

Document Title	Specification of Communication Stack Types
Document Owner	AUTOSAR
Document Responsibility	AUTOSAR
Document Identification No	50

Document Status	published
Part of AUTOSAR Standard	Classic Platform
Part of Standard Release	R25-11

Document Change History			
Date	Release	Changed by	Description
2025-11-27	R25-11	AUTOSAR Release Management	<ul style="list-style-type: none"> added new types RateDeviationStatusType and RateDeviationWithStatusType header file names corrected removed LdCom
2024-11-27	R24-11	AUTOSAR Release Management	<ul style="list-style-type: none"> No content changes
2023-11-23	R23-11	AUTOSAR Release Management	<ul style="list-style-type: none"> Added ListElemStructType Added TimeTupleType, TimeStampType, TimeStampQualType Changed the size of PNCHandleType
2022-11-24	R22-11	AUTOSAR Release Management	<ul style="list-style-type: none"> Removed reference to CompilerAbstraction
2021-11-25	R21-11	AUTOSAR Release Management	<ul style="list-style-type: none"> Added CbkHandleIdType in Type definitions
2020-11-30	R20-11	AUTOSAR Release Management	<ul style="list-style-type: none"> Removed IcomConfigIdType and IcomSwitch_ErrorType from Type definitions
2019-11-28	R19-11	AUTOSAR Release Management	<ul style="list-style-type: none"> Renamed of general types headers Changed Document Status from Final to published





2018-10-31	4.4.0	AUTOSAR Release Management	<ul style="list-style-type: none"> Editorial changes
2017-12-08	4.3.1	AUTOSAR Release Management	<ul style="list-style-type: none"> Editorial changes
2016-11-30	4.3.0	AUTOSAR Release Management	<ul style="list-style-type: none"> Removed Type BusTrcvErrorType because it is not used at all Updated PduInfoType for addressing in Upper Layers using MetaData Update of SWS document as per BSW General document
2015-07-31	4.2.2	AUTOSAR Release Management	<ul style="list-style-type: none"> Editorial changes
2014-10-31	4.2.1	AUTOSAR Release Management	<ul style="list-style-type: none"> MetaData information is added in PduInfoType
2014-03-31	4.1.3	AUTOSAR Release Management	<ul style="list-style-type: none"> Added support for Pretended network data type
2013-10-31	4.1.2	AUTOSAR Release Management	<ul style="list-style-type: none"> Removed the published information Editorial changes Removed chapter(s) on change documentation
2013-03-15	4.1.1	AUTOSAR Administration	<ul style="list-style-type: none"> Added support for Partial network data type Revised Notification type and RetryInfo type Additional input (SWS_BSW_General) added for SWS_CommunicationStackTypes
2011-12-22	4.0.3	AUTOSAR Administration	<ul style="list-style-type: none"> ComStack Artifacts have been generated from BSW Model Update of SWS document for new traceability mechanism





2010-09-30	3.1.5	AUTOSAR Administration	<ul style="list-style-type: none"> • Add TPParameterType and Enumeration value TP_NORETRY in RetryInfoType • ComStack_Types.h divided into ComStack_Types.h and ComStack_Cfg.h • PdulIdType and PduLengthType defined in ComStack_Cfg.h file
2010-02-02	3.1.4	AUTOSAR Administration	<ul style="list-style-type: none"> • Typo errors are corrected throughout the document • General return codes for NotifResultType has been added to support Tp_ChangeParameterRequest • TpDataStateType and RetryInfoType has been added to store the Tp buffer status information • Common Published information has been updated • Legal disclaimer revised
2008-08-13	3.1.1	AUTOSAR Administration	<ul style="list-style-type: none"> • Legal disclaimer revised
2007-07-24	2.1.16	AUTOSAR Administration	<ul style="list-style-type: none"> • Chapter numbers in chapter 8.1 corrected • New data type NetworkHandleType created according item Comtype026 established • Syntax correction in PduInfoType • Document meta information extended • Small layout adaptations made
2007-01-24	2.1.15	AUTOSAR Administration	<ul style="list-style-type: none"> • "Advice for users" revised • "Revision Information" added • Changed "sender" to "receiver" at NTFRSLT_E_WRT_OVRN



