Document Title	SWS_DiagnosticOverIP: Complete Change Documentation 4.3.0 - 4.3.1
Document Owner	AUTOSAR
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Document Status	Final
Part of AUTOSAR Standard	Classic Platform
Part of Standard Release	4.3.1

Table of Contents

1   SWS_DiagnosticOverIP

1.1   Specification Item ECUC_DoIP_00002

Trace References:

Content:

Container Name	DoIPGeneralDoIPGeneral
Description	This container specifies the general configuration parameters of the DoIP module.
Configuration Parameters	

Included parameters:

Included Parameters	
Parameter Name	SWS Item ID
DoIPAliveCheckResponseTimeout	ECUC_DoIP_00009
DoIPDevelopmentErrorDetect	ECUC_DoIP_00004
DoIPDhcpOptionVinUse	ECUC_DoIP_00067
DoIPEntityStatusMaxByteFieldUse	ECUC_DoIP_00064
DoIPGeneralInactivityTime	ECUC_DoIP_00068
DoIPGIDInvalidityPattern	ECUC_DoIP_00065
DoIPHeaderFileInclusion	ECUC_DoIP_00072
DoIPHostNameSizeMax	ECUC_DoIP_00073
DoIPInitialInactivityTime	ECUC_DoIP_00010
DoIPInitialVehicleAnnouncementTime	ECUC_DoIP_00008
DoIPMainFunctionPeriod	ECUC_DoIP_00006
DoIPMaxRequestBytes	ECUC_DoIP_00019
DoIPMaxTesterConnections	ECUC_DoIP_00012
DoIPMaxUDPRequestPerMessage	ECUC_DoIP_00074
DoIPNodeType	ECUC_DoIP_00021
DoIPUseEIDasGID	ECUC_DoIP_00018
DoIPUseMacAddressForIdentification	ECUC_DoIP_00013
DoIPUseVehicleIdentificationSyncStatus	ECUC_DoIP_00016
DoIPVehicleAnnouncementCount	ECUC_DoIP_00094
DoIPVehicleAnnouncementInterval	ECUC_DoIP_00007
DoIPVehicleAnnouncementRepetition	ECUC_DoIP_00011
DoIPVersionInfoApi	ECUC_DoIP_00005
DoIPVinGidMaster	ECUC_DoIP_00017
DoIPVinInvalidityPattern	ECUC_DoIP_00066

Included containers:

Included Containers		
Container Name	Multiplicity	Scope / Dependency
DoIPFurtherActionByteCallback	0..1	This container describes the Callbackfunction to get the Further Action byte. If this container is not configured no Callbackfunction will be used. If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of Service Interface CallbackGetFurtherActionByte with the name "CBGetFurtherAction Byte".
DoIPGetGidCallback	0..1	This container describes the usage of a callback function to get the GID. (If this container is not present no callback function shall be used by DoIP module to retrive the GID.)
DoIPPowerModeCallback	1	This container describes the usage of a callback function to retrieve the current power mode. This container shall always be present.
DoIPTriggerGidSyncCallback	0..1	This container describes the usage of a callback function to trigger the GID synchronization. (If this container does not exist no callback function shall be used by DoIP module to trigger the GID synchronization.)

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74849: [DoIP] Further action code values (0x11 to 0xFF) missing

   Problem description:

   Further action code values (0x11 to 0xFF) that are defined in ISO 13400-2 missing in Autosar standard. The further action byte is used in vehicle identification/vehicle announcement.

   ISO 13400-2 mentions range (0x11 to 0xFF) of "further action byte" value in "Table 20 Definition of further action code values" for OEM specific use but this is not mentioned in Autosar standard.

   0x11 to 0xFF Available for additional OEM-specific use. optional

   Please add a configurable parameter (i.e. DoIPGetFurtherActionByteCallback) under DoIPGeneral as DoIPGeneral/DoIPGetFurtherActionByteCallback

   which should be a string literal. With lower multiplicity 0. If configured, this

will be the name of the callback to get the OEM specific further action byte to be used in vehicle identification/announcement message.

Agreed solution:

1- Changes in Chapter 7:

Table 6: Vehicle identification response/vehicle announcement message payload data
Further action required should be changed to Further action or Further action byte.

7.3.2.2.4 Vehicle Identification response/vehicle announcement (payload type 0x0004)
Add [SWS_DoIP_00xxx]
The Further action byte of a vehicle identification response/vehicle announcement message shall contain the 1 Byte value retrieved by a call to the configured DoIPFurtherActionByteCallback (if configured, for the signature see <User>_DoIPGetFurtherActionByteCallback, SWS_DoIP_00xxx). If the function returns E_OK, the Further action byte shall be set to the retrieved value of FurtherActionByte. If the function returns E_NOT_OK, the Further action byte shall be set according to [SWS_DoIP_00082], [SWS_DoIP_00083] or [SWS_DoIP_00084].
(SRS_Eth_00026)

2- Changes in Chapter 8

8.1 Imported types
Add [SWS_DoIP_00xxx]
Name DoIP_FurtherActionByteType
Kind Type
Derived from uint8
Description Used to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.
Range
0x11-0xFF 0x11-0xFF Available for additional OEM-specific use
Variation –
()

8.6.3 Configurable interfaces
8.6.3.6 <User>_DoIPGetFurtherActionByteCallback
Add [SWS_DoIP_00xxx]
Service name: <User>_ DoIPGetFurtherActionByteCallback
Syntax: Std_ReturnType <User>_ DoIPGetFurtherActionByteCallback (DoIP_FurtherActionByteType* FurtherActionByte)
Service ID[hex]: 0x00

Sync/Async: Synchronous
Reentrancy: Don't care
Parameters (in): None
Parameters (inout): None
Parameters (out): FurtherActionByte
Pointer containing the information of the FurtherActionByte. Only valid if the return value equals E_OK.
Return value: Std_ReturnType
E_OK: FurtherActionByte contains valid information
E_NOT_OK: FurtherActionByte contains no valid information
Description: Callback function to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.
(SRS_Eth_00026)

8.6.4 DoIP Service Component
The DoIP Service Component shall provide the interface CallbackGetFurtherActionByte as described below to request the value of the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.

Name CallbackGetFurtherActionByte
Comment –
IsService true
Variation ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect)
== NULL
Possible Errors
0 E_OK
1 E_NOT_OK

Operations
GetFurtherActionByte
Comments –
Variation –
Parameters FurtherActionByte
Comment –
Type DoIP_FurtherActionByteType
Variation –
Direction OUT
Possible Errors
E_OK Operation successful
E_NOT_OK –

The DoIP Service Component shall be equipped with a service port as described below to request the value of the Further Action Byte for DoIP diagnostic

vehicle identification response/vehicle announcement.

Add [SWS_DoIP_00xxx]
Name CBGetfurtherActionByte
Kind RequiredPort
Interface CallbackGetFurtherActionByte
Description –
Variation ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect)
== NULL

3- Changes in Chapter 10

10.2.3 DoIPGeneral
Included Containers
Container Name: DoIPFurtherActionByteCallback
Multiplicity: 0..1
Scope / Dependency: This container describes the Callbackfunction to get the Further Action byte. If this container is not configured no Callbackfunction will be used.
If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetFurtherActionByte with the name "CBGetFurtherActionByte".

10.2.x DoIPFurtherActionByteCallback
SWS Item: ECUC_DoIP_000xx
Container Name: DoIPFurtherActionByteCallback
Description: This container describes the Callbackfunction to get the Further Action byte. This container shall always be present. If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetPowerMode with the name "CBGetFurtherActionByte".

Add Configuration Parameters as:

SWS Item: ECUC_DoIP_00xxx
Name: DoIPFurtherActionByteDirect
Description: Direct C Callback function to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement. If the DoIPFurtherActionByteDirect parameter is present, the DoIP module will not use an RPort of ServiceInterface CBGetFurtherActionByte but will call the configured function.
Multiplicity 0..1
Type EcucFunctionNameDef
Default value –

maxLength –
minLength –
regularExpression
ConfigurationClass
Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME, VARIANT-POST-BUILD
Post-build time –
Scope / Dependency scope: local
No Included Containers

SWCT
====

Add new chapter below 13.8.6:

13.8.6.x DoIP Service Use Case: Atomic Software-Component provides the further action byte to the DoIP Service Component.

Scenario: An AtomicSoftwareComponent provides the "further action byte" used in vehicle identification/announcement message.

[TPS_SWCT_0xxxx] DoIP Service Use Case: Atomic Software-Component provides the further action byte
ServiceNeeds kind DiagnosticComponentNeeds
ServiceNeedsKind: FurtherActionByteNeeds
RoleBasedPortAssignment valid roles:
CallbackGetFurtherActionByte[1]
RoleBasedDataAssignment
N/A
RepresentedPortGroups
N/A
c(RS_SWCT_03310, RS_SWCT_03190)

Add new subclass of DoIpServiceNeeds named FurtherActionByteNeeds. Description: The FurtherActionByteNeeds indicates that the software-component is able to provide the "further action byte" to the DoIp Service Component."
–Last change on issue 74849 comment 10–

BW-C-Level:

Application	Specification	Bus
1	1	1

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- RfC #74987: [DoIP] Inconsistency between SWS_DoIP_00071 and DoIPVehicleAnnouncementRepetition

Problem description:

SWS_DoIP_00071 says the first vehicle announcement message is send via the configured DoIPUDPConnection after DoIPInitialVehicleAnnouncementTime and repeated DoIPVehicleAnnouncementRepetition times.
Result is the announcement message is send 1 + the configured value times.

But from the description of DoIPVehicleAnnouncementRepetition (...represents parameter A_DoIP_Annunce_Num of ISO...), I would expect that the announcement message is send only the configured number of times.
(ISO 13400-2:2012, A_DoIP_Announce_Num:
This parameter specifies the number of vehicle
announcement messages which are sent by the DoIP
entity after a valid IP address was configured.)

Also the allowed range is currently 1 .. 255.
With SWS_DoIP_00071 this results in a minimum of 2 announcement messages. If the number of announcement messages is configurable, shouldn't it be possible to configure a minimum of 1 (equals 0 repetitions)?

I suggest changing SWS_DoIP_00071 and renaming the configuration parameter and so they reflect the ISO description.

Agreed solution:

1) ~ SWS_DoIP_00071:
If the DoIP module needs to send a vehicle announcement message because of SWS_DoIP_00003, it shall send the vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6. This message shall be sent DoIPVehicleAnnouncementCount times with a delay of DoIPVehicleAnnouncementInterval between each message. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO 13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).

2) ~ SWS_DoIP_00286: replace "DoIPVehicleAnnouncementRepetition" with "DoIPVehicleAnnouncementCount"

3) - ECUC_DoIP_00011: set to obsolete

4) + ECUC_DoIP_xxxxx:

Name: DoIPVehicleAnnouncementCount

Description: Number of vehicle announcement messages on IP address assignment. Represents parameter A_DoIP_Announce_Num of ISO 13400-2:2012.

This newly-added parameter simply replaces ECUC_DoIP_00011, which is set to obsolete with this RFC. So its position and rest all fields match ECUC_DoIP_00011 under DoIPGeneral.

5- Adapt the diagram at the end of Chapter 10.2.3 "DoIP General" to reflect these ECUC parameter changes, i.e. just replace "DoIPVehicleAnnouncementRepetition" with "DoIPVehicleAnnouncementCount"

–Last change on issue 74987 comment 20–

BW-C-Level:

Application	Specification	Bus
1	3	1

1.2 Specification Item ECUC_DoIP_00010

Trace References:

Content:

Name	DoIPInitialInactivityTimeDoIPGeneral.DoIPInitialInactivityTime		
Description	Timeout in [s] used for initial inactivity of a connected TCP socket connection directly after socket connection. Represents parameter T_TCP_Initial_Inactivity of ISO 13400-2:2012		
Multiplicity	1		
Type	EcucFloatParamDef		
Range	]0 .. INF[		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: local		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74851: [DoIP] Initial and general inactivity times cannot be 0

   Problem description:

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DoIP initial and general inactivity times cannot be 0.

DoIP initial inactivity time shall be atleast the preamble time so that the connection maybe able to receive routing activation to avoid connection closure before that.

The lower limit should be greater than 0 for both the times.

Agreed solution:

As per ISO recommendation (refer ANNOUNCE_WAIT Table-10 in ISO 13400-2:2012), changing the initial values of following parameters:

~ ECUC_DoIP_00068
Change the range to:]0 .. INF[

~ ECUC_DoIP_00010
Change the range to:]0 .. INF[
–Last change on issue 74851 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.3   Specification Item ECUC_DoIP_00011

Trace References:

Content:

Name	DoIPVehicleAnnouncementRepetitionDoIPGeneral.DoIPVehicleAnnouncementRepetition
Parent Container	DoIPGeneral
Description	Amount of repetitions of the vehicle announcement message on IP address assignment. Represents parameter A_DoIP_Annunce_Num of ISO 13400-2:2012 Tags: atp.Status=obsolete
Multiplicity	1 0..1
Type	EcucIntegerParamDef
Range	1 .. 255
Default value	–
Post-Build Variant Value	false

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Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: local		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74987: [DoIP] Inconsistency between SWS_DoIP_00071 and DoIPVehicleAnnouncementRepetition

Problem description:

SWS_DoIP_00071 says the first vehicle announcement message is send via the configured DoIPUDPConnection after DoIPInitialVehicleAnnouncementTime and repeated DoIPVehicleAnnouncementRepetition times.
Result is the announcement message is send 1 + the configured value times.

But from the description of DoIPVehicleAnnouncementRepetition (...represents parameter A_DoIP_Annunce_Num of ISO...), I would expect that the announcement message is send only the configured number of times.
(ISO 13400-2:2012, A_DoIP_Announce_Num:
This parameter specifies the number of vehicle
announcement messages which are sent by the DoIP
entity after a valid IP address was configured.)

Also the allowed range is currently 1 .. 255.
With SWS_DoIP_00071 this results in a minimum of 2 announcement messages. If the number of announcement messages is configurable, shouldn't it be possible to configure a minimum of 1 (equals 0 repetitions)?

I suggest changing SWS_DoIP_00071 and renaming the configuration parameter and so they reflect the ISO description.

Agreed solution:

1) ~ SWS_DoIP_00071:
If the DoIP module needs to send a vehicle announcement message because of SWS_DoIP_00003, it shall send the vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6. This message shall be sent DoIPVehicleAnnouncementCount times with a delay of DoIPVehicleAnnouncementInterval between each message. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO 13400-2 standard.

It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).

2) ~ SWS_DoIP_00286: replace "DoIPVehicleAnnouncementRepetition" with "DoIPVehicleAnnouncementCount"

3) - ECUC_DoIP_00011: set to obsolete

4) + ECUC_DoIP_xxxxx:
Name: DoIPVehicleAnnouncementCount
Description: Number of vehicle announcement messages on IP address assignment. Represents parameter A_DoIP_Announce_Num of ISO 13400-2:2012.
This newly-added parameter simply replaces ECUC_DoIP_00011, which is set to obsolete with this RFC. So its position and rest all fields match ECUC_DoIP_00011 under DoIPGeneral.

5- Adapt the diagram at the end of Chapter 10.2.3 "DoIP General" to reflect these ECUC parameter changes, i.e. just replace "DoIPVehicleAnnouncementRepetition" with "DoIPVehicleAnnouncementCount"
–Last change on issue 74987 comment 20–

BW-C-Level:

Application	Specification	Bus
1	3	1

1.4   Specification Item ECUC_DoIP_00032

Trace References:

Content:

Container Name	DoIPConnectionsDoIPConnections
Description	Container contains all lower layer connection specific information, i.e. the single Pdu References and Handle IDs to the SoAd.
Configuration Parameters	

Included parameters:

No Included Parameters

Included containers:

Included Containers		
Container Name	Multiplicity	Scope / Dependency
DoIPTargetAddress	1..255	This container describes a possible TargetAddress that is supported by DoIP.
DoIPTcpConnection	2..255	This container describes a tcp TCP connection to the lower layer SoAd module.
DoIPUdpConnection	1..255	This Container describes a udp Udp connection to the lower layer SoAd module.
DoIPUdpVehicleAnnouncement Connection	1..255	This container describes the UDP multicast connections to the lower layer SoAd module.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

  Problem description:

  Hello,

  currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
  This can lead to problems when generating symbolic name values.

