Huurman**

Project: **SPT2-Trackside Assets CS**

Categories:

#### Current State

BL4R3

#### Problem Description

See EUAR-738 SPT2TACS-959 - SDI-XX, Is MotorTurnData mandatory for BarrierTurnEvent? )

#### Proposed Solution

See EUAR-738 SPT2TACS-959 - SDI-XX, Is MotorTurnData mandatory for BarrierTurnEvent? )  
The MotorTurnData for BarrierTurnEvent remains in the diagnostic model as optional diagnostic data.  
This is expressed by changing the multiplicity value on the link between BarrierTurnEvent and MotorTurnData, on the side of MotorTurnData to 0..1

#### Affected Specifications

IntSpec SDI-LC

#### Backwards Compatability


Extension of diagnostic model.  
Backwards compatibility handled via version management of diagnostic model.

#### Linked Work Items

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-1718 - LX-Board	SPT2-Trackside Assets CS			

#### Attachments

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SPT2TACS-834

### SPT2TACS-839 - SDI-LS, errors related to balise cabling

Type: **Change Request** Assignee(s): **Nico Huurman** Initial Estimate:

Change Type: **Enhancement - Clarification** Owner(s): Time Spent:

Local ID: **EULS-463** Owing Group: **SPT2TACS-458 - Light Signal WG** Remaining Estimate:

Severity: **Normal** Affected Domains: Due Date:

Blocker: To be Derived by Team:

Architecture Changes: Priority: **Low [30.0]**

Requires CCB: **No** Status: **In verification**

Changed/New Requirements: Planned In: **Baseline 4 Release 4 (2025-12-31)**

Change of Safety Relevant Areas: Resolution:

Author: **Nico Huurman**

Project: **SPT2-Trackside Assets CS**

Categories:

#### Current State

Draft BL4R3

#### Problem Description

Comment on Eu.SDI-LS.276.

Enumeration values of Attribute InterfaceConnectionStatus, used in Class LightSignalAdjacentOutputChannel

Original comment PZi: The possible errors on balise cabling must be defined by UNISIG. Up to my knowledge the detection of open or short circuits is not required by UNISIG. Please check, if those error detection functions are required. Otherwise, no error detection is given. This whole item shall be deleted

Reaction PZi 20250321: I just want to avoid, that we define requirements that are related to a UNISIG interface, but are not given by UNISIG. I still could not find diagnostic requirements for the Balise cabling BUT, I know, that we have some (limited) capabilities.

So, it seems possible to find some errors even on communication cabling. I just had a look at the Subset-036 from Baseline 4.0.0, where no diagnostic requirements are given.

Based on this, I would also vote for an optional tag.

#### Proposed Solution

Update 20250324:

Change attribute InterfaceConnectionStatus in the class LightSignalAdjacentOutputChannel from Mandatory to Optional (Eu.SDI-LS.265).

No changes needed in the enumeration values of InterfaceConnectionStatus

Align 'Meaning' in Eu.SDI-LS.265:

Indicates the connection status of the interface to the light signal adjacent system.

Can't be covered in BL4 R3, topic raised too late.

To be discussed for later release.

#### Affected Specifications

SDI-LS

#### Backwards Compatability

Extension of diagnostic model.

Backwards compatibility handled via version management of diagnostic model.

#### Linked Work Items

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-834 - LS-Board	SPT2-Trackside Assets CS			

#### Hyperlinks

Role	URL	Actions
external reference	<a href="https://dsd-jira.jaas.service.deutschebahn.com/browse/EULS-463">https://dsd-jira.jaas.service.deutschebahn.com/browse/EULS-463</a>	

## Attachments

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SPT2TACS-834

**SPT2TACS-9868 - Correct missing package marking at logical context diagram**

Type: <b>Change Request</b>	Assignee(s): <b>Nico Hurman</b>	Initial Estimate:
Change Type: <b>Error</b>	Owner(s):	Time Spent:
Local ID: <b>EULS-493</b>	Owning Group: <b>SPT2TACS-458 - Light Signal WG</b>	Remaining Estimate:
Severity: <b>Normal</b>	Affected Domains:	Due Date:
Blocker:	To be Derived by Team:	
Architecture Changes:	Priority: <b>Medium [50.0]</b>	
Requires CCB:	Status: <b>Created</b>	
Changed/New Requirements:	Planned In: <b>Error correction after BL4R4</b>	
Change of Safety Relevant Areas:	Resolution:	
Author: <b>Nico Hurman</b>		
Project: <b>SPT2-Trackside Assets CS</b>		
Categories:		

**Current State**

BL4R4

**Problem Description**

In BL4 Release 3, a series of object was added under the logical context diagram writing out the multiplicities of each interface. The functional package marking is missing for these objects.