△

2006-11-28	2.1.2	AUTOSAR Administration	<ul style="list-style-type: none">• NTFRSLT_E_TIMEOUT_Bs changed NTFRSLT_E_TIMEOUT_BS• NTFRSLT_E_TIMEOUT_Cr changed to NTFRSLT_E_TIMEOUT_CR• Definitions according to compiler abstraction added• Legal disclaimer revised
2006-11-28	2.1.1	AUTOSAR Administration	<ul style="list-style-type: none">• Initial release (The V1.0.0 was only as Pre-Release available within Release 1.0)

Disclaimer

This work (specification and/or software implementation) and the material contained in it, as released by AUTOSAR, is for the purpose of information only. AUTOSAR and the companies that have contributed to it shall not be liable for any use of the work.

The material contained in this work is protected by copyright and other types of intellectual property rights. The commercial exploitation of the material contained in this work requires a license to such intellectual property rights.

This work may be utilized or reproduced without any modification, in any form or by any means, for informational purposes only. For any other purpose, no part of the work may be utilized or reproduced, in any form or by any means, without permission in writing from the publisher.

The work has been developed for automotive applications only. It has neither been developed, nor tested for non-automotive applications.

The word AUTOSAR and the AUTOSAR logo are registered trademarks.

Table of Contents

1	Introduction and functional overview	8
2	Acronyms and Abbreviations	9
3	Related documentation	10
3.1	Input documents & related standards and norms	10
3.2	Related specification	10
4	Constraints and assumptions	11
4.1	Limitations	11
4.2	Applicability to car domains	11
4.3	Applicability to safety related environments	11
5	Dependencies to other modules	12
6	Requirements Tracing	13
7	Functional specification	14
7.1	General issues	14
7.2	Error Classification	14
7.2.1	Development Errors	14
7.2.2	Runtime Errors	14
7.2.3	Production Errors	14
7.2.4	Extended Production Errors	15
7.3	Security Events	15
8	API specification	16
8.1	Type definitions	16
8.1.1	PduldType	16
8.1.2	PduLengthType	17
8.1.3	PduInfoType	18
8.1.4	PNCHandleType	18
8.1.5	TPParameterType	18
8.1.6	BufReq_ReturnType	19
8.1.7	TpDataStateType	19
8.1.8	RetryInfoType	20
8.1.9	NetworkHandleType	20
8.1.10	CbkHandleIdType	20
8.1.11	TimeTupleType	21
8.1.12	TimeStampType	21
8.1.13	TimeStampQualType	22
8.1.14	RateDeviationStatusType	23
8.1.15	RateDeviationWithStatusType	23

8.1.16 ListElemStructType	24
8.2 Function definitions	24
9 Sequence diagrams	25
10 Configuration specification	26
10.1 Published Information	26
A Not applicable requirements	27
B Change history of AUTOSAR traceable items	28
B.1 Traceable item history of this document according to AUTOSAR Release R25-11	28
B.1.1 Added Specification Items in R25-11	28
B.1.2 Changed Specification Items in R25-11	28
B.1.3 Deleted Specification Items in R25-11	28
B.2 Traceable item history of this document according to AUTOSAR Release R24-11	29
B.2.1 Added Specification Items in R24-11	29
B.2.2 Changed Specification Items in R24-11	29
B.2.3 Deleted Specification Items in R24-11	29

1 Introduction and functional overview

This document specifies the AUTOSAR communication stack type header file. It contains all types that are used across several modules of the communication stack of the basic software and all types of all basic software modules that are platform and compiler independent.

It is strongly recommended that those communication stack type files are unique within the AUTOSAR community to guarantee unique types and to avoid type changes when changing from supplier A to B.

2 Acronyms and Abbreviations

The glossary below includes acronyms and abbreviations relevant to the Communication Stack Types that are not included in the [1, AUTOSAR glossary].