  Therefore, our proposal is to rename the PDU containers.
  For DoIPTcpConnection:
  -DoIPSoAdTcpRxPdu
  -DoIPSoAdTcpTxPdu

  For DoIPUdpConnection:
  -DoIPSoAdUdpRxPdu
  -DoIPSoAdUdpTxPdu

  Best regards
  Marc

  Agreed solution:

  ~[SWS_DoIP_00002]
  ...
  (a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
  ...

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~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function

shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is
not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches
a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches
a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over
TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call

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DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –

Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535

Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :

Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.5   Specification Item ECUC_DoIP_00045

Trace References:

Content:

Container Name	DoIPTcpConnectionDoIPTcpConnection
Description	This container describes a tcp TCP connection to the lower layer SoAd module.
Configuration Parameters	

Included parameters:

No Included Parameters	
Parameter Name	SWS Item ID
DoIPRequestAddressAssignment	ECUC_DoIP_00095

Included containers:

Included Containers		
Container Name	Multiplicity	Scope / Dependency

Included Containers		
Container Name	Multiplicity	Scope / Dependency
DoIPSoAdTcpRxPdu	1	This container contains the Rx Pdus received by DoIP describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu	1	This container describes the Tx Pdu sent via the a Tx PDU sent via SoAd over TCP

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and

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the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will
be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain
the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall
call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function
shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is
not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]

If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]

If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]

If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535

Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call
DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :

Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –

Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1

Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

● RfC #74847: [DoIP] How to configure DoIPUdpConnection with limited broadcast local IP address

Problem description:

according to ISO/FDIS 13400-2:2011 Vehicle Identification Request can be sent to multicast (limited broadcast). However, it is not specified in SWS how such a limited broadcast local address address can be configured for a DoIPUdpConnection.

Since DoIP shall use SoAd_RequestIpAddrAssignment() with TCPIP_IPADDR_ASSIGNMENT_AUTOIP and TCPIP_IPADDR_ASSIGNMENT_DHCP, it is not possible to use a static local IP address.

How shall limited broadcast local IP address be configured?
–Last change on issue 74847 comment 2–

Agreed solution:

SWS DoIP

========

Chapter 7 "Functional Specification"

Change [SWS_DoIP_00204] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and trigger the IP Address assignment via 2 subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr set to NULL_PTR and in the first call type set to

TCPIP_IPADDR_ASSIGNMENT_LINKLOCAL_DOIP and in the second call type set to TCPIP_IPADDR_ASSIGNMENT_DHCP. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. For each of these DoIPConnections which has a DoIPRequestAddressAssignment set to true the DoIp module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and trigger the IP Address assignment via subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr and DefaultRouterPtr set to NULL_PTR, Netmask set to 0, and Type set to TCPIP_IPADDR_ASSIGNMENT_ALL. For each of these DoIPConnections (irrespective of the value of DoIPRequestAddressAssignment) the DoIP module shall open the respective connection by an according call to SoAd_OpenSoCon. (SRS_Eth_00081, SRS_Eth_00028, SRS_Eth_00026).

Remove the note after SWS_DoIP_00204.

Remove SWS_DoIP_00003

Change [SWS_DoIP_00205] from:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE, after SWS_DoIP_00003 has been performed, for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

To:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

Change [SWS_DoIP_00071] from:
If the DoIP module needs to send a vehicle announcement message because of SWS_DoIP_00003, it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval.

The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

To:
If the DoIP module needs to send a vehicle announcement message (see SWS_DoIP_00205), it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

Change [SWS_DoIP_00234] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall retrieve all the SoConId of all the configured UDPConnection, via call to the SoAd_GetSoConId and close all the UDP sockets by calls to the
SoAd_CloseSoCon with the all the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. - For each of these DoIPConnections the DoIP module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and close all the connection by a call to SoAd_CloseSoCon with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

Change [SWS_DoIP_00235] from:
When all UDP sockets are closed (i.e for all the Sockets the function DoIP_SoConModeChg was called with something else than SOAD_SOCON_ONLINE), the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and release the IP
Address assignment via the call to SoAd_ReleaseIpAddrAssignment with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:
In addition to SWS_DoIP_00234, the DoIP module shall release the corresponding IP Address assignment via the call to SoAd_ReleaseIpAddrAssignment for those connections that have DoIPRequestAddressAssignment set to true. (SRS_Eth_00081, SRS_Eth_00028)

Remove the note after SWS_DoIP_00235.

Chapter 9 "Sequence Diagrams"

Adapt sequence diagrams in section 9.4 "Activation Line Handling Active" and in section 9.5 "Activation Line Handling Inactive" accordingly.

Chapter 10 "Configuration specification"

Add the following new config parameters to DoIPTcpConnection (10.2.13 DoIPTcpConnection), DoIPUdpConnection (10.2.14 DoIPUdpConnection), and DoIPUdpVehicleAnnouncementConnection (10.2.17 DoIPUdpVehicleAnnouncementConnection):

SWS Item ECUC_DoIP_xxxx1 :
Name DoIPRequestAddressAssignment
Description The DoIP module shall request IP address assignment by calling SoAd_RequestIpAddrAssignment() for the TcpIpLocalAddr related to this DoIpConnection.
Multiplicity 1
Type EcucBooleanParamDef
Default value true
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: local

SWS TcpIp
=========

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Chapter 8 "API Specification"

Extend [SWS_TCPIP_00065] by a new enumeration literal:
* TCPIP_IPADDR_ASSIGNMENT_ALL - all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to TCPIP_MANUAL

Add an new specification item after [SWS_TCPIP_00080]:
[SWS_TCPIP_xxxx] In case TcpIp_RequestIpAddrAssignment() is called with parameter Type set to TCPIP_IPADDR_ASSIGNMENT_ALL, the IP address assignment for the IP address table entry specified by LocalAddId shall be initiated for all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to TCPIP_MANUAL.
–Last change on issue 74847 comment 42–

BW-C-Level:

Application	Specification	Bus
1	3	1

1.6   Specification Item ECUC_DoIP_00046

Trace References:

Content:

Container Name	DoIPSoAdUdpRxPduDoIPSoAdUdpRxPdu
Description	This container contains the Rx Pdus received by DoIP describes a Rx PDU received via SoAd over UDP.
Configuration Parameters	

Included parameters:

Included Parameters	
Parameter Name	SWS Item ID
DoIPSoAdUdpRxPduId	ECUC_DoIP_00048
DoIPSoAdUdpRxPduRef	ECUC_DoIP_00049

Included containers:

No Included Containers

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved

via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the

length of the message and the pointer to the to be transmitted message buffer and additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call

the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the

development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches
a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over
TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call
DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :

Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME

Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over
UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call
DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1

Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.7   Specification Item ECUC_DoIP_00047

Trace References:

Content:

Container Name	DoIPSoAdUdpTxPduDoIPSoAdUdpTxPdu
Description	This container describes the Tx Pdu sent via the a Tx PDU sent via SoAd over UDP.
Configuration Parameters	

Included parameters:

Included Parameters	
Parameter Name	SWS Item ID
DoIPSoAdUdpTxPduId	ECUC_DoIP_00051
DoIPSoAdUdpTxPduRef	ECUC_DoIP_00050

Included containers:

No Included Containers

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

  Problem description:

  Hello,

  currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
  This can lead to problems when generating symbolic name values.

Document ID 695: ChangeDocumentation

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]

If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function
shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is
not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches
a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches
a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection

Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call
DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers

Container Name Multiplicity Scope / Dependency

DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over UDP

DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu

SWS Item ECUC_DoIP_00046 :

Container Name DoIPSoAdUdpRxPdu

Description This container describes a Rx PDU received via SoAd over UDP

Configuration Parameters

SWS Item ECUC_DoIP_00048 :

Name DoIPSoAdUdpRxPduId

Description The DoIPSoAdUdpRxPduId is required by the API call DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.

Multiplicity 1

Type EcucIntegerParamDef (Symbolic Name generated for this parameter)

Range 0 .. 65535

Default value –

Post-Build Variant Value false

Value Configuration Class Pre-compile time X All Variants

Link time –

Post-build time –

Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :

Name DoIPSoAdUdpRxPduRef

Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.

Multiplicity 1

Type Reference to [Pdu]

Post-Build Variant Value true

Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE

Link time X VARIANT-LINK-TIME

Post-build time X VARIANT-POST-BUILD

Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu

SWS Item ECUC_DoIP_00047 :

Container Name DoIPSoAdUdpTxPdu

Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.8   Specification Item ECUC_DoIP_00048

Trace References:

Content:

Name	DoIPSoAdUdpRxPduIdDoIPSoAdUdpRxPdu.DoIPSoAdUdpRxPduId		
Description	The DoIPSoAdTcpRxPduId is required by the API call DoIP_SoAdTpIfRxIndication to receive I-PDUs from the SoAd.		
Multiplicity	1		
Type	EcucIntegerParamDef (Symbolic Name generated for this parameter)		
Range	0 .. 65535		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...

(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

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~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call
DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call
DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –

Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over
UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call
DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.

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Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –

Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.9   Specification Item ECUC_DoIP_00049

Trace References:

Content:

Name	DoIPSoAdUdpRxPduRefDoIPSoAdUdpRxPdu.DoIPSoAdUdpRxPduRef		
Description	Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.		
Multiplicity	1		
Type	Reference to [Pdu]		
Post-Build Variant Value	true		
Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	X	VARIANT-LINK-TIME
	Post-build time	X	VARIANT-POST-BUILD
Scope / Dependency	scope: local		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the

length of the message and the pointer to the to be transmitted message buffer and additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches
a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over
TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call
DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle

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IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call
DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call
DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true

Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.10   Specification Item ECUC_DoIP_00050

Trace References:

Content:

Name	DoIPSoAdUdpTxPduRefDoIPSoAdUdpTxPdu.DoIPSoAdUdpTxPduRef		
Description	Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.		
Multiplicity	1		
Type	Reference to [Pdu]		
Post-Build Variant Value	true		
Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	X	VARIANT-LINK-TIME
	Post-build time	X	VARIANT-POST-BUILD
Scope / Dependency	scope: local		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

    Problem description:

    Hello,

    currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
    This can lead to problems when generating symbolic name values.

    Therefore, our proposal is to rename the PDU containers.
    For DoIPTcpConnection:
    -DoIPSoAdTcpRxPdu
    -DoIPSoAdTcpTxPdu

    For DoIPUdpConnection:
    -DoIPSoAdUdpRxPdu

-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the

development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP

DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call
DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :

Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call
DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over
UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :

Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call
DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.

Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.11 Specification Item ECUC_DoIP_00051

Trace References:

Content:

Name	DoIPSoAdUdpTxPduIdDoIPSoAdUdpTxPdu.DoIPSoAdUdpTxPduId
Description	The DoIPSoAdUdpTxPduId is required by the API call DoIP_SoAdTpIfTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.
Multiplicity	1
Type	EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range	0 .. 65535

Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and

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the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is
not enabled, return BUFREQ_E_NOT_OK.

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~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535

Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call
DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :

Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over
UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call
DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –

Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1

Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.12   Specification Item ECUC_DoIP_00052

Trace References:

Content:

Container Name	DoIPUdpConnectionDoIPUdpConnection
Description	This Container describes a udp Udp connection to the lower layer SoAd module.
Configuration Parameters	

Included parameters:

No Included Parameters	
Parameter Name	SWS Item ID
DoIPRequestAddressAssignment	ECUC_DoIP_00095

Included containers:

Included Containers		
Container Name	Multiplicity	Scope / Dependency
DoIPSoAdUdpRxPdu	1	This container contains the Rx Pdus received by DoIP describes a Rx PDU received via SoAd over UDP.
DoIPSoAdUdpTxPdu	1	This container describes the Tx Pdu sent via the a Tx PDU sent via SoAd over UDP.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved

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via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the

length of the message and the pointer to the to be transmitted message buffer and additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call

the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the

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development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call
DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :

Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME

Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1

Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

• RfC #74847: [DoIP] How to configure DoIPUdpConnection with limited broadcast local IP address

Problem description:

according to ISO/FDIS 13400-2:2011 Vehicle Identification Request can be sent to multicast (limited broadcast). However, it is not specified in SWS how such a limited broadcast local address address can be configured for a DoIPUdpConnection.

Since DoIP shall use SoAd_RequestIpAddrAssignment() with TCPIP_IPADDR_ASSIGNMENT_AUTOIP and TCPIP_IPADDR_ASSIGNMENT_DHCP, it is not possible to use a static local IP address.

How shall limited broadcast local IP address be configured?
–Last change on issue 74847 comment 2–

Agreed solution:

SWS DoIP

========

Chapter 7 "Functional Specification"

Change [SWS_DoIP_00204] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and trigger the IP Address assignment via 2 subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr set to NULL_PTR and in the first call type set to TCPIP_IPADDR_ASSIGNMENT_LINKLOCAL_DOIP and in the second call type set to TCPIP_IPADDR_ASSIGNMENT_DHCP. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall loop over all DoIPTcpConnection, DoIPUdpConnection, and

DoIPUdpVehicleAnnouncementConnections. For each of these DoIPConnections which has a DoIPRequestAddressAssignment set to true the DoIp module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and trigger the IP Address assignment via subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr and DefaultRouterPtr set to NULL_PTR, Netmask set to 0, and Type set to TCPIP_IPADDR_ASSIGNMENT_ALL. For each of these DoIPConnections (irrespective of the value of DoIPRequestAddressAssignment) the DoIP module shall open the respective connection by an according call to SoAd_OpenSoCon. (SRS_Eth_00081, SRS_Eth_00028, SRS_Eth_00026).

Remove the note after SWS_DoIP_00204.

Remove SWS_DoIP_00003

Change [SWS_DoIP_00205] from:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE, after SWS_DoIP_00003 has been performed, for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

To:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

Change [SWS_DoIP_00071] from:
If the DoIP module needs to send a vehicle announcement message because of SWS_DoIP_00003, it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

To:
If the DoIP module needs to send a vehicle announcement message (see

SWS_DoIP_00205), it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

Change [SWS_DoIP_00234] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall retrieve all the SoConId of all the configured UDPConnection, via call to the SoAd_GetSoConId and close all the UDP sockets by calls to the
SoAd_CloseSoCon with the all the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. - For each of these DoIPConnections the DoIP module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and close all the connection by a call to SoAd_CloseSoCon with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

Change [SWS_DoIP_00235] from:
When all UDP sockets are closed (i.e for all the Sockets the function DoIP_SoConModeChg was called with something else than SOAD_SOCON_ONLINE), the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and release the IP
Address assignment via the call to SoAd_ReleaseIpAddrAssignment with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:
In addition to SWS_DoIP_00234, the DoIP module shall release the corresponding IP Address assignment via the call to SoAd_ReleaseIpAddrAssignment for those connections that have DoIPRequestAddressAssignment set to true. (SRS_Eth_00081, SRS_Eth_00028)

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Remove the note after SWS_DoIP_00235.

Chapter 9 "Sequence Diagrams"

Adapt sequence diagrams in section 9.4 "Activation Line Handling Active" and in section 9.5 "Activation Line Handling Inactive" accordingly.