**Proposed Solution**

Add the following functional package marking.

Object Eu.LS.8091: Option LS4

Object Eu.LS.8083: Option LS5

Objects Eu.LS.8082, Eu.LS.8084-8090, Eu.LS.8092: Basic LS

**Affected Specifications**

ReqSpec LS

**Backwards Compatability**

Critical (are the specifications functionally inconsistent without the correction)?

Yes, the specifications contain 11 'Req' objects without package marking

This correction has no impact on PDI telegrams

Error correction for

BL4R4, BL4R3

**Custom Fields**

Polarc Diagram:

Lane Hashtag:

GANTT Start:

GANTT End:

**Linked Work Items**

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-834 - LS-Board	SPT2-Trackside Assets CS			

**Attachments**

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SPT2TACS-870

**SPT2TACS-9867 - Correct missing package marking at logical context diagram**

Type: <b>Change Request</b>	Assignee(s): <b>Nico Hurman</b>	Initial Estimate:
Change Type: <b>Error</b>	Owner(s):	Time Spent:
Local ID: <b>EUP-589</b>	Owning Group: <b>SPT2TACS-427 - Point WG</b>	Remaining Estimate:
Severity: <b>Normal</b>	Affected Domains:	Due Date:
Blocker:	To be Derived by Team:	
Architecture Changes:	Priority: <b>Medium [50.0]</b>	
Requires CCB:	Status: <b>Created</b>	
Changed/New Requirements:	Planned In: <b>Error correction after BL4R4</b>	
Change of Safety Relevant Areas:	Resolution:	
Author: <b>Nico Hurman</b>		
Project: <b>SPT2-Trackside Assets CS</b>		
Categories:		

**Current State**

BL4R4

**Problem Description**

In BL4 Release 3, a series of object was added under the logical context diagram writing out the multiplicities of each interface. The functional package marking is missing for these objects.

**Proposed Solution**

Add the following functional package marking.  
Objects Eu.P.7479-7486: All 4 basic packages.

**Affected Specifications**

ReqSpec Point

**Backwards Compatability**

Critical (are the specifications functionally inconsistent without the correction)?  
Yes, the specifications contain 8 'Req' objects without package marking  
This correction has no impact on PDI telegrams

Error correction for  
BL4R4, BL4R3

**Custom Fields**

Polarc Diagram:

Lane Hashtag:

GANTT Start:

GANTT End:

**Linked Work Items**

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-870 - P-Board	SPT2-Trackside Assets CS			

**Attachments**

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SPT2TACS-950

### SPT2TACS-10082 - SDI-XX, check and align use of value 0 for Unknown in enumerations

Type: <b>Change Request</b>	Assignee(s): <b>Nico Huurman</b>	Initial Estimate:
Change Type: <b>Enhancement - Clarification</b>	Owner(s):	Time Spent:
Local ID: <b>EUAR-811</b>	Owning Group: <b>SPT2TACS-552 - Reference Architecture Board - EWG</b>	Due Date:
Severity: <b>Normal</b>	Affected Domains:	Due Date:
Blocker:	To be Derived by Team:	
Architecture Changes:	Priority: <b>Medium [50.0]</b>	
Requires CCB:	Status: <b>Created</b>	
Changed/New Requirements:	Planned In: <b>Baseline 5</b>	
Change of Safety Relevant Areas:	<b>Error correction after BL4R4</b>	
Author: <b>Nico Huurman</b>	Resolution:	
Project: <b>SPT2-Trackside Assets CS</b>		
Categories:		

#### Current State

BL4R4

#### Problem Description

Several comments raised during review of OPC UA model files, by Siemens

Please use Unknown instead of na for the value 0

A check is needed on the consistent use of the value 0 for Unknown in the current diagnostic models.  
- Is it needed to have the value 'Unknown' for attributes that are of the type 'Configuration'?

This Excel sheet shows on overview of all enumerations used in the diagnostic models: <https://eeigertms.sharepoint.com/:x:/r/sites/SC2.1Task23212/Gedeelde%20documenten/Trackside%20Assets%20Control%20and%20Supervision/Domain%20WGs/RefArch/D811%20Use%20of%20Unknown%20in%20enumerations.xlsx?d=wa0ebd3d98d8e4436b2f40ca80f52d160&csf=1&web=1&e=7wGPbd>

#### Proposed Solution

Agreed in SDI Task Force 20251020

- Current value diagnosis: Should have 0 Unkown value. This is used at startup, when the status information is not yet available in the diagnostic model.
- Current value configuration: Should have 0 Unkown value. This can be used at startup, when the full configuration information may not yet be available in the diagnostic model.
- On event attributes: No need for 0 Unknown value. The full information mustbe available when the event-based diagnostics are created.