Abbreviation:	Description:
Com	Communication
EcuC	ECU Configuration
e.g.	[lat.] exempli gratia = [eng.] for example
i.e.	[lat.] it est = [eng.] that is

Table 2.1: Abbreviations used in the scope of this Document

3 Related documentation

3.1 Input documents & related standards and norms

- [1] Glossary
AUTOSAR_FO_TR_Glossary
- [2] General Specification of Basic Software Modules
AUTOSAR_CP_SWS_BSWGeneral
- [3] Requirements on Communication
AUTOSAR_CP_RS_COM

3.2 Related specification

AUTOSAR provides a General Specification on Basic Software modules [2, SWS BSW General], which is also valid for Communication Stack Types.

Thus, the specification SWS BSW General shall be considered as additional and required specification for Communication Stack Types.

4 Constraints and assumptions

4.1 Limitations

No limitations.

4.2 Applicability to car domains

No restrictions.

4.3 Applicability to safety related environments

No restrictions, because the subject of this specification is a header file specifying types. It does not include or implement any functionality.

5 Dependencies to other modules

The communication stack type header file defines communication types based on the platform types [PltfTypes] (Platform_Types.h) header file. To prevent multiple includes of header files, the communication stack header file includes the standard types header file [StdTypes] which already includes both other files.

6 Requirements Tracing

The following tables reference the requirements specified in [3] and links to the fulfillment of these. Please note that if column “Satisfied by” is empty for a specific requirement this means that this requirement is not fulfilled by this document.

Requirement	Description	Satisfied by
[RS_TS_20075]	Rate Ratio Calculation	[SWS_COMTYPE_91006] [SWS_COMTYPE_91007]
[SRS_BSW_00441]	Naming convention for type, macro and function	[SWS_COMTYPE_91005]
[SRS_Com_02043]	AUTOSAR COM shall provide a receive indication function	[SWS_Comtype_00004] [SWS_Comtype_00006] [SWS_Comtype_00007] [SWS_Comtype_00010] [SWS_Comtype_00014] [SWS_Comtype_00015] [SWS_Comtype_00017] [SWS_Comtype_00030]
[SRS_Com_02045]	AUTOSAR COM shall provide a function to request the transmit buffer data for lower layer triggered transmission	[SWS_Comtype_00004] [SWS_Comtype_00006] [SWS_Comtype_00007] [SWS_Comtype_00010] [SWS_Comtype_00014] [SWS_Comtype_00015] [SWS_Comtype_00017] [SWS_Comtype_00030]
[SRS_Com_02095]	AUTOSAR COM shall use the TP to fragment and reassemble large signals	[SWS_Comtype_00004] [SWS_Comtype_00006] [SWS_Comtype_00007] [SWS_Comtype_00010] [SWS_Comtype_00014] [SWS_Comtype_00015] [SWS_Comtype_00017] [SWS_Comtype_00030]
[SRS_Com_02114]	AUTOSAR COM shall support independent development of CP Software Clusters	[SWS_COMTYPE_91001]
[SRS_Eth_00105]	Support of time stamping in hardware	[SWS_COMTYPE_91002] [SWS_COMTYPE_91003] [SWS_COMTYPE_91004]
[SRS_Eth_00167]	PTP Physical Clock Adjustment	[SWS_COMTYPE_91002]
[SRS_Eth_00172]	Ethernet Driver hardware supported data transfer	[SWS_COMTYPE_91005]

Table 6.1: Requirements Tracing

7 Functional specification

7.1 General issues

[SWS_Comtype_00004]

Upstream requirements: [SRS_Com_02043](#), [SRS_Com_02045](#), [SRS_Com_02095](#)

〔It is not allowed to add any project or supplier specific extension to this file. Any extension invalidates the AUTOSAR conformity.〕

[SWS_Comtype_00015]

Upstream requirements: [SRS_Com_02043](#), [SRS_Com_02045](#), [SRS_Com_02095](#)