Chapter 10 "Configuration specification"

Add the following new config parameters to DoIPTcpConnection (10.2.13 DoIPTcpConnection), DoIPUdpConnection (10.2.14 DoIPUdpConnection), and DoIPUdpVehicleAnnouncementConnection (10.2.17 DoIPUdpVehicleAnnouncementConnection):

SWS Item ECUC_DoIP_xxxx1 :
Name DoIPRequestAddressAssignment
Description The DoIP module shall request IP address assignment by calling SoAd_RequestIpAddrAssignment() for the TcpIpLocalAddr related to this DoIpConnection.
Multiplicity 1
Type EcucBooleanParamDef
Default value true
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: local

SWS TcpIp

=========

Chapter 8 "API Specification"

Extend [SWS_TCPIP_00065] by a new enumeration literal:
* TCPIP_IPADDR_ASSIGNMENT_ALL - all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to TCPIP_MANUAL

Add an new specification item after [SWS_TCPIP_00080]:

Document ID 695: ChangeDocumentation

[SWS_TCPIP_xxxx] In case TcpIp_RequestIpAddrAssignment() is called with parameter Type set to TCPIP_IPADDR_ASSIGNMENT_ALL, the IP address assignment for the IP address table entry specified by LocalAddId shall be initiated for all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to TCPIP_MANUAL.
–Last change on issue 74847 comment 42–

BW-C-Level:

Application	Specification	Bus
1	3	1

1.13   Specification Item ECUC_DoIP_00068

Trace References:

Content:

Name	DoIPGeneralInactivityTimeDoIPGeneral.DoIPGeneralInactivityTime		
Description	Timeout in [s] for maximum inactivity of a TCP socket connection before the DoIP module will close the according socket connection. Represents parameter T_TCP_General_Inactivity of ISO 13400-2:2012		
Multiplicity	1		
Type	EcucFloatParamDef		
Range	]0 .. INF[		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: local		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74851: [DoIP] Initial and general inactivity times cannot be 0

  Problem description:

  DoIP initial and general inactivity times cannot be 0.

  DoIP initial inactivity time shall be atleast the preamble time so that the connection maybe able to receive routing activation to avoid connection closure before that.

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The lower limit should be greater than 0 for both the times.

Agreed solution:

As per ISO recommendation (refer ANNOUNCE_WAIT Table-10 in ISO 13400-2:2012), changing the initial values of following parameters:

~ ECUC_DoIP_00068
Change the range to:]0 .. INF[

~ ECUC_DoIP_00010
Change the range to:]0 .. INF[
–Last change on issue 74851 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.14 Specification Item ECUC_DoIP_00076

Trace References:

Content:

Container Name	DoIPUdpVehicleAnnouncementConnectionDoIPUdpVehicleAnnouncementConnection
Description	This container describes the UDP multicast connections to the lower layer SoAd module.
Configuration Parameters	

Included parameters:

No Included Parameters	
Parameter Name	SWS Item ID
DoIPRequestAddressAssignment	ECUC_DoIP_00095

Included containers:

Included Containers		
Container Name	Multiplicity	Scope / Dependency

Included Containers		
Container Name	Multiplicity	Scope / Dependency
DoIPSoAdUdpVehicleAnnouncementTxPdu	1	This container describes the vehicle announcement TxPdu sent via the So Ad.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #74847: [DoIP] How to configure DoIPUdpConnection with limited broadcast local IP address

Problem description:

according to ISO/FDIS 13400-2:2011 Vehicle Identification Request can be sent to multicast (limited broadcast). However, it is not specified in SWS how such a limited broadcast local address address can be configured for a DoIPUdpConnection.

Since DoIP shall use SoAd_RequestIpAddrAssignment() with TCPIP_IPADDR_ASSIGNMENT_AUTOIP and TCPIP_IPADDR_ASSIGNMENT_DHCP, it is not possible to use a static local IP address.

How shall limited broadcast local IP address be configured?
–Last change on issue 74847 comment 2–

Agreed solution:

SWS DoIP
========

Chapter 7 "Functional Specification"

Change [SWS_DoIP_00204] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and trigger the IP Address assignment via 2 subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr set to NULL_PTR and in the first call type set to TCPIP_IPADDR_ASSIGNMENT_LINKLOCAL_DOIP and in the second call type set to TCPIP_IPADDR_ASSIGNMENT_DHCP. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE,

the DoIP module shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. For each of these DoIPConnections which has a DoIPRequestAddressAssignment set to true the DoIp module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and trigger the IP Address assignment via subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr and DefaultRouterPtr set to NULL_PTR, Netmask set to 0, and Type set to TCPIP_IPADDR_ASSIGNMENT_ALL. For each of these DoIPConnections (irrespective of the value of DoIPRequestAddressAssignment) the DoIP module shall open the respective connection by an according call to SoAd_OpenSoCon. (SRS_Eth_00081, SRS_Eth_00028, SRS_Eth_00026).

Remove the note after SWS_DoIP_00204.

Remove SWS_DoIP_00003

Change [SWS_DoIP_00205] from:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE, after SWS_DoIP_00003 has been performed, for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

To:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

Change [SWS_DoIP_00071] from:
If the DoIP module needs to send a vehicle announcement message because of SWS_DoIP_00003, it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

To:

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If the DoIP module needs to send a vehicle announcement message (see SWS_DoIP_00205), it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

Change [SWS_DoIP_00234] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall retrieve all the SoConId of all the configured UDPConnection, via call to the SoAd_GetSoConId and close all the UDP sockets by calls to the
SoAd_CloseSoCon with the all the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. - For each of these DoIPConnections the DoIP module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and close all the connection by a call to SoAd_CloseSoCon with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

Change [SWS_DoIP_00235] from:
When all UDP sockets are closed (i.e for all the Sockets the function DoIP_SoConModeChg was called with something else than SOAD_SOCON_ONLINE), the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and release the IP
Address assignment via the call to SoAd_ReleaseIpAddrAssignment with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:
In addition to SWS_DoIP_00234, the DoIP module shall release the corresponding IP Address assignment via the call to SoAd_ReleaseIpAddrAssignment for those connections that have DoIPRequestAddressAssignment set to true. (SRS_Eth_00081, SRS_Eth_00028)

Remove the note after SWS_DoIP_00235.

Chapter 9 "Sequence Diagrams"

Adapt sequence diagrams in section 9.4 "Activation Line Handling Active" and in section 9.5 "Activation Line Handling Inactive" accordingly.

Chapter 10 "Configuration specification"

Add the following new config parameters to DoIPTcpConnection (10.2.13 DoIPTcpConnection), DoIPUdpConnection (10.2.14 DoIPUdpConnection), and DoIPUdpVehicleAnnouncementConnection (10.2.17 DoIPUdpVehicleAnnouncementConnection):

SWS Item ECUC_DoIP_xxxx1 :
Name DoIPRequestAddressAssignment
Description The DoIP module shall request IP address assignment by calling SoAd_RequestIpAddrAssignment() for the TcpIpLocalAddr related to this DoIpConnection.
Multiplicity 1
Type EcucBooleanParamDef
Default value true
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: local

SWS TcpIp
=========

Chapter 8 "API Specification"

Extend [SWS_TCPIP_00065] by a new enumeration literal:
* TCPIP_IPADDR_ASSIGNMENT_ALL - all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to TCPIP_MANUAL

Add an new specification item after [SWS_TCPIP_00080]:

[SWS_TCPIP_xxxx] In case TcpIp_RequestIpAddrAssignment() is called with parameter Type set to TCPIP_IPADDR_ASSIGNMENT_ALL, the IP address assignment for the IP address table entry specified by LocalAddId shall be initiated for all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to TCPIP_MANUAL.

–Last change on issue 74847 comment 42–

BW-C-Level:

Application	Specification	Bus
1	3	1

1.15   Specification Item ECUC_DoIP_00080

Trace References:

Content:

Container Name	DoIPSoAdTcpRxPduDoIPSoAdTcpRxPdu
Description	This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters	

Included parameters:

Included Parameters	
Parameter Name	SWS Item ID
DoIPSoAdTcpRxPduId	ECUC_DoIP_00082
DoIPSoAdTcpRxPduRef	ECUC_DoIP_00083

Included containers:

No Included Containers

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

Document ID 695: ChangeDocumentation

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches

a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call
DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1

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Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call
DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME

Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.16 Specification Item ECUC_DoIP_00081

Trace References:

Content:

Container Name	DoIPSoAdTcpTxPduDoIPSoAdTcpTxPdu
Description	This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters	

Included parameters:

Included Parameters	
Parameter Name	SWS Item ID
DoIPSoAdTcpTxPduId	ECUC_DoIP_00085
DoIPSoAdTcpTxPduRef	ECUC_DoIP_00084

Included containers:

No Included Containers

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

  Problem description:

  Hello,

  currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
  This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a

configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function
shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is
not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches
a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches
a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd

module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call
DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers

Container Name Multiplicity Scope / Dependency

DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over UDP

DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu

SWS Item ECUC_DoIP_00046 :

Container Name DoIPSoAdUdpRxPdu

Description This container describes a Rx PDU received via SoAd over UDP

Configuration Parameters

SWS Item ECUC_DoIP_00048 :

Name DoIPSoAdUdpRxPduId

Description The DoIPSoAdUdpRxPduId is required by the API call

DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.

Multiplicity 1

Type EcucIntegerParamDef (Symbolic Name generated for this parameter)

Range 0 .. 65535

Default value –

Post-Build Variant Value false

Value Configuration Class Pre-compile time X All Variants

Link time –

Post-build time –

Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :

Name DoIPSoAdUdpRxPduRef

Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.

Multiplicity 1

Type Reference to [Pdu]

Post-Build Variant Value true

Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE

Link time X VARIANT-LINK-TIME

Post-build time X VARIANT-POST-BUILD

Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu

SWS Item ECUC_DoIP_00047 :

Container Name DoIPSoAdUdpTxPdu

Description This container describes a Tx PDU sent via SoAd over UDP

Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.17   Specification Item ECUC_DoIP_00082

Trace References:

Content:

Name	DoIPSoAdTcpRxPduIdDoIPSoAdTcpRxPdu.DoIPSoAdTcpRxPduId		
Description	The DoIPSoAdTcpRxPduId is required by the API call DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.		
Multiplicity	1		
Type	EcucIntegerParamDef (Symbolic Name generated for this parameter)		
Range	0 .. 65535		
Default value	−		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Document ID 695: ChangeDocumentation

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a

configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :

Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call
DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call
DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.

Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over
UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call
DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –

Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.18   Specification Item ECUC_DoIP_00083

Trace References:

Content:

Name	DoIPSoAdTcpRxPduRefDoIPSoAdTcpRxPdu.DoIPSoAdTcpRxPduRef
Description	Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity	1
Type	Reference to [Pdu]
Post-Build Variant Value	true

Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	X	VARIANT-LINK-TIME
	Post-build time	X	VARIANT-POST-BUILD
Scope / Dependency	scope: local		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and

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the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is
not enabled, return BUFREQ_E_NOT_OK.

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~[SWS_DoIP_00191]

If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]

If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]

If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535

Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :

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Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –

Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1

Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.19   Specification Item ECUC_DoIP_00084

Trace References:

Content:

Name	DoIPSoAdTcpTxPduRefDoIPSoAdTcpTxPdu.DoIPSoAdTcpTxPduRef		
Description	Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.		
Multiplicity	1		
Type	Reference to [Pdu]		
Post-Build Variant Value	true		
Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	X	VARIANT-LINK-TIME
	Post-build time	X	VARIANT-POST-BUILD
Scope / Dependency	scope: local		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpCon-
nection there are the same names used for the PDU containers (DoIPSoAdRxPdu
and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP
module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will
be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain
the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]

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If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call
DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true

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Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call
DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection

SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

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No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

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1.20   Specification Item ECUC_DoIP_00085

Trace References:

Content:

Name	DoIPSoAdTcpTxPduIdDoIPSoAdTcpTxPdu.DoIPSoAdTcpTxPduId		
Description	The DoIPSoAdTxPduId is required by the API call DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.		
Multiplicity	1		
Type	EcucIntegerParamDef (Symbolic Name generated for this parameter)		
Range	0 .. 65535		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: ECU		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:

-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]

...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a

configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over

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TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call
DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call
DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over
UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu

SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call
DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the

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IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.21 Specification Item ECUC_DoIP_00092

Trace References:

Content:

Container Name	DoIPFurtherActionByteCallbackDoIPFurtherActionByteCallback
Description	This container describes the Callbackfunction to get the Further Action byte. This container shall always be present. If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetFurtherActionByte with the name "CBGetFurtherActionByte".

Configuration Parameters

Included parameters:

Included Parameters	
Parameter Name	SWS Item ID
DoIPFurtherActionByteDirect	ECUC_DoIP_00093

Included containers:

No Included Containers

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74849: [DoIP] Further action code values (0x11 to 0xFF) missing

   Problem description:

   Further action code values (0x11 to 0xFF) that are defined in ISO 13400-2 missing in Autosar standard. The further action byte is used in vehicle identification/vehicle announcement.

   ISO 13400-2 mentions range (0x11 to 0xFF) of "further action byte" value in "Table 20 Definition of further action code values" for OEM specific use but this is not mentioned in Autosar standard.

   0x11 to 0xFF Available for additional OEM-specific use. optional

   Please add a configurable parameter (i.e. DoIPGetFurtherActionByteCallback) under DoIPGeneral as DoIPGeneral/DoIPGetFurtherActionByteCallback

   which should be a string literal. With lower multiplicity 0. If configured, this will be the name of the callback to get the OEM specific further action byte to be used in vehicle identification/announcement message.

   Agreed solution:

   1- Changes in Chapter 7:

   Table 6: Vehicle identification response/vehicle announcement message payload data

Further action required should be changed to Further action or Further action byte.

7.3.2.2.4 Vehicle Identification response/vehicle announcement (payload type 0x0004)

Add [SWS_DoIP_00xxx]

The Further action byte of a vehicle identification response/vehicle announcement message shall contain the 1 Byte value retrieved by a call to the configured DoIPFurtherActionByteCallback (if configured, for the signature see <User>_DoIPGetFurtherActionByteCallback, SWS_DoIP_00xxx). If the function returns E_OK, the Further action byte shall be set to the retrieved value of FurtherActionByte. If the function returns E_NOT_OK, the Further action byte shall be set according to [SWS_DoIP_00082], [SWS_DoIP_00083] or [SWS_DoIP_00084].
(SRS_Eth_00026)

2- Changes in Chapter 8

8.1 Imported types

Add [SWS_DoIP_00xxx]
Name DoIP_FurtherActionByteType
Kind Type
Derived from uint8
Description Used to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.
Range
0x11-0xFF 0x11-0xFF Available for additional OEM-specific use
Variation –
()

8.6.3 Configurable interfaces

8.6.3.6 <User>_DoIPGetFurtherActionByteCallback

Add [SWS_DoIP_00xxx]
Service name: <User>_ DoIPGetFurtherActionByteCallback
Syntax: Std_ReturnType <User>_ DoIPGetFurtherActionByteCallback (DoIP_FurtherActionByteType* FurtherActionByte)
Service ID[hex]: 0x00
Sync/Async: Synchronous
Reentrancy: Don't care
Parameters (in): None
Parameters (inout): None
Parameters (out): FurtherActionByte
Pointer containing the information of the FurtherActionByte. Only valid if the return value equals E_OK.
Return value: Std_ReturnType

E_OK: FurtherActionByte contains valid information
E_NOT_OK: FurtherActionByte contains no valid information
Description: Callback function to get the OEM specific Further Action Byte for the
DoIP vehicle identification response/vehicle announcement.
(SRS_Eth_00026)

8.6.4 DoIP Service Component
The DoIP Service Component shall provide the interface CallbackGetFurtherAc-
tionByte as described below to request the value of the OEM specific Further Action
Byte for the DoIP vehicle identification response/vehicle announcement.

Name CallbackGetFurtherActionByte
Comment –
IsService true
Variation ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect)
== NULL
Possible Errors
0 E_OK
1 E_NOT_OK

Operations
GetFurtherActionByte
Comments –
Variation –
Parameters FurtherActionByte
Comment –
Type DoIP_FurtherActionByteType
Variation –
Direction OUT
Possible Errors
E_OK Operation successful
E_NOT_OK –

The DoIP Service Component shall be equipped with a service port as de-
scribed below to request the value of the Further Action Byte for DoIP diagnostic
vehicle identification response/vehicle announcement.