Changes to individual enumerations are listed in column H:  
<https://eeigertms.sharepoint.com/:x:/r/sites/SC2.1Task23212/Gedeelde%20documenten/Trackside%20Assets%20Control%20and%20Supervision/Domain%20WGs/RefArch/Diagnostic811%20Use%20of%20Unknown%20in%20enumerations.xlsx?d=wa0ebd3d98d8e4436b2f40ca80f52d160&csf=1&web=1&e=7wGPbd>

To be defined after analysis.

Is it needed to add or remove the value '0: Unknown' as certain enumerations for consistency?

#### Affected Specifications

- SDI-XX
- SDI-IO
- SDI-LS
- SDI-TDS

#### Backwards Compatability

Error correction for BL4R3 and BL4R4.  
- Is this a non-compatible change in OPC UA? > Not relevant, as the first OPC UA model version will be published after this error correction.  
- Critical error: No

#### Custom Fields

Polarc Diagram:

Lane Hashtag:


GANTT Start:

GANTT End:

### Linked Work Items

Suspect	Role	Title	Project
	has parent	 SPT2TACS-950 - Reference Architecture-Board	SPT2-T Assets

### Attachments



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SPT2TACS-950

**SPT2TACS-10083 - SDI-XX, correct OPC UA version numbers for BL4R4, impact of generic change**

Type: <b>Change Request</b>	Assignee(s): <b>Nico Hurman</b>	Initial Estimate:
Change Type: <b>Error</b>	Owner(s):	Time Spent:
Local ID: <b>EUAR-812</b>	Owning Group: <b>SPT2TACS-552 - Reference Architecture Board - EVO</b>	Due Date:
Severity: <b>Normal</b>	Affected Domains:	Due Date:
Blocker:	To be Derived by Team:	
Architecture Changes:	Priority: <b>Medium [50.0]</b>	
Requires CCB:	Status: <b>Created</b>	
Changed/New Requirements:	Planned In: <b>Error correction after BL4R4</b>	
Change of Safety Relevant Areas:	Resolution:	
Author: <b>Nico Hurman</b>		
Project: <b>SPT2-Trackside Assets CS</b>		
Categories:		

**Current State**

BL4R4

**Problem Description**

The version handling and OPC UA version numbers for both BL4R3 and BL4R4 SDI and SMI models were defined in EUAR-790. As there is a content and version difference between BL4R3 and BL4R4 in the SDI-XX generic model (as documented in EUAR-790), it is not possible to have an identical version number for BL4R3 and BL4R4 for the EfeS specific diagnostic models. They also must have a different version number, as the specific models include the generic model.

**Proposed Solution**

Correction changes needed:

In IntSpec SDI-LC

NEW Req object in section 2.

[The version number of the OPC UA Information model as described in this document is 1.1.0.](#) [error correction BL4R4]In IntSpec SDI-LS

NEW Req object in section 2.

[The version number of the OPC UA Information model as described in this document is 1.1.0.](#) [error correction BL4R4]In IntSpec SDI-IO

NEW Req object in section 2.

[The version number of the OPC UA Information model as described in this document is 1.1.0.](#) [error correction BL4R4]In IntSpec SDI-TDS

NEW Req object in section 2.

[The version number of the OPC UA Information model as described in this document is 1.1.0.](#) [error correction BL4R4]**Affected Specifications**

SDI-LC  
SDI-LS  
SDI-IO  
SDI-TDS

**Backwards Compatibility**

Error correction for BL4R4.

- Is this a non-compatible change in OPC UA? &gt; Yes

- Critical error: Yes

It is needed to increase OPC UA version number (that's the sole purpose of the error CR)

**Custom Fields**



Polarc Diagram:

Lane Hashtag:

GANTT Start:


GANTT End:

### Linked Work Items

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	 SPT2TACS-950 - Reference Architecture-Board	SPT2-Trackside Assets CS			

### Attachments

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SPT2TACS-950

# SPT2TACS-10160 - SDI-XX, correct inconsistent data type, trigger values and unused enumerations

Type: **Change Request**      Assignee(s):      Initial Estimate:

Change Type: **Error**      Owner(s):      Time Spent:

Local ID: **EUAR-816**      Owing Group: **SPT2TACS-552 - Reference Architecture-Board-EVG**      Date:

Severity: **Normal**      Affected Domains:      Due Date:

Blocker:      To be Derived by Team:

Architecture Changes:      Priority: **Medium [50.0]**

Requires CCB:      Status: **Created**

Changed/New Requirements:      Planned In: **Error correction after BL4R4**

Change of Safety Relevant Areas:      Resolution:

Author: **Nico Huurman**

Project: **SPT2-Trackside Assets CS**

Categories:

## Current State

BL4R4

## Problem Description

Several inconsistencies were found in the diagnostic model after publication of BL4R4.