〔Because many of the communication stack type are depending on the appropriate ECU, this file shall be generated dependent on the specific ECU configuration for each ECU independently.〕

[SWS_Comtype_00030]

Upstream requirements: [SRS_Com_02043](#), [SRS_Com_02045](#), [SRS_Com_02095](#)

〔The value of `PduIdType` and `PduLengthType` shall be derived from the 'PdulIdType Enum' and 'PduLengthTypeEnum' of the `EcuCPduCollection` container respectively.〕

7.2 Error Classification

Chapter [2, General Specification of Basic Software Modules] 7.2 “*Error Handling*” describes the error handling of the Basic Software in detail. Above all, it constitutes a classification scheme consisting of five error types which may occur in BSW modules.

Based on this foundation, the following section specifies particular errors arranged in the respective subsections below.

7.2.1 Development Errors

There are no development errors.

7.2.2 Runtime Errors

There are no runtime errors.

7.2.3 Production Errors

There are no production errors.

7.2.4 Extended Production Errors

There are no extended production errors.

7.3 Security Events

The module does not report security events.

8 API specification

8.1 Type definitions

8.1.1 PduldType

[SWS_COMTYPE_00005] Definition of datatype PduldType [

Name	PduldType		
Kind	Type		
Derived from	Basetype	Variation	
	uint16	The size of this global type depends on the maximum number of PDUs used within one software module.	
Range	0...<Pduldmax>	–	Zero-based integer number The size of this global type depends on the maximum number of PDUs used within one software module. This parameter shall be generated by the generator tool depending on the value configured in EcuC virtual layer. This parameter shall be generated in ComStack_Cfg.h file Example : If no software module deals with more PDUs than 256, this type can be set to uint8. If at least one software module handles more than 256 PDUs, this type must globally be set to uint16.
Description	This type is used within the entire AUTOSAR Com Stack except for bus drivers.		
Available via	ComStack_Types.h		

]

[SWS_Comtype_00006]

Upstream requirements: [SRS_Com_02043](#), [SRS_Com_02045](#), [SRS_Com_02095](#)

[Variables of this type serve as a unique identifier of a PDU within a software module or a set thereof, and also for interaction of two software modules where the Pduld of the corresponding target module is being used for referencing.]

[SWS_Comtype_00007]

Upstream requirements: [SRS_Com_02043](#), [SRS_Com_02045](#), [SRS_Com_02095](#)

[In order to be able to perform table-indexing within a software module, variables of this type shall be zero-based and consecutive.

There might be several ranges of Pdulds in a module, one for each type of operation performed within that module (e.g. sending and receiving).]

[SWS_Comtype_00014]

Upstream requirements: [SRS_Com_02043](#), [SRS_Com_02045](#), [SRS_Com_02095](#)

〔Pduldmax, the maximum number of a Pduld range, is the number -1 of PDUs dealt with in the corresponding type of operation within that module.〕

8.1.2 PduLengthType

[SWS_COMTYPE_00008] Definition of datatype PduLengthType 〔

Name	PduLengthType		
Kind	Type		
Derived from	Basetype	Variation	
	uint16	The size of this global type depends on the maximum length of PDUs to be sent by an ECU.	
	uint32	The size of this global type depends on the maximum length of PDUs to be sent by an ECU.	
	uint8	The size of this global type depends on the maximum length of PDUs to be sent by an ECU.	
Range	0...<PduLengthmax>	-	Zero-based integer number The size of this global type depends on the maximum length of PDUs to be sent by an ECU. This parameter shall be generated by the generator tool depending on the value configured in EcuC virtual layer. This parameter shall be generated in ComStack_Cfg.h file Example : If no segmentation is used the length depends on the maximum payload size of a frame of the underlying communication system (for FlexRay maximum size is 255, therefore uint8). If segmentation is used it depends on the maximum length of a segmented N-PDU (in general uint16 is used)
Description	This type shall be used within the entire AUTOSAR Com Stack of an ECU except for bus drivers.		
Available via	ComStack_Types.h		