Add [SWS_DoIP_00xxx]
Name CBGetfurtherActionByte
Kind RequiredPort
Interface CallbackGetFurtherActionByte
Description –
Variation ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect)

== NULL

3- Changes in Chapter 10

10.2.3 DoIPGeneral
Included Containers
Container Name: DoIPFurtherActionByteCallback
Multiplicity: 0..1
Scope / Dependency: This container describes the Callbackfunction to get the Further Action byte. If this container is not configured no Callbackfunction will be used.
If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetFurtherActionByte with the name "CBGetFurtherActionByte".

10.2.x DoIPFurtherActionByteCallback
SWS Item: ECUC_DoIP_000xx
Container Name: DoIPFurtherActionByteCallback
Description: This container describes the Callbackfunction to get the Further Action byte. This container shall always be present. If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetPowerMode with the name "CBGetFurtherActionByte".

Add Configuration Parameters as:

SWS Item: ECUC_DoIP_00xxx
Name: DoIPFurtherActionByteDirect
Description: Direct C Callback function to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement. If the DoIPFurtherActionByteDirect parameter is present, the DoIP module will not use an RPort of ServiceInterface CBGetFurtherActionByte but will call the configured function.
Multiplicity 0..1
Type EcucFunctionNameDef
Default value –
maxLength –
minLength –
regularExpression
ConfigurationClass
Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME, VARIANT-POST-BUILD
Post-build time –
Scope / Dependency scope: local

No Included Containers

SWCT

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Add new chapter below 13.8.6:

13.8.6.x DoIP Service Use Case: Atomic Software-Component provides the further action byte to the DoIP Service Component.

Scenario: An AtomicSoftwareComponent provides the "further action byte" used in vehicle identification/announcement message.

[TPS_SWCT_0xxxx] DoIP Service Use Case: Atomic Software-Component provides the further action byte
ServiceNeeds kind DiagnosticComponentNeeds
ServiceNeedsKind: FurtherActionByteNeeds
RoleBasedPortAssignment valid roles:
CallbackGetFurtherActionByte[1]
RoleBasedDataAssignment
N/A
RepresentedPortGroups
N/A
c(RS_SWCT_03310, RS_SWCT_03190)

Add new subclass of DoIpServiceNeeds named FurtherActionByteNeeds. Description: The FurtherActionByteNeeds indicates that the software-component is able to provide the "further action byte" to the DoIp Service Component."
–Last change on issue 74849 comment 10–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.22 Specification Item ECUC_DoIP_00093

Trace References:

Content:

Name	DoIPFurtherActionByteDirectDoIPFurtherActionByteCallback.DoIPFurtherActionByteDirect		
Parent Container	DoIPFurtherActionByteCallback		
Description	Direct C Callback function to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement. If the DoIPFurtherActionByteDirect parameter is present, the DoIP module will not use an RPort of ServiceInterface "CBGetFurtherActionByte" but will call the configured function.		
Multiplicity	0..1		
Type	EcucFunctionNameDef		
Default value	–		
maxLength	–		
minLength	–		
regularExpression	–		
Value Configuration Class	Pre-compile time	X	VARIANT-PRE-COMPILE
	Link time	X	VARIANT-LINK-TIME, VARIANT-POST-BUILD
	Post-build time	–	
Scope / Dependency	scope: local		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74849: [DoIP] Further action code values (0x11 to 0xFF) missing

  Problem description:

  Further action code values (0x11 to 0xFF) that are defined in ISO 13400-2 missing in Autosar standard. The further action byte is used in vehicle identification/vehicle announcement.

  ISO 13400-2 mentions range (0x11 to 0xFF) of "further action byte" value in "Table 20 Definition of further action code values" for OEM specific use but this is not mentioned in Autosar standard.

  0x11 to 0xFF Available for additional OEM-specific use. optional

  Please add a configurable parameter (i.e. DoIPGetFurtherActionByteCallback) under DoIPGeneral as DoIPGeneral/DoIPGetFurtherActionByteCallback

  which should be a string literal. With lower multiplicity 0. If configured, this will be the name of the callback to get the OEM specific further action byte to be used in vehicle identification/announcement message.

Agreed solution:

1- Changes in Chapter 7:

Table 6: Vehicle identification response/vehicle announcement message payload data
Further action required should be changed to Further action or Further action byte.

7.3.2.2.4 Vehicle Identification response/vehicle announcement (payload type 0x0004)
Add [SWS_DoIP_00xxx]
The Further action byte of a vehicle identification response/vehicle announcement message shall contain the 1 Byte value retrieved by a call to the configured DoIPFurtherActionByteCallback (if configured, for the signature see <User>_DoIPGetFurtherActionByteCallback, SWS_DoIP_00xxx). If the function returns E_OK, the Further action byte shall be set to the retrieved value of FurtherActionByte. If the function returns E_NOT_OK, the Further action byte shall be set according to [SWS_DoIP_00082], [SWS_DoIP_00083] or [SWS_DoIP_00084].
(SRS_Eth_00026)

2- Changes in Chapter 8

8.1 Imported types
Add [SWS_DoIP_00xxx]
Name DoIP_FurtherActionByteType
Kind Type
Derived from uint8
Description Used to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.
Range
0x11-0xFF 0x11-0xFF Available for additional OEM-specific use
Variation –
()

8.6.3 Configurable interfaces
8.6.3.6 <User>_DoIPGetFurtherActionByteCallback
Add [SWS_DoIP_00xxx]
Service name: <User>_ DoIPGetFurtherActionByteCallback
Syntax: Std_ReturnType <User>_ DoIPGetFurtherActionByteCallback (DoIP_FurtherActionByteType* FurtherActionByte)
Service ID[hex]: 0x00
Sync/Async: Synchronous
Reentrancy: Don't care

Parameters (in): None
Parameters (inout): None
Parameters (out): FurtherActionByte
Pointer containing the information of the FurtherActionByte. Only valid if the return value equals E_OK.
Return value: Std_ReturnType
E_OK: FurtherActionByte contains valid information
E_NOT_OK: FurtherActionByte contains no valid information
Description: Callback function to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.
(SRS_Eth_00026)

8.6.4 DoIP Service Component
The DoIP Service Component shall provide the interface CallbackGetFurtherActionByte as described below to request the value of the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.

Name CallbackGetFurtherActionByte
Comment –
IsService true
Variation ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect) == NULL
Possible Errors
0 E_OK
1 E_NOT_OK

Operations
GetFurtherActionByte
Comments –
Variation –
Parameters FurtherActionByte
Comment –
Type DoIP_FurtherActionByteType
Variation –
Direction OUT
Possible Errors
E_OK Operation successful
E_NOT_OK –

The DoIP Service Component shall be equipped with a service port as described below to request the value of the Further Action Byte for DoIP diagnostic vehicle identification response/vehicle announcement.

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Add [SWS_DoIP_00xxx]
Name CBGetfurtherActionByte
Kind RequiredPort
Interface CallbackGetFurtherActionByte
Description –
Variation ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect) == NULL

3- Changes in Chapter 10

10.2.3 DoIPGeneral
Included Containers
Container Name: DoIPFurtherActionByteCallback
Multiplicity: 0..1
Scope / Dependency: This container describes the Callbackfunction to get the Further Action byte. If this container is not configured no Callbackfunction will be used.
If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetFurtherActionByte with the name "CBGetFurtherActionByte".

10.2.x DoIPFurtherActionByteCallback
SWS Item: ECUC_DoIP_000xx
Container Name: DoIPFurtherActionByteCallback
Description: This container describes the Callbackfunction to get the Further Action byte. This container shall always be present. If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetPowerMode with the name "CBGetFurtherActionByte".

Add Configuration Parameters as:

SWS Item: ECUC_DoIP_00xxx
Name: DoIPFurtherActionByteDirect
Description: Direct C Callback function to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement. If the DoIPFurtherActionByteDirect parameter is present, the DoIP module will not use an RPort of ServiceInterface CBGetFurtherActionByte but will call the configured function.
Multiplicity 0..1
Type EcucFunctionNameDef
Default value –
maxLength –
minLength –

regularExpression
ConfigurationClass
Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME, VARIANT-POST-BUILD
Post-build time –
Scope / Dependency scope: local
No Included Containers

SWCT
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Add new chapter below 13.8.6:

13.8.6.x DoIP Service Use Case: Atomic Software-Component provides the further action byte to the DoIP Service Component.

Scenario: An AtomicSoftwareComponent provides the "further action byte" used in vehicle identification/announcement message.

[TPS_SWCT_0xxxx] DoIP Service Use Case: Atomic Software-Component provides the further action byte
ServiceNeeds kind DiagnosticComponentNeeds
ServiceNeedsKind: FurtherActionByteNeeds
RoleBasedPortAssignment valid roles:
CallbackGetFurtherActionByte[1]
RoleBasedDataAssignment
N/A
RepresentedPortGroups
N/A
c(RS_SWCT_03310, RS_SWCT_03190)

Add new subclass of DoIpServiceNeeds named FurtherActionByteNeeds. Description: The FurtherActionByteNeeds indicates that the software-component is able to provide the "further action byte" to the DoIp Service Component."
–Last change on issue 74849 comment 10–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.23 Specification Item ECUC_DoIP_00094

Trace References:

Content:

Name	DoIPVehicleAnnouncementCountDoIPGeneral.DoIPVehicleAnnouncementCount		
Parent Container	DoIPGeneral		
Description	Number of vehicle announcement messages on IP address assignment. Represents parameter A_DoIP_Announce_Num of ISO 13400-2:2012.		
Multiplicity	1		
Type	EcucIntegerParamDef		
Range	1 .. 255		
Default value	–		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	–	
	Post-build time	–	
Scope / Dependency	scope: local		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74987: [DoIP] Inconsistency between SWS_DoIP_00071 and DoIPVehicleAnnouncementRepetition

  Problem description:

  SWS_DoIP_00071 says the first vehicle announcement message is send via the configured DoIPUDPConnection after DoIPInitialVehicleAnnouncementTime and repeated DoIPVehicleAnnouncementRepetition times.
  Result is the announcement message is send 1 + the configured value times.

  But from the description of DoIPVehicleAnnouncementRepetition (...represents parameter A_DoIP_Annunce_Num of ISO...), I would expect that the announcement message is send only the configured number of times.
  (ISO 13400-2:2012, A_DoIP_Announce_Num:
  This parameter specifies the number of vehicle
  announcement messages which are sent by the DoIP
  entity after a valid IP address was configured.)

Also the allowed range is currently 1 .. 255.
With SWS_DoIP_00071 this results in a minimum of 2 announcement messages. If the number of announcement messages is configurable, shouldn't it be possible to configure a minimum of 1 (equals 0 repetitions)?

I suggest changing SWS_DoIP_00071 and renaming the configuration parameter and so they reflect the ISO description.

Agreed solution:

1) ~ SWS_DoIP_00071:
If the DoIP module needs to send a vehicle announcement message because of SWS_DoIP_00003, it shall send the vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6. This message shall be sent DoIPVehicleAnnouncementCount times with a delay of DoIPVehicleAnnouncementInterval between each message. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO 13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).

2) ~ SWS_DoIP_00286: replace "DoIPVehicleAnnouncementRepetition" with "DoIPVehicleAnnouncementCount"

3) - ECUC_DoIP_00011: set to obsolete

4) + ECUC_DoIP_xxxxx:
Name: DoIPVehicleAnnouncementCount
Description: Number of vehicle announcement messages on IP address assignment. Represents parameter A_DoIP_Announce_Num of ISO 13400-2:2012.
This newly-added parameter simply replaces ECUC_DoIP_00011, which is set to obsolete with this RFC. So its position and rest all fields match ECUC_DoIP_00011 under DoIPGeneral.

5- Adapt the diagram at the end of Chapter 10.2.3 "DoIP General" to reflect these ECUC parameter changes, i.e. just replace "DoIPVehicleAnnouncementRepetition" with "DoIPVehicleAnnouncementCount"
–Last change on issue 74987 comment 20–

BW-C-Level:

Application	Specification	Bus
1	3	1

1.24 Specification Item ECUC_DoIP_00095

Trace References:

Content:

Name	DoIPRequestAddressAssignmentDoIPUdpVehicleAnnouncementConnection.DoIPRequestAddressAssignment		
Parent Container	DoIPUdpVehicleAnnouncementConnection		
Description	The DoIP module shall request IP address assignment by calling SoAd_RequestIpAddrAssignment() for the TcpIpLocalAddr related to this DoIpConnection.		
Multiplicity	1		
Type	EcucBooleanParamDef		
Default value	true		
Post-Build Variant Value	false		
Value Configuration Class	Pre-compile time	X	All Variants
	Link time	−	
	Post-build time	−	
Scope / Dependency	scope: local		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74847: [DoIP] How to configure DoIPUdpConnection with limited broadcast local IP address

    Problem description:

    according to ISO/FDIS 13400-2:2011 Vehicle Identification Request can be sent to multicast (limited broadcast). However, it is not specified in SWS how such a limited broadcast local address address can be configured for a DoIPUdpConnection.

    Since DoIP shall use SoAd_RequestIpAddrAssignment() with TCPIP_IPADDR_ASSIGNMENT_AUTOIP and TCPIP_IPADDR_ASSIGNMENT_DHCP, it is not possible to use a static local IP address.

    How shall limited broadcast local IP address be configured?
    –Last change on issue 74847 comment 2–

    Agreed solution:

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SWS DoIP
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Chapter 7 "Functional Specification"

Change [SWS_DoIP_00204] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and trigger the IP Address assignment via 2 subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr set to NULL_PTR and in the first call type set to TCPIP_IPADDR_ASSIGNMENT_LINKLOCAL_DOIP and in the second call type set to TCPIP_IPADDR_ASSIGNMENT_DHCP. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. For each of these DoIPConnections which has a DoIPRequestAddressAssignment set to true the DoIp module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and trigger the IP Address assignment via subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr and DefaultRouterPtr set to NULL_PTR, Netmask set to 0, and Type set to TCPIP_IPADDR_ASSIGNMENT_ALL. For each of these DoIPConnections (irrespective of the value of DoIPRequestAddressAssignment) the DoIP module shall open the respective connection by an according call to SoAd_OpenSoCon. (SRS_Eth_00081, SRS_Eth_00028, SRS_Eth_00026).

Remove the note after SWS_DoIP_00204.

Remove SWS_DoIP_00003

Change [SWS_DoIP_00205] from:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE, after SWS_DoIP_00003 has been performed, for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

To:

If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

Change [SWS_DoIP_00071] from:
If the DoIP module needs to send a vehicle announcement message because of SWS_DoIP_00003, it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

To:
If the DoIP module needs to send a vehicle announcement message (see SWS_DoIP_00205), it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

Change [SWS_DoIP_00234] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall retrieve all the SoConId of all the configured UDPConnection, via call to the SoAd_GetSoConId and close all the UDP sockets by calls to the
SoAd_CloseSoCon with the all the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. - For each of these DoIPConnections the DoIP module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and close

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all the connection by a call to SoAd_CloseSoCon with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

Change [SWS_DoIP_00235] from:
When all UDP sockets are closed (i.e for all the Sockets the function DoIP_SoConModeChg was called with something else than SOAD_SOCON_ONLINE), the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and release the IP
Address assignment via the call to SoAd_ReleaseIpAddrAssignment with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:
In addition to SWS_DoIP_00234, the DoIP module shall release the corresponding IP Address assignment via the call to SoAd_ReleaseIpAddrAssignment for those connections that have DoIPRequestAddressAssignment set to true. (SRS_Eth_00081, SRS_Eth_00028)

Remove the note after SWS_DoIP_00235.

Chapter 9 "Sequence Diagrams"

Adapt sequence diagrams in section 9.4 "Activation Line Handling Active" and in section 9.5 "Activation Line Handling Inactive" accordingly.