## Proposed Solution

InputValue [Eu.SDI-XX.1033]: Change Attribute Type to 'diagnosis'  
 OutputValue [Eu.SDI-XX.1035]: Change Attribute Type to 'diagnosis'  
 error [Eu.SDI-XX.432]: Change Trigger to 'On event'  
 eventNotification [Eu.SDI-XX.433]: Change Trigger to 'On event'

LogSeverityLevel [Eu.SDI-XX.616]: Remove enumeration, with its values  
 ConnectionStatus [Eu.SDI-XX.501]: Remove enumeration, with its values

ProtectionFacilityStatus [Eu.SDI-LC.235]: Change Attribute Type to 'diagnosis'  
 timeoutstatus [Eu.SDI-LC.333]: Remove enumeration, with its values

## Affected Specifications

IntSpec SDI-XX  
IntSpec SDI-LC

## Backwards Compatibility

Error correction for BL4R3 and BL4R4.  
 - Is this a non-compatible change in OPC UA? > Not relevant, as the first OPC UA model version will be published after this error correction.  
 - Critical error: No

## Custom Fields

Polarc Diagram:

Lane Hashtag:

GANTT Start:

GANTT End:

## Linked Work Items

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-950 - Reference Architecture-Board	SPT2-Trackside Assets CS			

## Attachments

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SPT2TACS-901

**SPT2TACS-10081 - SDI-TDS, correct missing value for powerSupplyStatus**

Type: <b>Change Request</b>	Assignee(s): <b>Nico Huurman</b>	Initial Estimate:
Change Type: <b>Error</b>	Owner(s):	Time Spent:
Local ID: <b>EUTDS-540</b>	Owning Group: <b>SPT2TACS-459 - TDS WG</b>	Remaining Estimate:
Severity: <b>Normal</b>	Affected Domains:	Due Date:
Blocker:	To be Derived by Team:	
Architecture Changes:	Priority: <b>Medium [50.0]</b>	
Requires CCB:	Status: <b>Created</b>	
Changed/New Requirements:	Planned In: <b>Error correction after BL4R4</b>	
Change of Safety Relevant Areas:	Resolution:	
Author: <b>Nico Huurman</b>		
Project: <b>SPT2-Trackside Assets CS</b>		
Categories:		

**Current State**

BL4R4

**Problem Description**

Enumeration value for "NotApplicable" should be added to the enumeration value type

It is possible to have a Subs TDS with track circuits that does not have a Power On Monitoring (or not at every TVP section). In the SCI-TDS telegrams this is covered with value 0xFF in byte 47. An equivalent is missing in the SDI-TDS model.

The diagnostic model contains 2 attributes POMFailureStatus and powerSupplyStatus. The first attribute is Optional, so it doesn't need a 'not applicable' value. The second attribute is mandatory, so it is needed.

**Proposed Solution**

Add value to enumerations TvpSectionPowerSupplyStatus for attribute powerSupplyStatus in class TvpSectionTrackCircuit.

3: Status of the power supply for the TVPS is not applicable

**Affected Specifications**

SDI-TDS

**Backwards Compatibility**

Error correction for BL4R3 and BL4R4.

- Is this a non-compatible change in OPC UA? > Not relevant, as the first OPC UA model version will be published after this error correction.
- Critical error: No

**Custom Fields**

Polarc Diagram:

Lane Hashtag:

GANTT Start:

GANTT End:

**Linked Work Items**

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-901 - TDS-Board	SPT2-Trackside Assets CS			

**Attachments**

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SPT2TACS-1718

**SPT2TACS-10080 - SDI-LC, correct diagnostics for WarningLamp**

Type: <b>Change Request</b>	Assignee(s): <b>Nico Huurman</b>	Initial Estimate:
Change Type: <b>Error</b>	Owner(s):	Time Spent:
Local ID: <b>EULX-654</b>	Owning Group: <b>SPT2TACS-456 - Level Crossing WG</b>	Remaining Estimate:
Severity: <b>Normal</b>	Affected Domains:	Due Date:
Blocker:	To be Derived by Team:	
Architecture Changes:	Priority: <b>Medium [50.0]</b>	
Requires CCB:	Status: <b>Created</b>	
Changed/New Requirements:	Planned In: <b>Error correction after BL4R4</b>	
Change of Safety Relevant Areas:	Resolution:	
Author: <b>Nico Huurman</b>		
Project: <b>SPT2-Trackside Assets CS</b>		
Categories:		

**Current State**

BL4R4

**Problem Description**

The class 'LightPoint' must in in the SDI-LS model, not in SDI-Gen.  
The association from the SDI-LC model will need re-discussion in the SDI Task Force.