〕

[SWS_Comtype_00010]

Upstream requirements: [SRS_Com_02043](#), [SRS_Com_02045](#), [SRS_Com_02095](#)

〔Variables of this type serve as length information of a PDU. The length information is provided in number of bytes.〕

[SWS_Comtype_00017]

Upstream requirements: [SRS_Com_02043](#), [SRS_Com_02045](#), [SRS_Com_02095](#)

〔PduLengthmax, the maximum length of a Pdu, is the length of the largest (possibly segmented) PDU to be sent by the ECU.〕

8.1.3 PduInfoType

[SWS_COMTYPE_00011] Definition of datatype PduInfoType [

Name	PduInfoType	
Kind	Structure	
Elements	SduDataPtr	
Type	uint8*	
Comment	Pointer to the SDU (i.e. payload data) of the PDU. The type of this pointer depends on the memory model being used at compile time.	
MetaDataPtr	MetaDataTable	
Type	uint8*	
Comment	Pointer to the meta data (e.g. CAN ID, socket ID, diagnostic addresses) of the PDU, consisting of a sequence of meta data items. The length and type of the meta data items is statically configured for each PDU. Meta data items with more than 8 bits use platform byte order.	
SduLength	PduLengthType	
Type	PduLengthType	
Comment	Length of the SDU in bytes.	
Description	Variables of this type shall be used to store the basic information about a PDU of any type, namely a pointer variable pointing to its SDU (payload), a pointer to Meta Data of the PDU, and the corresponding length of the SDU in bytes.	
Available via	ComStack_Types.h	

]

8.1.4 PNCHandleType

[SWS_COMTYPE_00036] Definition of datatype PNCHandleType [

Name	PNCHandleType	
Kind	Type	
Derived from	uint16	
Description	Used to store the identifier of a partial network cluster.	
Available via	ComStack_Types.h	

]

8.1.5 TPPParameterType

[SWS_COMTYPE_00031] Definition of datatype TPPParameterType [

Name	TPParameterType		
Kind	Enumeration		
Range	TP_STMIN	0x00	Separation Time
	TP_BS	0x01	Block Size

▽

△

	TP_BC	0x02	The Band width control parameter used in FlexRay transport protocol module.
Description	Specify the parameter to which the value has to be changed (BS or STmin).		
Available via	ComStack_Types.h		

]

8.1.6 BufReq_ReturnType

[SWS_COMTYPE_00012] Definition of datatype BufReq_ReturnType [

Name	BufReq_ReturnType		
Kind	Enumeration		
Range	BUFREQ_OK	0x00	Buffer request accomplished successful. This status shall have the value 0.
	BUFREQ_E_NOT_OK	0x01	Buffer request not successful. Buffer cannot be accessed. This status shall have the value 1.
	BUFREQ_E_BUSY	0x02	Temporarily no buffer available. It's up the requester to retry request for a certain time. This status shall have the value 2.
	BUFREQ_E_OVFL	0x03	No Buffer of the required length can be provided. This status shall have the value 3.
Description	Variables of this type shall be used to store the result of a buffer request.		
Available via	ComStack_Types.h		

]

8.1.7 TpDataStateType

[SWS_COMTYPE_00027] Definition of datatype TpDataStateType [

Name	TpDataStateType		
Kind	Enumeration		
Range	TP_DATACONF	0x00	TP_DATACONF indicates that all data, that have been copied so far, are confirmed and can be removed from the TP buffer. Data copied by this API call are excluded and will be confirmed later.
	TP_DATARETRY	0x01	TP_DATARETRY indicates that this API call shall copy already copied data in order to recover from an error. In this case TxTpData Cnt specifies the offset of the first byte to be copied by the API call.
	TP_CONFPENDING	0x02	TP_CONFPENDING indicates that the previously copied data must remain in the TP.
Description	Variables of this type shall be used to store the state of TP buffer.		
Available via	ComStack_Types.h		

]