Chapter 10 "Configuration specification"

Add the following new config parameters to DoIPTcpConnection (10.2.13 DoIPTcpConnection), DoIPUdpConnection (10.2.14 DoIPUdpConnection), and DoIPUdpVehicleAnnouncementConnection (10.2.17 DoIPUdpVehicleAnnouncementConnection):

SWS Item ECUC_DoIP_xxxx1 :
Name DoIPRequestAddressAssignment
Description The DoIP module shall request IP address assignment by calling SoAd_RequestIpAddrAssignment() for the TcpIpLocalAddr related to this DoIpConnection.
Multiplicity 1
Type EcucBooleanParamDef

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Default value true
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: local

SWS TcpIp
=========

Chapter 8 "API Specification"

Extend [SWS_TCPIP_00065] by a new enumeration literal:
* TCPIP_IPADDR_ASSIGNMENT_ALL - all configured TcpIpAssignmentMethods
with TcpIpAssignmentTrigger set to TCPIP_MANUAL

Add an new specification item after [SWS_TCPIP_00080]:
[SWS_TCPIP_xxxx] In case TcpIp_RequestIpAddrAssignment() is called with
parameter Type set to TCPIP_IPADDR_ASSIGNMENT_ALL, the IP address as-
signment for the IP address table entry specified by LocalAddId shall be initiated
for all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to
TCPIP_MANUAL.
–Last change on issue 74847 comment 42–

BW-C-Level:

Application	Specification	Bus
1	3	1

1.25 Specification Item SWS_DoIP_00002

Trace References:

SRS_Eth_00081, SRS_Eth_00028

Content:

The DoIP module shall be able to maintain DoIPMaxTesterConnections configured con-
nections with the following information:

(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection

(b) Source Address (SA) as soon as the information is available for the DoIP module

(c) All Routing activation status of this socket connection

(d) Status of the SocketConnection

(f) Time since last TCP communication (Rx or Tx)

(g) Information if the connection is active or not

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

  Problem description:

  Hello,

  currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
  This can lead to problems when generating symbolic name values.

  Therefore, our proposal is to rename the PDU containers.
  For DoIPTcpConnection:
  -DoIPSoAdTcpRxPdu
  -DoIPSoAdTcpTxPdu

  For DoIPUdpConnection:
  -DoIPSoAdUdpRxPdu
  -DoIPSoAdUdpTxPdu

  Best regards
  Marc

  Agreed solution:

  ~[SWS_DoIP_00002]
  ...
  (a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
  ...

  ~[SWS_DoIP_00058]
  If a connection needs to be closed based on DoIP specific behavior the DoIP module
  shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
  the SoConId determined by a call to the function SoAd_GetSoConId with the

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according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is
not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]

If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –

Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef

Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –

Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]

Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.26   Specification Item SWS_DoIP_00003

Trace References:

SRS_Eth_00026

Content:

On successful connection establishment after step SWS_DoIP_00204 (i.e. if the API DoIP_LocalIpAddrAssignmentChg is called with TcpIp_IpAddrStateType equal to TCPIP_IPADDR_STATE_ASSIGNED) the DoIP module shall open all configured UDP Socket connections by according calls to SoAd_OpenSoCon.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74847: [DoIP] How to configure DoIPUdpConnection with limited broadcast local IP address

  Problem description:

  according to ISO/FDIS 13400-2:2011 Vehicle Identification Request can be sent to multicast (limited broadcast). However, it is not specified in SWS how such a limited broadcast local address address can be configured for a DoIPUdpConnection.

  Since   DoIP   shall   use   SoAd_RequestIpAddrAssignment() with   TCPIP_IPADDR_ASSIGNMENT_AUTOIP   and TCPIP_IPADDR_ASSIGNMENT_DHCP, it is not possible to use a static local IP address.

  How shall limited broadcast local IP address be configured?
  –Last change on issue 74847 comment 2–

Agreed solution:

SWS DoIP

========

Chapter 7 "Functional Specification"

Change [SWS_DoIP_00204] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and trigger the IP Address assignment via 2 subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr set to NULL_PTR and in the first call type set to TCPIP_IPADDR_ASSIGNMENT_LINKLOCAL_DOIP and in the second call type set to TCPIP_IPADDR_ASSIGNMENT_DHCP. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. For each of these DoIPConnections which has a DoIPRequestAddressAssignment set to true the DoIp module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and trigger the IP Address assignment via subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr and DefaultRouterPtr set to NULL_PTR, Netmask set to 0, and Type set to TCPIP_IPADDR_ASSIGNMENT_ALL. For each of these DoIPConnections (irrespective of the value of DoIPRequestAddressAssignment) the DoIP module shall open the respective connection by an according call to SoAd_OpenSoCon. (SRS_Eth_00081, SRS_Eth_00028, SRS_Eth_00026).

Remove the note after SWS_DoIP_00204.

Remove SWS_DoIP_00003

Change [SWS_DoIP_00205] from:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE, after SWS_DoIP_00003 has been performed, for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

To:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

Change [SWS_DoIP_00071] from:
If the DoIP module needs to send a vehicle announcement message because of SWS_DoIP_00003, it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

To:
If the DoIP module needs to send a vehicle announcement message (see SWS_DoIP_00205), it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

Change [SWS_DoIP_00234] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall retrieve all the SoConId of all the configured UDPConnection, via call to the SoAd_GetSoConId and close all the UDP sockets by calls to the
SoAd_CloseSoCon with the all the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnounce-

mentConnections. - For each of these DoIPConnections the DoIP module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and close all the connection by a call to SoAd_CloseSoCon with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

Change [SWS_DoIP_00235] from:

When all UDP sockets are closed (i.e for all the Sockets the function DoIP_SoConModeChg was called with something else than SOAD_SOCON_ONLINE), the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and release the IP
Address assignment via the call to SoAd_ReleaseIpAddrAssignment with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:

In addition to SWS_DoIP_00234, the DoIP module shall release the corresponding IP Address assignment via the call to SoAd_ReleaseIpAddrAssignment for those connections that have DoIPRequestAddressAssignment set to true. (SRS_Eth_00081, SRS_Eth_00028)

Remove the note after SWS_DoIP_00235.

Chapter 9 "Sequence Diagrams"

Adapt sequence diagrams in section 9.4 "Activation Line Handling Active" and in section 9.5 "Activation Line Handling Inactive" accordingly.

Chapter 10 "Configuration specification"

Add the following new config parameters to DoIPTcpConnection (10.2.13 DoIPTcpConnection), DoIPUdpConnection (10.2.14 DoIPUdpConnection), and DoIPUdpVehicleAnnouncementConnection (10.2.17 DoIPUdpVehicleAnnouncementConnection):

SWS Item ECUC_DoIP_xxxx1 :
Name DoIPRequestAddressAssignment
Description The DoIP module shall request IP address assignment by calling SoAd_RequestIpAddrAssignment() for the TcpIpLocalAddr related to this DoIpConnection.

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Multiplicity 1
Type EcucBooleanParamDef
Default value true
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: local

SWS TcpIp
=========

Chapter 8 "API Specification"

Extend [SWS_TCPIP_00065] by a new enumeration literal:
* TCPIP_IPADDR_ASSIGNMENT_ALL - all configured TcpIpAssignmentMethods
with TcpIpAssignmentTrigger set to TCPIP_MANUAL

Add an new specification item after [SWS_TCPIP_00080]:
[SWS_TCPIP_xxxx] In case TcpIp_RequestIpAddrAssignment() is called with
parameter Type set to TCPIP_IPADDR_ASSIGNMENT_ALL, the IP address as-
signment for the IP address table entry specified by LocalAddId shall be initiated
for all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to
TCPIP_MANUAL.
–Last change on issue 74847 comment 42–

BW-C-Level:

Application	Specification	Bus
1	3	1

1.27 Specification Item SWS_DoIP_00031

Trace References:

SRS_Eth_00024

Content:

Service name:	DoIP_SoAdTpCopyTxDataDoIP_SoAdTpCopyTxData

Document ID 695: ChangeDocumentation

Syntax:	BufReq_ReturnType DoIP_SoAdTpCopyTxData(PduIdType id, const PduInfoType* info, const RetryInfoType* retry, PduLengthType* availableDataPtr)	
Service ID[hex]:	0x43	
Sync/Async:	Synchronous	
Reentrancy:	Reentrant	
Parameters (in):	idDoIP_SoAdTpCopyTxData.id	Identification of the transmitted I-PDU.
	infoDoIP_SoAdTpCopyTxData.info	Provides the destination buffer (SduData Ptr) and the number of bytes to be copied (SduLength). If not enough transmit data is available, no data is copied by the upper layer module and BUFREQ_E_BUSY is returned. The lower layer module may retry the call. An SduLength of 0 can be used to indicate state changes in the retry parameter or to query the current amount of available data in the upper layer module. In this case, the SduDataPtr may be a NULL_PTR.
	retryDoIP_SoAdTpCopyTxData.retry	This parameter is used to acknowledge transmitted data or to retransmit data after transmission problems. If the retry parameter is a NULL_PTR, it indicates that the transmit data can be removed from the buffer immediately after it has been copied. Otherwise, the retry parameter must point to a valid RetryInfo Type element. If TpDataState indicates TP_CONFPENDING, the previously copied data must remain in the TP buffer to be available for error recovery. TP_DATACONF indicates that all data that has been copied before this call is confirmed and can be removed from the TP buffer. Data copied by this API call is excluded and will be confirmed later. TP_DATARETRY indicates that this API call shall copy previously copied data in order to recover from an error. In this case TxTpDataCnt specifies the offset in bytes from the current data copy position.
Parameters (inout):	None	
Parameters (out):	availableDataPtrDoIP_SoAdTpCopyTx Data.availableDataPtr	Indicates the remaining number of bytes that are available in the upper layer module's Tx buffer. availableDataPtr can be used by TP modules that support dynamic payload lengths (e.g. FrIsoTp) to determine the size of the following CFs.

Return value:	BufReq_ReturnType	BUFREQ_OK: Data has been copied to the transmit buffer completely as requested. BUFREQ_E_BUSY: Request could not be fulfilled, because the required amount of Tx data is not available. The lower layer module may retry this call later on. No data has been copied. BUFREQ_E_NOT_OK: Data has not been copied. Request failed.
Description:		This function is called to acquire the transmit data of an I-PDU segment (N-PDU). Each call to this function provides the next part of the I-PDU data unless retry->Tp DataState is TP_DATARETRY. In this case the function restarts to copy the data beginning at the offset from the current position indicated by retry->TxTpDataCnt. The size of the remaining data is written to the position indicated by availableDataPtr.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #68035: [diverse] Introduce rules defining which input parameters shall be passed per value and which ones per const reference

  Problem description:

  SWS_BSW_00186 especially states that input pointer parameters shall use the const qualifier (i.e., shall be P2CONST).

  In addition to that there shall be a SWS item that states that input parameters of integral and enum type shall be passed by value whereas input parameters of structure type shall be passed by reference.

  The various transformer SWS documents shall be adapted accordingly.
  –Last change on issue 68035 comment 4–

  Agreed solution:

  BSW UML model
  ————-

  The attachment "Changed Proposal in WP-A meeting" contains a list of changes to the APIs in the model (see column H). Afterwards all related documents (included in impact list) shall update their
  generated artifacts.

  General Requirements on Basic Software Modules
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  Introduce the following requirements prior to SRS_BSW_00371:

SRS_BSW_xxxxx: Input parameters of scalar and enum types shall be passed as a value.

Type: valid

Description: All input parameters of scalar or enum type shall be passed as a value.

Rationale:

Use case: For example a function named <Mip>_SomeFunction with a return type of Std_ReturnType and a single parameter named SomeParameter of type uint8 is defined with the following signature:

Std_ReturnType <Mip>_SomeFunction(uint8 SomeParameter);

Dependencies: –

Supporting Material: —

SRS_BSW_yyyyy: Input parameters of structure type shall be passed as a reference to a constant structure

Type: valid

Description: All input parameters of structure type shall be passed as a reference constant structure

Rationale: Passing input parameters of structure type by value would result in additional run-time overhead due to efforts for copying the whole structure.

Use case: For example a function named <Mip>_SomeFunction with a return type of Std_ReturnType and a single parameter named SomeParameter of type SomeStructure (where SomeStructure is a struct) is defined with the following signature:

Std_ReturnType <Mip>_SomeFunction(P2CONST(SomeStructure, AUTOMATIC, <MIP>_APPL_DATA) SomeParameter);

Dependencies: –

Supporting Material: —

SRS_BSW_zzzzz: Input parameters of array type shall be passed as a reference to the constant array base type

Type: valid

Description: All input parameters of array type shall be passed as a reference to the constant array base type

Rationale: This effectively matches the behavior specified in the ISO-C:90 namely that a "declaration of a parameter as 'array of type' shall be adjusted to 'qualified pointer to

type'".

Use case: For example a function named <Mip>_SomeFunction with a return type of Std_ReturnType and a single parameter named SomeParameter of type array of uint8 is defined with the following signature:

Std_ReturnType   <Mip>_SomeFunction(P2CONST(uint8,   AUTOMATIC, <MIP>_APPL_DATA) SomeParameter);
Dependencies: –
Supporting Material: —

General Specification of Transformers
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

In SWS_Xfrm_00036 change

const <type>* dataElement

to

<paramtype> dataElement

and add the following to the where clause after the API table after the bullet "type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy, and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and SWS_BSW_00187).

In SWS_Xfrm_00038 change

[<type> data_1,] ...
[<type> data_n]

to

[<paramtype> data_1,] ...
[<paramtype> data_n]

and add the following to the where clause after the API table after the bullet "type is data type of the data element

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"

<paramtype> is derived from <type> according to the parameter passing rules rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy, and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and SWS_BSW_00187).

The following paragraph shall then be removed:

For the arguments of ClientServerOperation which are handed over to the transformer as data_1, ..., data_n the requirements to API parameters stated in chapter API Parameters of [5, SWS RTE] are valid (especially [SWS_Rte_01017], [SWS_Rte_01018] and [SWS_Rte_05107]).

In SWS_Xfrm_00040 change

[<originalData1>, ...
<originalDataN>]

to

[<paramtype> originalData1,] ...
[<paramtype> originalDataN]

and add the following to the where clause after the API table after the bullet "type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy, and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and SWS_BSW_00187).

In SWS_Xfrm_00044 change

<type> *data_1, ...
<type> *data_n

to

[<paramtype> data_1,] ...
[<paramtype> data_n]

and add the following to the where clause after the API table after the bullet
"type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules
rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy,
and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and
SWS_BSW_00187).

The following paragraph shall then be removed:

For the arguments of ClientServerOperation which are handed over to the
transformer as data_1, ..., data_n the requirements to API parameters stated in
chapter API Parameters of [5, SWS RTE] are valid (especially [SWS_Rte_01017],
[SWS_Rte_01018] and [SWS_Rte_05107]).

Speci?cation of SOME/IP Transformer
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

In SWS_SomeIpXf_00138 change

const <type>* dataElement

to

<paramtype> dataElement

and add the following to the where clause after the API table after the bullet
"type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules
rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy,
and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and
SWS_BSW_00187).

In SWS_SomeIpXf_00141 change

[<type> data_1,] ...
[<type> data_n]

to

[<paramtype> data_1,] ...
[<paramtype> data_n]

and add the following to the where clause after the API table after the bullet
"type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules
rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy,
and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and
SWS_BSW_00187).

The following paragraph shall then be removed:

For the arguments of ClientServerOperation which are handed over to the
transformer as data_1, ..., data_n the requirements to API parameters stated in
chapter API Parameters of [5, SWS RTE] are valid (especially [SWS_Rte_01017],
[SWS_Rte_01018] and [SWS_Rte_05107]).

In SWS_SomeIpXf_00145 change

<type> *data_1, ...
<type> *data_n

to

[<paramtype> data_1,] ...
[<paramtype> data_n]

and add the following to the where clause after the API table after the bullet
"type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules
rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy,

and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and SWS_BSW_00187).

The following paragraph shall then be removed:

For the arguments of ClientServerOperation which are handed over to the transformer as data_1, ..., data_n the requirements to API parameters stated in chapter API Parameters of [5, SWS RTE] are valid (especially [SWS_Rte_01017], [SWS_Rte_01018] and [SWS_Rte_05107]).