Is doesn't make sense to refer from the SDI-LC model to the SDI-LS model for diagnostics for Warning Lamps. The functional and physical characteristics of a warning lamp of the LCPF are not comparable to the LightPoint in SubS LS.  
Instead, the diagnostic attributes for the LC WarningLamp must be defined independently.

**Proposed Solution**

No change is SDI-LS model, all classes and attributes stay as published in BL4R4.

Changes in SDI-LC:

- Remove reference to class LightPoint as defined in SDI-LS.
- Create new abstract class LightPointLCPF in SDI-LC, with same attributes, excluding counterLightDurationDay/Night.
- Create new instantiation class LightPointSingleLED, with same attributes
- To confirm by ProRail: Create new instantiation class LightPointMatrix, with same attributes
- Proposed by SBB: Create new instantiation class LightPointSingleLamp, with same attributes. Also create associated class LightPointSingleFilament

**Affected Specifications**

SDI-LC

**Backwards Compatibility**

- Error correction for BL4R3 and BL4R4.
- Is this a non-compatible change in OPC UA? > Not relevant, as the first OPC UA model version will be published after this error correction.
  - Critical error: No

**Custom Fields**

Polarc Diagram:

Lane Hashtag:

GANTT Start:

GANTT End:

**Linked Work Items**

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-1718 - LX-Board	SPT2-Trackside Assets CS			

**Attachments**

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SPT2TACS-901

### SPT2TACS-9869 - Clarify and correct multiplicity of maintainer interface TDS6

Type: <b>Change Request</b>	Assignee(s): <b>Nico Huurman</b>	Initial Estimate:
Change Type: <b>Enhancement - Clarification</b>	Owner(s):	Time Spent:
Local ID: <b>EUTDS-539</b>	Owning Group: <b>SPT2TACS-459 - TDS WG</b>	Remaining Estimate:
Severity: <b>Normal</b>	Affected Domains:	Due Date:
Blocker:	To be Derived by Team:	
Architecture Changes:	Priority: <b>Medium [50.0]</b>	
Requires CCB:	Status: <b>Created</b>	
Changed/New Requirements:	Planned In: <b>Error correction after BL4R4</b>	
Change of Safety Relevant Areas:	Resolution:	
Author: <b>Nico Huurman</b>		
Project: <b>SPT2-Trackside Assets CS</b>		
Categories:		

#### Current State

BL4R4

#### Problem Description

The intended multiplicity of the TDS6 interface to the maintainer is not clear. There is inconsistency between the diagram in Eu.TDS.1113 and the explicit textual requirement in Eu.TDS.7375.

#### Proposed Solution

Part 1: Align the text in Eu.TDS.7375 with the diagram in Eu.TDS.1113.

Part 2 (updated after agreement in TDS WG 20251013)  
Correct the in the diagram in Eu.TDS.1113 from \* to 1..\* (between 1 and any number)

Earlier questions:  
Is the multiplicity on the diagram in Eu.TDS.1113 correct as intended? The \* means between 0 and any number. Is it indeed intended to allow a SubS TDS without any maintainer interface?  
Or should the diagram show 1..\* (between 1 and any number)?

#### Affected Specifications

ReqSpec TDS

#### Backwards Compatability

Error correction for  
BL4R4, BL4R3 (part 1)  
BL4R4, BL4R3, BL4R2, BL4R1, BL4R8 (part 2)

Critical (are the specifications functionally inconsistent without the correction)? Yes (part 1)  
Critical (are the specifications functionally inconsistent without the correction)? No (part 2)  
No impact on PDI telegrams > No PDI version increase needed.

#### Custom Fields

Polarc Diagram:

Lane Hashtag:

GANTT Start:


GANTT End:

#### Linked Work Items

Suspect	Role	Title	Project	Revision	Status	Assignee(s)
	has parent	SPT2TACS-901 - TDS-Board	SPT2-Trackside Assets CS			

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