8.1.8 RetryInfoType

[SWS_COMTYPE_00037] Definition of datatype RetryInfoType

Name	RetryInfoType	
Kind	Structure	
Elements	TpDataState	
	Type	TpDataStateType
	Comment	The enum type to be used to store the state of Tp buffer.
	TxTpDataCnt	
	Type	PduLengthType
	Comment	Offset from the current position which identifies the number of bytes to be retransmitted.
Description	Variables of this type shall be used to store the information about Tp buffer handling.	
Available via	ComStack_Types.h	

]

8.1.9 NetworkHandleType

[SWS_COMTYPE_00038] Definition of ImplementationDataType NetworkHandleType

Name	NetworkHandleType		
Kind	Type		
Derived from	uint8		
Range	0..255	–	Zero-based integer number
Description	Variables of the type NetworkHandleType shall be used to store the identifier of a communication channel.		
Variation	–		
Available via	ComStack_Types.h		

]

8.1.10 CbkHandleIdType

[SWS_COMTYPE_91001] Definition of datatype CbkHandleIdType

Status: DRAFT

 Upstream requirements: [SRS_Com_02114](#)

[

Name	CbkHandleIdType (draft)	
Kind	Type	
Derived from	uint16	
Description	Used for the handle Ids of Com user callbacks. Tags: atp.Status=draft	





Available via	ComStack_Types.h
---------------	------------------



8.1.11 TimeTupleType

[SWS_COMTYPE_91002] Definition of datatype TimeTupleType

Status: DRAFT

Upstream requirements: [SRS_Eth_00167](#), [SRS_Eth_00105](#)



Name	TimeTupleType (draft)												
Kind	Structure												
Elements	<p>timestampClockValue</p> <table border="1"> <tr> <td>Type</td><td>TimeStampType</td></tr> <tr> <td>Comment</td><td>Value of the clock, which is used of ingress/egress timestamping</td></tr> </table> <p>disciplinedClockValue</p> <table border="1"> <tr> <td>Type</td><td>TimeStampType</td></tr> <tr> <td>Comment</td><td>Value of the adjustable HW clock</td></tr> </table> <p>timeQuality</p> <table border="1"> <tr> <td>Type</td><td>TimeStampQualType</td></tr> <tr> <td>Comment</td><td>Status of time tuple</td></tr> </table>	Type	TimeStampType	Comment	Value of the clock, which is used of ingress/egress timestamping	Type	TimeStampType	Comment	Value of the adjustable HW clock	Type	TimeStampQualType	Comment	Status of time tuple
Type	TimeStampType												
Comment	Value of the clock, which is used of ingress/egress timestamping												
Type	TimeStampType												
Comment	Value of the adjustable HW clock												
Type	TimeStampQualType												
Comment	Status of time tuple												
Description	<p>The Time Tuple represents the clock values of two related HW clocks</p> <ul style="list-style-type: none"> • the value of the clock used for timestamping of frames • and the corresponding value of the adjustable HW clock, derived by cross-timestamping <p>Tags: atp.Status=draft</p>												
Available via	ComStack_Types.h												



8.1.12 TimeStampType

[SWS_COMTYPE_91003] Definition of datatype TimeStampType

Status: DRAFT

Upstream requirements: [SRS_Eth_00105](#)



Name	TimeStampType (draft)				
Kind	Structure				
Elements	<p>nanoseconds</p> <table border="1"> <tr> <td>Type</td><td>uint32</td></tr> <tr> <td>Comment</td><td>Nanoseconds part of the time</td></tr> </table>	Type	uint32	Comment	Nanoseconds part of the time
Type	uint32				
Comment	Nanoseconds part of the time				