Specification of COM Based Transformer
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

In SWS_ComXf_00007 change

const <type>* dataElement

to

<paramtype> dataElement

and add the following to the where clause after the API table after the bullet
"type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy, and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and SWS_BSW_00187).

Specification of Time Sync over Ethernet
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

In SWS_EthTSyn_00040 make the parameter DataPtr of EthTSyn_RxIndication const.

Specification of SWS FlexRay Interface

Document ID 695: ChangeDocumentation

~~~~~~

Change SWS_FrIf_05073 from
FrIf_NumOfStartupFramesPtr (IN)
to
FrIf_NumOfStartupFramesPtr (OUT)

Specification of ADC
~~~~~~
~[SWS_Adc_00419] Adc_SetupResultBuffer: change Adc_ValueGroupType* to const Adc_ValueGroupType*
~[SWS_Adc_00369] Adc_ReadGroup: move Adc_ValueGroupType * from Parameters (in) to Parameters (out)

There is no need to change parameter from IN to INOUT in Adc_SetupResultBuffer

Specification of Com
~~~~~~
Change type of parameter MetaData of Com_TriggerIPDUSendWithMetaData from uint8* to const uint8*

Specification of ComM
~~~~~~
no change required

Specification of Dem
~~~~~~
no change required

Specification of DLT
~~~~~~
no change required

Specification of DoIP
~~~~~~
From:
Std_ReturnType <User>_DoIPRoutingActivationConfirmation(boolean* Confirmed,

uint8* ConfirmationReqData, uint8* ConfirmationResData)
Std_ReturnType <User>_DoIPRoutingActivationAuthentication(boolean* Authenti-fied, uint8* AuthenticationReqData, uint8* AuthenticationResData)

To:
Std_ReturnType <User>_DoIPRoutingActivationConfirmation(boolean* Confirmed, const uint8* ConfirmationReqData, uint8* ConfirmationResData)
Std_ReturnType <User>_DoIPRoutingActivationAuthentication(boolean* Authenti-fied, const uint8* AuthenticationReqData, uint8* AuthenticationResData)

Specification of E2ELibrary
~~~~~~
no change required

Specification of Eth
~~~~~~
no change required

Specification of EthIf
~~~~~~
no change required

Specification of EthSwitchDriver
~~~~~~
no change required

Specification of ICUDriver
~~~~~~
SWS_Icu_00201: Icu_StartTimestamp
Parameter (IN): Icu_ValueType* BufferPtr shall be changed to Parameters (out) type

Specification of LdCom
~~~~~~
[SWS_LDCOM_00027]: LdCom_CopyTxData
BufReq_ReturnType LdCom_CopyTxData(PduIdType id, const PduInfoType* info, RetryInfoType* retry, PduLengthType* availableDataPtr) shall be changed to
BufReq_ReturnType LdCom_CopyTxData(PduIdType id, const PduInfoType* info,

const RetryInfoType* retry, PduLengthType* availableDataPtr)

[SWS_LDCOM_00036]: Rte_LdComCbkCopyTxData_<sn>
BufReq_ReturnType Rte_LdComCbkCopyTxData_<sn>(const PduInfoType* info,
RetryInfoType* retry, PduLengthType* availableDataPtr) shall be changed to
BufReq_ReturnType Rte_LdComCbkCopyTxData_<sn>(const PduInfoType* info,
const RetryInfoType* retry, PduLengthType* availableDataPtr)

Specification of Lin
~~~~~~
PduInfoPtr needs to be const in Std_ReturnType Lin_SendFrame(uint8 Channel,
const Lin_PduType* PduInfoPtr)

Specification of PduR
~~~~~~
* PduR_<User:LoTp>CopyTxData
add const to "RetryInfoType* retry"

Specification of J1939Nm
~~~~~~
Change parameter 'name' of User_AddressClaimedIndication to type 'const uint8*'

Specification of SoAd
~~~~~~
=> everything already fixed with RfC 65633

Specification of SPIHandlerDriver
~~~~~~
==> nothing to change for SWS SPI

Specification of SynchronizedTimeBaseManager
~~~~~~
"StbM not affected. All issues listed in the WP-A attachment have been already
implemented by IT 69124 in context of RfC 65633"

Specification of TcpIp

~~~~~~
~[SWS_TCPIP_00040] TcpIp_DhcpReadOption: change DataPtr from (IN) to (OUT)
~[SWS_TCPIP_00189] TcpIp_DhcpV6ReadOption: change DataPtr from (IN) to (OUT)
=> everything else already fixed with RfC 65633

Specification of TimeSyncOverFlexRay
~~~~~~
"Change SWS_FrTSyn_00064: parameter versioninfo of type Std_VersionInfoType* is marked wrongly as IN. Change to OUT"

Specification of EFX
~~~~~~~~~~~~~~~~~~~~~~
~ [SWS_Efx_00355] Efx_Debounce_u8_u8: Include constant for pointer Input-parameter as like below.
uint8 Efx_Debounce_u8_u8(boolean X, Efx_DebounceState_Type * State, const Efx_DebounceParam_Type * Param, sint32 dT)

~ [SWS_Efx_00376] Efx_MedianSort: The parameter <InType>* Array should be InOut instead of In parameter as like below.
Parameters (in): N Size of an array
Parameters (inout): Array Pointer to an array

~ [SWS_Efx_00309] Efx_RampCheckActivity: Include constant for pointer Input-parameter as like below.
boolean Efx_RampCheckActivity(const Efx_StateRamp_Type* State_cpst)

~ [SWS_Efx_00307] Efx_RampGetSwitchPos: Include constant for pointer Input-parameter as like below.
boolean Efx_RampGetSwitchPos(const Efx_StateRamp_Type* State_cpst)

~ [SWS_Efx_00193] Efx_Array_Average: Include constant for pointer Input-parameter as like below.
<OutType> Efx_Array_Average_<InTypeMn>_<OutTypeMn>(const <InType>* Array, uint16 Count)

Specification of MFL
~~~~~~~~~~~~~~~~~~~~~~
~ [SWS_Mfl_00192] Mfl_Debounce_u8_u8: Include constant for pointer Input-

parameter as like below.
boolean Mfl_Debounce_u8_u8(boolean X, Mfl_DebounceState_Type* State, const Mfl_DebounceParam_Type* Param, float32 dT)

~ [SWS_Mfl_00266] Mfl_DebounceInit: The parameter Mfl_DebounceState_Type* State should be Out instead of In parameter as like below.
Parameters (in): X Initial value for the input state
Parameters (out): State Pointer to structure for debouncing state variables

~ [SWS_Mfl_00246] Mfl_HystDeltaRight_f32_u8: Include constant for pointer Input-parameter as like below.
boolean Mfl_HystDeltaRight_f32_u8(float32 X, float32 Delta, float32 Rsp, const uint8* State)

~ [SWS_Mfl_00285] Mfl_MedianSort_f32_f32: The parameter Array should be InOut instead of In parameter as like below.
Parameters (in): N Size of an array
Parameters (inout): Array Pointer to an array

~ [SWS_Mfl_00037] Mfl_PT1SetState: The parameter State_cpst should be Out instead of In parameter as like below.
Parameters (in): X1_f32 Initial value for input state
Y1_f32 Initial value for output state
Parameters (out): State_cpst Pointer to internal state structure

~ [SWS_Mfl_00225] Mfl_RampCheckActivity: Include constant for pointer Input-parameter as like below.
boolean Mfl_RampCheckActivity(const Mfl_StateRamp_Type* State_cpst)

~ [SWS_Mfl_00223] Mfl_RampGetSwitchPos: Include constant for pointer Input-parameter as like below.
boolean Mfl_RampGetSwitchPos(const Mfl_StateRamp_Type* State_cpst)
–Last change on issue 68035 comment 135–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.28   Specification Item SWS_DoIP_00033

Trace References:

SRS_Eth_00024

Content:

Service name:	DoIP_SoAdTpCopyRxDataDoIP_SoAdTpCopyRxData	
Syntax:	BufReq_ReturnType DoIP_SoAdTpCopyRxData(PduIdType id, const PduInfoType* info, PduLengthType* bufferSizePtr)	
Service ID[hex]:	0x44	
Sync/Async:	Synchronous	
Reentrancy:	Reentrant	
Parameters (in):	idDoIP_SoAdTpCopyRxData.id	Identification of the received I-PDU.
	infoDoIP_SoAdTpCopyRxData.info	Provides the source buffer (SduDataPtr) and the number of bytes to be copied (SduLength). An SduLength of 0 can be used to query the current amount of available buffer in the upper layer module. In this case, the SduDataPtr may be a NULL_PTR.
Parameters (inout):	None	
Parameters (out):	bufferSizePtrDoIP_SoAdTpCopyRx Data.bufferSizePtr	Available receive buffer after data has been copied.
Return value:	BufReq_ReturnType	BUFREQ_OK: Data copied successfully BUFREQ_E_NOT_OK: Data was not copied because an error occurred.
Description:	This function is called to provide the received data of an I-PDU segment (N-PDU) to the upper layer. Each call to this function provides the next part of the I-PDU data. The size of the remaining data buffer is written to the position indicated by bufferSize Ptr.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77935: [PduR] Misleading description of CopyRxData

  Problem description:

  _____

  Name: Martin Schlodder
  Role: Member of WP-A2
  _____

  Description/Motivation:

  The description of the CopyRxData API says: "The size of the remaining data is written to the position indicated by bufferSizePtr."

  This text seems to have been copied from the CopyTxData call, where it is correct. CopyRxData should talk about "remaining buffer", not "remaining data".

Agreed solution:

In the description of the API PduR_<User:LoTp>CopyRxData (SWS_PduR_00512), replace "remaining data" by "remaining buffer".

BW-C-Level:

Application	Specification	Bus
1	1	1

1.29   Specification Item SWS_DoIP_00036

Trace References:

Content:

If default development error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call
DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId

Description The DoIPSoAdTcpTxPduId is required by the API call DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu

Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call
DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1

Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

- RfC #73570: No "default error" in AUTOSAR

Problem description:

The DET was renamed from development error tracer to default error tracer.

This change was most of the time done automatically and unfortunately renamed "developement error" to "default error".

"default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors

- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"

Document ID 695: ChangeDocumentation

Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.30   Specification Item SWS_DoIP_00044

Trace References:

Content:

API function	Description
Dcm_GetVin	Function to get the VIN (as defined in SAE J1979-DA)

API function	Description
PduR_DoIPTpCopyRxData	This function is called to provide the received data of an I-PDU segment (N-PDU) to the upper layer. Each call to this function provides the next part of the I-PDU data. The size of the remaining data buffer is written to the position indicated by bufferSizePtr.
PduR_DoIPTpCopyTxData	This function is called to acquire the transmit data of an I-PDU segment (N-PDU). Each call to this function provides the next part of the I-PDU data unless retry->TpDataState is TP_DATARETRY. In this case the function restarts to copy the data beginning at the offset from the current position indicated by retry->TxTpData Cnt. The size of the remaining data is written to the position indicated by availableDataPtr.
PduR_DoIPTpRxIndication	Called after an I-PDU has been received via the TP API, the result indicates whether the transmission was successful or not.
PduR_DoIPTpStartOfReception	This function is called at the start of receiving an N-SDU. The N-SDU might be fragmented into multiple N-PDUs (FF with one or more following CFs) or might consist of a single N-PDU (SF). The service shall provide the currently available maximum buffer size when invoked with TpSduLength equal to 0.
PduR_DoIPTpTxConfirmation	This function is called after the I-PDU has been transmitted on its network, the result indicates whether the transmission was successful or not.
SoAd_CloseSoCon	This service closes the socket connection specified by SoCon Id.
SoAd_GetLocalAddr	Retrieves the local address (IP address and port) actually used for the SoAd socket connection specified by SoConId, the netmask and default router
SoAd_GetPhysAddr	Retrieves the physical source address of the EthIf controller used by the SoAd socket connection specified by SoConId.
SoAd_GetRemoteAddr	Retrieves the remote address (IP address and port) actually used for the SoAd socket connection specified by SoConId
SoAd_GetSoConId	Returns socket connection index related to the specified Tx PduId.
SoAd_IfTransmit	Requests transmission of a PDU.
SoAd_OpenSoCon	This service opens the socket connection specified by SoCon Id.
SoAd_ReadDhcpHostNameOption	By this API service an upper layer of the SoAd can read the currently configured hostname, i.e. FQDN option in the DHCP submodule of the TCP/IP stack.
SoAd_ReleaseIpAddrAssignment	By this API service the local IP address assignment used for the socket connection specified by SoConId is released.
SoAd_RequestIpAddrAssignment	By this API service the local IP address assignment which shall be used for the socket connection specified by SoConId is initiated.
SoAd_SetRemoteAddr	By this API service the remote address (IP address and port) of the specified socket connection shall be set.
SoAd_SetUniqueRemoteAddr	This API service shall either return the socket connection index of the SoAdSocketConnectionGroup where the specified remote address (IP address and port) is set or assign the remote address to an unused socket connection from the same SoAdSocketConnectionGroup.
SoAd_TpCancelReceive	Requests cancellation of an ongoing reception of a PDU in a lower layer transport protocol module.

API function	Description
SoAd_TpCancelTransmit	Requests cancellation of an ongoing transmission of a PDU in a lower layer communication module.
SoAd_TpTransmit	Requests transmission of a PDU.
SoAd_WriteDhcpHostNameOption	By this API service an upper layer of the SoAd can set the hostname, i.e. FQDN option in the DHCP submodule of the TCP/IP stack.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #77935: [PduR] Misleading description of CopyRxData

Problem description:

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Name: Martin Schlodder
Role: Member of WP-A2

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Description/Motivation:

The description of the CopyRxData API says: "The size of the remaining data is written to the position indicated by bufferSizePtr."

This text seems to have been copied from the CopyTxData call, where it is correct. CopyRxData should talk about "remaining buffer", not "remaining data".

Agreed solution:

In the description of the API PduR_<User:LoTp>CopyRxData (SWS_PduR_00512), replace "remaining data" by "remaining buffer".

BW-C-Level:

Application	Specification	Bus
1	1	1

1.31   Specification Item SWS_DoIP_00048

Trace References:

SRS_Eth_00084

Content:

Service name:	<User>_DoIPRoutingActivationConfirmationDoIPRoutingActivationConfirmation

Syntax:	Std_ReturnType <User>_DoIPRoutingActivationConfirmation(boolean* Confirmed, const uint8* ConfirmationReqData, uint8* ConfirmationResData)	
Service ID[hex]:	0x00	
Sync/Async:	Synchronous/Asynchronous	
Reentrancy:	Don't care	
Parameters (in):	ConfirmationReqDataDoIPRouting ActivationConfirmation.ConfirmationReq Data	Pointer to OEM specific bytes for Routing activation request. Only needed if DoIPRoutingActivationConfirmation ReqLength is not 0.
Parameters (inout):	None	
Parameters (out):	ConfirmedDoIPRoutingActivation Confirmation.Confirmed	Pointer containing the information if Confirmation was successful (TRUE) or not (FALSE). Only valid if the return value equals E_OK.
	ConfirmationResDataDoIPRouting ActivationConfirmation.ConfirmationRes Data	Pointer to OEM specific bytes for Response on Routing activation. Only needed if DoIPRoutingActivation ConfirmationResLength if not 0. Contains valid data if function return with E_OK.
Return value:	Std_ReturnType	E_OK: Confirmed and ConfirmationRes Data contain valid Data. DOIP_E_PENDING: Confirmation still running. Call next DoIP_MainFunction cycle again. E_NOT_OK: Confirmed and/or ConfirmationResData do not contain valid information.
Description:	Callback function to get the confirmation for the Routing Activation.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #68035: [diverse] Introduce rules defining which input parameters shall be passed per value and which ones per const reference

  Problem description:

  SWS_BSW_00186 especially states that input pointer parameters shall use the const qualifier (i.e., shall be P2CONST).

  In addition to that there shall be a SWS item that states that input parameters of integral and enum type shall be passed by value whereas input parameters of structure type shall be passed by reference.

  The various transformer SWS documents shall be adapted accordingly.
  –Last change on issue 68035 comment 4–

Agreed solution:

BSW UML model

————-

The attachment "Changed Proposal in WP-A meeting" contains a list of changes to the APIs in the model (see column H). Afterwards all related documents (included in impact list) shall update their
generated artifacts.

General Requirements on Basic Software Modules
~~~~~~