△

	seconds
	Type uint32 Comment 32 bit LSB of the 48 bits Seconds part of the time
	secondsHi
	Type uint16 Comment 16 bit MSB of the 48 bits Seconds part of the time
Description	Variables of this type are used for expressing time stamps including relative time and absolute calendar time. The absolute time starts at 1970-01-01. Value range of Seconds part: • 0 .. (2^{48} -1), i.e. 0 to 3257812230d [0xFFFF FFFF FFFF] Value range of Nanoseconds part: • 0 to 999999999ns [0x3B9AC9FF] • invalid value in nanoseconds: [0x3B9ACA00] to [0x3FFFFFFF] • Bit 30 and 31 reserved, default: 0
	Tags: atp.Status=draft
Available via	ComStack_Types.h

]

8.1.13 TimeStampQualType

[SWS_COMTYPE_91004] Definition of datatype TimeStampQualType

Status: DRAFT

Upstream requirements: [SRS_Eth_00105](#)

[

Name	TimeStampQualType (draft)		
Kind	Enumeration		
Range	VALID	0	Timestamp is valid
	INVALID	1	Timestamp is invalid
	UNCERTAIN	2	Status of timestamp is uncertain
Description	Depending on the HW, quality information regarding the evaluated timestamp might be supported. If not supported, the value shall be always Valid. For Uncertain and Invalid values, the upper layer shall discard the time stamp. Tags: atp.Status=draft		
Available via	ComStack_Types.h		

]

8.1.14 RateDeviationStatusType

[SWS_COMTYPE_91007] Definition of datatype RateDeviationStatusType

Status: DRAFT

Upstream requirements: RS_TS_20075

〔

Name	RateDeviationStatusType (draft)		
Kind	Type		
Derived from	uint8		
Range	RATE_OK	0x00	A valid rate deviation value is available/calculated
	RATE_NOT_AVAILABLE	0xFE	No valid rate deviation value available/calculated
	RATE_EXCEEDED	0xFF	The calculated rate deviation value exceeds limits
Description	Type that indicates the current status of the rate calculation Tags: atp.Status=draft		
Available via	ComStack_Types.h		

〕

8.1.15 RateDeviationWithStatusType

[SWS_COMTYPE_91006] Definition of datatype RateDeviationWithStatusType

Status: DRAFT

Upstream requirements: RS_TS_20075

〔

Name	RateDeviationWithStatusType (draft)		
Kind	Structure		
Elements	rateDeviationValue		
Elements	Type	sint32	
	Comment	Rate deviation value (resolution: 2^{-32})	
	rateDeviationStatus		
Elements	Type	RateDeviationStatusType	
	Comment	Current state of the rate deviation calculation	
Description	Rate deviation value and status Tags: atp.Status=draft		
Available via	ComStack_Types.h		

〕

8.1.16 ListElemStructType

[SWS_COMTYPE_91005] Definition of datatype ListElemStructType

Status: DRAFT

Upstream requirements: [SRS_BSW_00441](#), [SRS_Eth_00172](#)

]

Name	ListElemStructType (draft)	
Kind	Structure	
Elements	DataLength	
	Type	uint16
	Comment	Represents length of data
	DataPtr	
	Type	uint8*
	Comment	Represents pointer to data
	NextListElemPtr	
	Type	ListElemStructType*
	Comment	Pointer to next list element
Description	This type defines one element of a single linked list. Each element represents on part of an associated data block. The data block could form for example an Ethernet frame. Each element addresses a data location, the data length and a pointer to the next element. The last node (tail) has NextListElemPtr set to NUL_PTR. The re-construction process of a data block (e.g. Ethernet frame) is performed by traversing from the first data element (head) to the last data element (tail). The single linked list is linked in network order (big-endian). Thus, the head element represents the most significant part of the data block (e.g. Ethernet frame) Tags: atp.Status=draft	
Available via	ComStack_Types.h	

]

8.2 Function definitions

Not applicable.

9 Sequence diagrams

Not applicable.

10 Configuration specification

10.1 Published Information

For details refer to [\[2\]](#) Chapter 10.3 “*Published Information*”.