Introduce the following requirements prior to SRS_BSW_00371:

SRS_BSW_xxxxx: Input parameters of scalar and enum types shall be passed as a value.
Type: valid
Description: All input parameters of scalar or enum type shall be passed as a value.
Rationale:

Use case: For example a function named <Mip>_SomeFunction with a return type of Std_ReturnType and a single parameter named SomeParameter of type uint8 is defined with the following signature:

Std_ReturnType <Mip>_SomeFunction(uint8 SomeParameter);
Dependencies: –
Supporting Material: —

SRS_BSW_yyyyy: Input parameters of structure type shall be passed as a reference to a constant structure
Type: valid
Description: All input parameters of structure type shall be passed as a reference constant structure
Rationale: Passing input parameters of structure type by value would result in additional run-time overhead due to efforts for copying the whole structure.
Use case: For example a function named <Mip>_SomeFunction with a return type of Std_ReturnType and a single parameter named SomeParameter of type SomeStructure (where SomeStructure is a struct) is defined with the following signature:

Std_ReturnType <Mip>_SomeFunction(P2CONST(SomeStructure, AUTOMATIC,

<MIP>_APPL_DATA) SomeParameter);
Dependencies: –
Supporting Material: —

SRS_BSW_zzzzz: Input parameters of array type shall be passed as a reference to the constant array base type
Type: valid
Description: All input parameters of array type shall be passed as a reference to the constant array base type
Rationale: This effectively matches the behavior specified in the ISO-C:90 namely that a "declaration of a parameter as 'array of type' shall be adjusted to 'qualified pointer to
type'".
Use case: For example a function named <Mip>_SomeFunction with a return type of Std_ReturnType and a single parameter named SomeParameter of type array of uint8 is defined with the following signature:

Std_ReturnType   <Mip>_SomeFunction(P2CONST(uint8,   AUTOMATIC, <MIP>_APPL_DATA) SomeParameter);
Dependencies: –
Supporting Material: —

General Specification of Transformers
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

In SWS_Xfrm_00036 change

const <type>* dataElement

to

<paramtype> dataElement

and add the following to the where clause after the API table after the bullet "type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy, and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and SWS_BSW_00187).

In SWS_Xfrm_00038 change

[<type> data_1,] ...
[<type> data_n]

to

[<paramtype> data_1,] ...
[<paramtype> data_n]

and add the following to the where clause after the API table after the bullet
"type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules
rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy,
and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and
SWS_BSW_00187).

The following paragraph shall then be removed:

For the arguments of ClientServerOperation which are handed over to the
transformer as data_1, ..., data_n the requirements to API parameters stated in
chapter API Parameters of [5, SWS RTE] are valid (especially [SWS_Rte_01017],
[SWS_Rte_01018] and [SWS_Rte_05107]).

In SWS_Xfrm_00040 change

[<originalData1>, ...
<originalDataN>]

to

[<paramtype> originalData1,] ...
[<paramtype> originalDataN]

and add the following to the where clause after the API table after the bullet
"type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy, and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and SWS_BSW_00187).

In SWS_Xfrm_00044 change

<type> *data_1, ...
<type> *data_n

to

[<paramtype> data_1,] ...
[<paramtype> data_n]

and add the following to the where clause after the API table after the bullet "type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy, and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and SWS_BSW_00187).

The following paragraph shall then be removed:

For the arguments of ClientServerOperation which are handed over to the transformer as data_1, ..., data_n the requirements to API parameters stated in chapter API Parameters of [5, SWS RTE] are valid (especially [SWS_Rte_01017], [SWS_Rte_01018] and [SWS_Rte_05107]).

Speci?cation of SOME/IP Transformer
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

In SWS_SomeIpXf_00138 change

const <type>* dataElement

to

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<paramtype> dataElement

and add the following to the where clause after the API table after the bullet "type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy, and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and SWS_BSW_00187).

In SWS_SomeIpXf_00141 change

[<type> data_1,] ...
[<type> data_n]

to

[<paramtype> data_1,] ...
[<paramtype> data_n]

and add the following to the where clause after the API table after the bullet "type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy, and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and SWS_BSW_00187).

The following paragraph shall then be removed:

For the arguments of ClientServerOperation which are handed over to the transformer as data_1, ..., data_n the requirements to API parameters stated in chapter API Parameters of [5, SWS RTE] are valid (especially [SWS_Rte_01017], [SWS_Rte_01018] and [SWS_Rte_05107]).

In SWS_SomeIpXf_00145 change

<type> *data_1, ...
<type> *data_n

to

[<paramtype> data_1,] ...
[<paramtype> data_n]

and add the following to the where clause after the API table after the bullet
"type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules
rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy,
and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and
SWS_BSW_00187).

The following paragraph shall then be removed:

For the arguments of ClientServerOperation which are handed over to the
transformer as data_1, ..., data_n the requirements to API parameters stated in
chapter API Parameters of [5, SWS RTE] are valid (especially [SWS_Rte_01017],
[SWS_Rte_01018] and [SWS_Rte_05107]).

Specification of COM Based Transformer
~~~~~~

In SWS_ComXf_00007 change

const <type>* dataElement

to

<paramtype> dataElement

and add the following to the where clause after the API table after the bullet
"type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules
rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy,

and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and SWS_BSW_00187).

Specification of Time Sync over Ethernet
~~~~~~

In SWS_EthTSyn_00040 make the parameter DataPtr of EthTSyn_RxIndication const.

Specification of SWS FlexRay Interface
~~~~~~

Change SWS_FrIf_05073 from
FrIf_NumOfStartupFramesPtr (IN)
to
FrIf_NumOfStartupFramesPtr (OUT)

Specification of ADC
~~~~~~

~[SWS_Adc_00419] Adc_SetupResultBuffer: change Adc_ValueGroupType* to const Adc_ValueGroupType*
~[SWS_Adc_00369] Adc_ReadGroup: move Adc_ValueGroupType * from Parameters (in) to Parameters (out)

There is no need to change parameter from IN to INOUT in Adc_SetupResultBuffer

Specification of Com
~~~~~~

Change type of parameter MetaData of Com_TriggerIPDUSendWithMetaData from uint8* to const uint8*

Specification of ComM
~~~~~~

no change required

Specification of Dem

~~~~~~

no change required

Specification of DLT

~~~~~~

no change required

Specification of DoIP

~~~~~~

From:
Std_ReturnType <User>_DoIPRoutingActivationConfirmation(boolean* Confirmed, uint8* ConfirmationReqData, uint8* ConfirmationResData)
Std_ReturnType <User>_DoIPRoutingActivationAuthentication(boolean* Authentified, uint8* AuthenticationReqData, uint8* AuthenticationResData)

To:
Std_ReturnType <User>_DoIPRoutingActivationConfirmation(boolean* Confirmed, const uint8* ConfirmationReqData, uint8* ConfirmationResData)
Std_ReturnType <User>_DoIPRoutingActivationAuthentication(boolean* Authentified, const uint8* AuthenticationReqData, uint8* AuthenticationResData)

Specification of E2ELibrary

~~~~~~

no change required

Specification of Eth

~~~~~~

no change required

Specification of EthIf

~~~~~~

no change required

Specification of EthSwitchDriver

~~~~~~

no change required

Specification of ICUDriver

~~~~~~

SWS_Icu_00201: Icu_StartTimestamp

Parameter (IN): Icu_ValueType* BufferPtr shall be changed to Parameters (out) type

Specification of LdCom

~~~~~~

[SWS_LDCOM_00027]: LdCom_CopyTxData

BufReq_ReturnType LdCom_CopyTxData(PduIdType id, const PduInfoType* info,
RetryInfoType* retry, PduLengthType* availableDataPtr) shall be changed to
BufReq_ReturnType LdCom_CopyTxData(PduIdType id, const PduInfoType* info,
const RetryInfoType* retry, PduLengthType* availableDataPtr)

[SWS_LDCOM_00036]: Rte_LdComCbkCopyTxData_<sn>

BufReq_ReturnType Rte_LdComCbkCopyTxData_<sn>(const PduInfoType* info,
RetryInfoType* retry, PduLengthType* availableDataPtr) shall be changed to
BufReq_ReturnType Rte_LdComCbkCopyTxData_<sn>(const PduInfoType* info,
const RetryInfoType* retry, PduLengthType* availableDataPtr)

Specification of Lin

~~~~~~

PduInfoPtr needs to be const in Std_ReturnType Lin_SendFrame(uint8 Channel,
const Lin_PduType* PduInfoPtr)

Specification of PduR

~~~~~~

* PduR_<User:LoTp>CopyTxData
add const to "RetryInfoType* retry"

Specification of J1939Nm

~~~~~~

Change parameter 'name' of User_AddressClaimedIndication to type 'const uint8*'

Specification of SoAd

~~~~~~

=> everything already fixed with RfC 65633

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Specification of SPIHandlerDriver

~~~~~~

==> nothing to change for SWS SPI

Specification of SynchronizedTimeBaseManager

~~~~~~

"StbM not affected. All issues listed in the WP-A attachment have been already implemented by IT 69124 in context of RfC 65633"

Specification of TcpIp

~~~~~~

~[SWS_TCPIP_00040] TcpIp_DhcpReadOption: change DataPtr from (IN) to (OUT)

~[SWS_TCPIP_00189] TcpIp_DhcpV6ReadOption: change DataPtr from (IN) to (OUT)

=> everything else already fixed with RfC 65633

Specification of TimeSyncOverFlexRay

~~~~~~

"Change SWS_FrTSyn_00064: parameter versioninfo of type Std_VersionInfoType* is marked wrongly as IN. Change to OUT"

Specification of EFX

~~~~~~~~~~~~~~~~~~~~~~~

~ [SWS_Efx_00355] Efx_Debounce_u8_u8: Include constant for pointer Input-parameter as like below.

uint8 Efx_Debounce_u8_u8(boolean X, Efx_DebounceState_Type * State, const Efx_DebounceParam_Type * Param, sint32 dT)

~ [SWS_Efx_00376] Efx_MedianSort: The parameter <InType>* Array should be InOut instead of In parameter as like below.

Parameters (in): N Size of an array

Parameters (inout): Array Pointer to an array

~ [SWS_Efx_00309] Efx_RampCheckActivity: Include constant for pointer Input-parameter as like below.

boolean Efx_RampCheckActivity(const Efx_StateRamp_Type* State_cpst)

~ [SWS_Efx_00307] Efx_RampGetSwitchPos: Include   constant   for   pointer
Input-parameter as like below.
boolean Efx_RampGetSwitchPos(const Efx_StateRamp_Type* State_cpst)

~ [SWS_Efx_00193] Efx_Array_Average: Include   constant   for   pointer   Input-
parameter as like below.
<OutType>   Efx_Array_Average_<InTypeMn>_<OutTypeMn>(const   <InType>*
Array, uint16 Count)

Specification of MFL
~~~~~~~~~~~~~~~~~~~~~
~ [SWS_Mfl_00192] Mfl_Debounce_u8_u8:   Include   constant   for   pointer   Input-
parameter as like below.
boolean Mfl_Debounce_u8_u8(boolean X, Mfl_DebounceState_Type* State, const
Mfl_DebounceParam_Type* Param, float32 dT)

~ [SWS_Mfl_00266] Mfl_DebounceInit: The parameter Mfl_DebounceState_Type*
State should be Out instead of In parameter as like below.
Parameters (in): X Initial value for the input state
Parameters (out): State Pointer to structure for debouncing state variables

~ [SWS_Mfl_00246] Mfl_HystDeltaRight_f32_u8:   Include   constant   for   pointer
Input-parameter as like below.
boolean Mfl_HystDeltaRight_f32_u8(float32 X, float32 Delta, float32 Rsp, const
uint8* State)

~ [SWS_Mfl_00285] Mfl_MedianSort_f32_f32:   The   parameter   Array   should   be
InOut instead of In parameter as like below.
Parameters (in): N Size of an array
Parameters (inout): Array Pointer to an array

~ [SWS_Mfl_00037] Mfl_PT1SetState: The   parameter   State_cpst   should   be
Out instead of In parameter as like below.
Parameters (in): X1_f32 Initial value for input state
Y1_f32 Initial value for output state
Parameters (out): State_cpst Pointer to internal state structure

~ [SWS_Mfl_00225] Mfl_RampCheckActivity: Include constant for pointer Input-
parameter as like below.
boolean Mfl_RampCheckActivity(const Mfl_StateRamp_Type* State_cpst)

~ [SWS_Mfl_00223] Mfl_RampGetSwitchPos: Include constant for pointer Input-parameter as like below.
boolean Mfl_RampGetSwitchPos(const Mfl_StateRamp_Type* State_cpst)
–Last change on issue 68035 comment 135–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.32   Specification Item SWS_DoIP_00049

Trace References:

SRS_Eth_00084

Content:

Service name:	<User>_DoIPRoutingActivationAuthenticationDoIPRoutingActivationAuthentication	
Syntax:	Std_ReturnType <User>_DoIPRoutingActivationAuthentication(boolean* Authentified, const uint8* AuthenticationReqData, uint8* AuthenticationResData)	
Service ID[hex]:	0x00	
Sync/Async:	Synchronous/Asynchronous	
Reentrancy:	Don't care	
Parameters (in):	AuthenticationReqDataDoIPRouting ActivationAuthentication.Authentication ReqData	Pointer to OEM specific bytes for Routing activation request. Only needed if DoIPRoutingActivationAuthentication ReqLength is not 0.
Parameters (inout):	None	
Parameters (out):	AuthentifiedDoIPRoutingActivation Authentication.Authentified	Pointer containing the information if Confirmation was successful (TRUE) or not (FALSE). Only valid if the return value equals E_OK.
	AuthenticationResDataDoIPRouting ActivationAuthentication.Authentication ResData	Pointer to OEM specific bytes for Response on Routing activation. Only needed if DoIPRoutingActivation AuthenticationResLength if not 0. Contains valid data if function return with E_OK.
Return value:	Std_ReturnType	E_OK: Authentified and Authentication ResData contain valid Data. DOIP_E_PENDING: Authentication still running. Call next DoIP_MainFunction cycle again. E_NOT_OK: Authentified and/or AuthenticationResData do not contain valid information.
Description:	Callback function to get the confirmation for the Routing Activation.	

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RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #68035: [diverse] Introduce rules defining which input parameters shall be passed per value and which ones per const reference

Problem description:

SWS_BSW_00186 especially states that input pointer parameters shall use the const qualifier (i.e., shall be P2CONST).

In addition to that there shall be a SWS item that states that input parameters of integral and enum type shall be passed by value whereas input parameters of structure type shall be passed by reference.

The various transformer SWS documents shall be adapted accordingly.
–Last change on issue 68035 comment 4–

Agreed solution:

BSW UML model
————-
The attachment "Changed Proposal in WP-A meeting" contains a list of changes to the APIs in the model (see column H). Afterwards all related documents (included in impact list) shall update their
generated artifacts.

General Requirements on Basic Software Modules
~~~~~~

Introduce the following requirements prior to SRS_BSW_00371:

SRS_BSW_xxxxx: Input parameters of scalar and enum types shall be passed as a value.
Type: valid
Description: All input parameters of scalar or enum type shall be passed as a value.
Rationale:

Use case: For example a function named <Mip>_SomeFunction with a return type of Std_ReturnType and a single parameter named SomeParameter of type uint8 is defined with the following signature:

Std_ReturnType <Mip>_SomeFunction(uint8 SomeParameter);
Dependencies: –

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Supporting Material: —

SRS_BSW_yyyyy: Input parameters of structure type shall be passed as a reference to a constant structure

Type: valid

Description: All input parameters of structure type shall be passed as a reference constant structure

Rationale: Passing input parameters of structure type by value would result in additional run-time overhead due to efforts for copying the whole structure.