A Not applicable requirements

[SWS_Comtype_NA]

Upstream requirements: SRS_BSW_00004, SRS_BSW_00101, SRS_BSW_00159, SRS_BSW_00167, SRS_BSW_00168, SRS_BSW_00171, SRS_BSW_00323, SRS_BSW_00336, SRS_BSW_00337, SRS_BSW_00339, SRS_BSW_00344, SRS_BSW_00345, SRS_BSW_00369, SRS_BSW_00380, SRS_BSW_00383, SRS_BSW_00384, SRS_BSW_00385, SRS_BSW_00386, SRS_BSW_00388, SRS_BSW_00389, SRS_BSW_00390, SRS_BSW_00392, SRS_BSW_00393, SRS_BSW_00395, SRS_BSW_00396, SRS_BSW_00397, SRS_BSW_00398, SRS_BSW_00399, SRS_BSW_00400, SRS_BSW_00402, SRS_BSW_00403, SRS_BSW_00404, SRS_BSW_00405, SRS_BSW_00406, SRS_BSW_00407, SRS_BSW_00409, SRS_BSW_00416, SRS_BSW_00417, SRS_BSW_00419, SRS_BSW_00422, SRS_BSW_00423, SRS_BSW_00424, SRS_BSW_00425, SRS_BSW_00426, SRS_BSW_00427, SRS_BSW_00428, SRS_BSW_00429, SRS_BSW_00432, SRS_BSW_00433, SRS_BSW_00437, SRS_BSW_00438, SRS_BSW_00450, SRS_BSW_00451, SRS_BSW_00452, SRS_BSW_00458, SRS_BSW_00461, SRS_BSW_00466, SRS_BSW_00467, SRS_BSW_00469, SRS_BSW_00470, SRS_BSW_00471, SRS_BSW_00472, SRS_BSW_00478, SRS_BSW_00488, SRS_BSW_00489, SRS_BSW_00490, SRS_BSW_00491, SRS_BSW_00493, SRS_Com_00177, SRS_Com_00192, SRS_Com_00218, SRS_Com_02030, SRS_Com_02037, SRS_Com_02040, SRS_Com_02041, SRS_Com_02042, SRS_Com_02044, SRS_Com_02046, SRS_Com_02058, SRS_Com_02067, SRS_Com_02077, SRS_Com_02078, SRS_Com_02079, SRS_Com_02080, SRS_Com_02082, SRS_Com_02083, SRS_Com_02084, SRS_Com_02086, SRS_Com_02087, SRS_Com_02088, SRS_Com_02089, SRS_Com_02090, SRS_Com_02091, SRS_Com_02092, SRS_Com_02093, SRS_Com_02094, SRS_Com_02096, SRS_Com_02097, SRS_Com_02098, SRS_Com_02107, SRS_Com_02108, SRS_Com_02109, SRS_Com_02110, SRS_Com_02111, SRS_Com_02112, SRS_Com_02113

〔These requirements are not applicable to this specification.〕

B Change history of AUTOSAR traceable items

Please note that the lists in this chapter also include traceable items that have been removed from the specification in a later version. These items do not appear as hyper-links in the document.

B.1 Traceable item history of this document according to AUTOSAR Release R25-11

B.1.1 Added Specification Items in R25-11

Number	Heading
[SWS_COMTYPE_91006]	Definition of datatype RateDeviationWithStatusType
[SWS_COMTYPE_91007]	Definition of datatype RateDeviationStatusType

Table B.1: Added Specification Items in R25-11

B.1.2 Changed Specification Items in R25-11

Number	Heading
[SWS_COMTYPE_91001]	Definition of datatype CbkHandleIdType
[SWS_COMTYPE_91002]	Definition of datatype TimeTupleType
[SWS_COMTYPE_91003]	Definition of datatypeTimeStampType
[SWS_COMTYPE_91004]	Definition of datatypeTimeStampQualType

Table B.2: Changed Specification Items in R25-11

B.1.3 Deleted Specification Items in R25-11

none

B.2 Traceable item history of this document according to AUTOSAR Release R24-11

B.2.1 Added Specification Items in R24-11

none

B.2.2 Changed Specification Items in R24-11

none

B.2.3 Deleted Specification Items in R24-11

none