Use case: For example a function named <Mip>_SomeFunction with a return type of Std_ReturnType and a single parameter named SomeParameter of type SomeStructure (where SomeStructure is a struct) is defined with the following signature:

Std_ReturnType <Mip>_SomeFunction(P2CONST(SomeStructure, AUTOMATIC, <MIP>_APPL_DATA) SomeParameter);

Dependencies: –

Supporting Material: —

SRS_BSW_zzzzz: Input parameters of array type shall be passed as a reference to the constant array base type

Type: valid

Description: All input parameters of array type shall be passed as a reference to the constant array base type

Rationale: This effectively matches the behavior specified in the ISO-C:90 namely that a "declaration of a parameter as 'array of type' shall be adjusted to 'qualified pointer to

type'".

Use case: For example a function named <Mip>_SomeFunction with a return type of Std_ReturnType and a single parameter named SomeParameter of type array of uint8 is defined with the following signature:

Std_ReturnType <Mip>_SomeFunction(P2CONST(uint8, AUTOMATIC, <MIP>_APPL_DATA) SomeParameter);

Dependencies: –

Supporting Material: —

General Specification of Transformers
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

In SWS_Xfrm_00036 change

const <type>* dataElement

to

<paramtype> dataElement

and add the following to the where clause after the API table after the bullet
"type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules
rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy,
and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and
SWS_BSW_00187).

In SWS_Xfrm_00038 change

[<type> data_1,] ...
[<type> data_n]

to

[<paramtype> data_1,] ...
[<paramtype> data_n]

and add the following to the where clause after the API table after the bullet
"type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules
rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy,
and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and
SWS_BSW_00187).

The following paragraph shall then be removed:

For the arguments of ClientServerOperation which are handed over to the
transformer as data_1, ..., data_n the requirements to API parameters stated in
chapter API Parameters of [5, SWS RTE] are valid (especially [SWS_Rte_01017],

Document ID 695: ChangeDocumentation

[SWS_Rte_01018] and [SWS_Rte_05107]).

In SWS_Xfrm_00040 change

[<originalData1>, ...
<originalDataN>]

to

[<paramtype> originalData1,] ...
[<paramtype> originalDataN]

and add the following to the where clause after the API table after the bullet
"type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules
rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy,
and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and
SWS_BSW_00187).

In SWS_Xfrm_00044 change

<type> *data_1, ...
<type> *data_n

to

[<paramtype> data_1,] ...
[<paramtype> data_n]

and add the following to the where clause after the API table after the bullet
"type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules
rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy,
and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and
SWS_BSW_00187).

The following paragraph shall then be removed:

For the arguments of ClientServerOperation which are handed over to the transformer as data_1, ..., data_n the requirements to API parameters stated in chapter API Parameters of [5, SWS RTE] are valid (especially [SWS_Rte_01017], [SWS_Rte_01018] and [SWS_Rte_05107]).

Speci?cation of SOME/IP Transformer
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

In SWS_SomeIpXf_00138 change

const <type>* dataElement

to

<paramtype> dataElement

and add the following to the where clause after the API table after the bullet "type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy, and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and SWS_BSW_00187).

In SWS_SomeIpXf_00141 change

[<type> data_1,] ...
[<type> data_n]

to

[<paramtype> data_1,] ...
[<paramtype> data_n]

and add the following to the where clause after the API table after the bullet "type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy, and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and SWS_BSW_00187).

The following paragraph shall then be removed:

For the arguments of ClientServerOperation which are handed over to the transformer as data_1, ..., data_n the requirements to API parameters stated in chapter API Parameters of [5, SWS RTE] are valid (especially [SWS_Rte_01017], [SWS_Rte_01018] and [SWS_Rte_05107]).

In SWS_SomeIpXf_00145 change

<type> *data_1, ...
<type> *data_n

to

[<paramtype> data_1,] ...
[<paramtype> data_n]

and add the following to the where clause after the API table after the bullet "type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy, and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and SWS_BSW_00187).

The following paragraph shall then be removed:

For the arguments of ClientServerOperation which are handed over to the transformer as data_1, ..., data_n the requirements to API parameters stated in chapter API Parameters of [5, SWS RTE] are valid (especially [SWS_Rte_01017], [SWS_Rte_01018] and [SWS_Rte_05107]).

Specification of COM Based Transformer

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~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~

In SWS_ComXf_00007 change

const <type>* dataElement

to

<paramtype> dataElement

and add the following to the where clause after the API table after the bullet "type is data type of the data element
"

<paramtype> is derived from <type> according to the parameter passing rules rules defined by the SRS BSW General (see SRS_BSW_xxxxx, SRS_BSW_yyyyy, and SRS_BSW_zzzzz) and SWS BSW General (see SWS_BSW_00186 and SWS_BSW_00187).

Specification of Time Sync over Ethernet
~~~~~~

In SWS_EthTSyn_00040 make the parameter DataPtr of EthTSyn_RxIndication const.

Specification of SWS FlexRay Interface
~~~~~~

Change SWS_FrIf_05073 from
FrIf_NumOfStartupFramesPtr (IN)
to
FrIf_NumOfStartupFramesPtr (OUT)

Specification of ADC
~~~~~~
~[SWS_Adc_00419] Adc_SetupResultBuffer: change Adc_ValueGroupType* to const Adc_ValueGroupType*
~[SWS_Adc_00369] Adc_ReadGroup: move Adc_ValueGroupType * from Parame-

ters (in) to Parameters (out)

There is no need to change parameter from IN to INOUT in Adc_SetupResultBuffer

Specification of Com
~~~~~~
Change type of parameter MetaData of Com_TriggerIPDUSendWithMetaData from uint8* to const uint8*

Specification of ComM
~~~~~~
no change required

Specification of Dem
~~~~~~
no change required

Specification of DLT
~~~~~~
no change required

Specification of DoIP
~~~~~~
From:
Std_ReturnType <User>_DoIPRoutingActivationConfirmation(boolean* Confirmed, uint8* ConfirmationReqData, uint8* ConfirmationResData)
Std_ReturnType <User>_DoIPRoutingActivationAuthentication(boolean* Authentified, uint8* AuthenticationReqData, uint8* AuthenticationResData)

To:
Std_ReturnType <User>_DoIPRoutingActivationConfirmation(boolean* Confirmed, const uint8* ConfirmationReqData, uint8* ConfirmationResData)
Std_ReturnType <User>_DoIPRoutingActivationAuthentication(boolean* Authentified, const uint8* AuthenticationReqData, uint8* AuthenticationResData)

Specification of E2ELibrary
~~~~~~

no change required

Specification of Eth
~~~~~~
no change required

Specification of EthIf
~~~~~~
no change required

Specification of EthSwitchDriver
~~~~~~
no change required

Specification of ICUDriver
~~~~~~
SWS_Icu_00201: Icu_StartTimestamp
Parameter (IN): Icu_ValueType* BufferPtr shall be changed to Parameters (out) type

Specification of LdCom
~~~~~~
[SWS_LDCOM_00027]: LdCom_CopyTxData
BufReq_ReturnType LdCom_CopyTxData(PduIdType id, const PduInfoType* info,
RetryInfoType* retry, PduLengthType* availableDataPtr) shall be changed to
BufReq_ReturnType LdCom_CopyTxData(PduIdType id, const PduInfoType* info,
const RetryInfoType* retry, PduLengthType* availableDataPtr)

[SWS_LDCOM_00036]: Rte_LdComCbkCopyTxData_<sn>
BufReq_ReturnType Rte_LdComCbkCopyTxData_<sn>(const PduInfoType* info,
RetryInfoType* retry, PduLengthType* availableDataPtr) shall be changed to
BufReq_ReturnType Rte_LdComCbkCopyTxData_<sn>(const PduInfoType* info,
const RetryInfoType* retry, PduLengthType* availableDataPtr)

Specification of Lin
~~~~~~
PduInfoPtr needs to be const in Std_ReturnType Lin_SendFrame(uint8 Channel,
const Lin_PduType* PduInfoPtr)

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Specification of PduR

~~~~~~

* PduR_<User:LoTp>CopyTxData
add const to "RetryInfoType* retry"

Specification of J1939Nm

~~~~~~

Change parameter 'name' of User_AddressClaimedIndication to type 'const uint8*'

Specification of SoAd

~~~~~~

=> everything already fixed with RfC 65633

Specification of SPIHandlerDriver

~~~~~~

==> nothing to change for SWS SPI

Specification of SynchronizedTimeBaseManager

~~~~~~

"StbM not affected. All issues listed in the WP-A attachment have been already
implemented by IT 69124 in context of RfC 65633"

Specification of TcpIp

~~~~~~

~[SWS_TCPIP_00040] TcpIp_DhcpReadOption: change DataPtr from (IN) to
(OUT)
~[SWS_TCPIP_00189] TcpIp_DhcpV6ReadOption: change DataPtr from (IN) to
(OUT)
=> everything else already fixed with RfC 65633

Specification of TimeSyncOverFlexRay

~~~~~~

"Change SWS_FrTSyn_00064: parameter versioninfo of type Std_VersionInfoType*
is marked wrongly as IN. Change to OUT"

Specification of EFX
~~~~~~~~~~~~~~~~~~~~~
~ [SWS_Efx_00355] Efx_Debounce_u8_u8: Include constant for pointer Input-parameter as like below.
uint8 Efx_Debounce_u8_u8(boolean X, Efx_DebounceState_Type * State, const Efx_DebounceParam_Type * Param, sint32 dT)

~ [SWS_Efx_00376] Efx_MedianSort: The parameter <InType>* Array should be InOut instead of In parameter as like below.
Parameters (in): N Size of an array
Parameters (inout): Array Pointer to an array

~ [SWS_Efx_00309] Efx_RampCheckActivity: Include constant for pointer Input-parameter as like below.
boolean Efx_RampCheckActivity(const Efx_StateRamp_Type* State_cpst)

~ [SWS_Efx_00307] Efx_RampGetSwitchPos: Include constant for pointer Input-parameter as like below.
boolean Efx_RampGetSwitchPos(const Efx_StateRamp_Type* State_cpst)

~ [SWS_Efx_00193] Efx_Array_Average: Include constant for pointer Input-parameter as like below.
<OutType> Efx_Array_Average_<InTypeMn>_<OutTypeMn>(const <InType>* Array, uint16 Count)

Specification of MFL
~~~~~~~~~~~~~~~~~~~~~
~ [SWS_Mfl_00192] Mfl_Debounce_u8_u8: Include constant for pointer Input-parameter as like below.
boolean Mfl_Debounce_u8_u8(boolean X, Mfl_DebounceState_Type* State, const Mfl_DebounceParam_Type* Param, float32 dT)

~ [SWS_Mfl_00266] Mfl_DebounceInit: The parameter Mfl_DebounceState_Type* State should be Out instead of In parameter as like below.
Parameters (in): X Initial value for the input state
Parameters (out): State Pointer to structure for debouncing state variables

~ [SWS_Mfl_00246] Mfl_HystDeltaRight_f32_u8: Include constant for pointer Input-parameter as like below.
boolean Mfl_HystDeltaRight_f32_u8(float32 X, float32 Delta, float32 Rsp, const uint8* State)

~ [SWS_Mfl_00285] Mfl_MedianSort_f32_f32: The parameter Array should be InOut instead of In parameter as like below.
Parameters (in): N Size of an array
Parameters (inout): Array Pointer to an array

~ [SWS_Mfl_00037] Mfl_PT1SetState: The parameter State_cpst should be Out instead of In parameter as like below.
Parameters (in): X1_f32 Initial value for input state
Y1_f32 Initial value for output state
Parameters (out): State_cpst Pointer to internal state structure

~ [SWS_Mfl_00225] Mfl_RampCheckActivity: Include constant for pointer Input-parameter as like below.
boolean Mfl_RampCheckActivity(const Mfl_StateRamp_Type* State_cpst)

~ [SWS_Mfl_00223] Mfl_RampGetSwitchPos: Include constant for pointer Input-parameter as like below.
boolean Mfl_RampGetSwitchPos(const Mfl_StateRamp_Type* State_cpst)
–Last change on issue 68035 comment 135–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.33   Specification Item SWS_DoIP_00058

Trace References:

SRS_Eth_00081, SRS_Eth_00028, SRS_Eth_00083

Content:

If a connection needs to be closed based on DoIP specific behavior the DoIP module shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and the SoCon Id determined by a call to the function SoAd_GetSoConId with the according DoIPSoAd TcpTxPdu. Additionally also the according inactivity timer will be stopped.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpCon-nection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

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~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches

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a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call
DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1

Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call
DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection

SWS Item ECUC_DoIP_00052 :

Container Name DoIPUdpConnection

Description This Container describes a UDP connection to the lower layer SoAd module.

Configuration Parameters

Included Containers

Container Name Multiplicity Scope / Dependency

DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over UDP

DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu

SWS Item ECUC_DoIP_00046 :

Container Name DoIPSoAdUdpRxPdu

Description This container describes a Rx PDU received via SoAd over UDP

Configuration Parameters

SWS Item ECUC_DoIP_00048 :

Name DoIPSoAdUdpRxPduId

Description The DoIPSoAdUdpRxPduId is required by the API call DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.

Multiplicity 1

Type EcucIntegerParamDef (Symbolic Name generated for this parameter)

Range 0 .. 65535

Default value –

Post-Build Variant Value false

Value Configuration Class Pre-compile time X All Variants

Link time –

Post-build time –

Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :

Name DoIPSoAdUdpRxPduRef

Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.

Multiplicity 1

Type Reference to [Pdu]

Post-Build Variant Value true

Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE

Link time X VARIANT-LINK-TIME

Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.34 Specification Item SWS_DoIP_00071

Trace References:

SRS_Eth_00026

Content:

If the DoIP module needs to send a vehicle announcement message because of

(see SWS_DoIP_0000300205), it shall send the first vehicle announcement message via the

configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message 6. This message shall be sent DoIPVehicleAnnouncementRepetition Count times with a delay of DoIPVehicleAnnouncementInterval between each message. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 ISO 13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74847: [DoIP] How to configure DoIPUdpConnection with limited broadcast local IP address

  Problem description:

  according to ISO/FDIS 13400-2:2011 Vehicle Identification Request can be sent to multicast (limited broadcast). However, it is not specified in SWS how such a limited broadcast local address address can be configured for a DoIPUdpConnection.

  Since DoIP shall use SoAd_RequestIpAddrAssignment() with TCPIP_IPADDR_ASSIGNMENT_AUTOIP and TCPIP_IPADDR_ASSIGNMENT_DHCP, it is not possible to use a static local IP address.

  How shall limited broadcast local IP address be configured?
  –Last change on issue 74847 comment 2–

  Agreed solution:

SWS DoIP
========

Chapter 7 "Functional Specification"

Change [SWS_DoIP_00204] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and trigger the IP Address assignment via 2 subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr set to NULL_PTR and in the first call type set to TCPIP_IPADDR_ASSIGNMENT_LINKLOCAL_DOIP and in the second call type set to TCPIP_IPADDR_ASSIGNMENT_DHCP. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. For each of these DoIPConnections which has a DoIPRequestAddressAssignment set to true the DoIp module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and trigger the IP Address assignment via subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr and DefaultRouterPtr set to NULL_PTR, Netmask set to 0, and Type set to TCPIP_IPADDR_ASSIGNMENT_ALL. For each of these DoIPConnections (irrespective of the value of DoIPRequestAddressAssignment) the DoIP module shall open the respective connection by an according call to SoAd_OpenSoCon. (SRS_Eth_00081, SRS_Eth_00028, SRS_Eth_00026).

Remove the note after SWS_DoIP_00204.

Remove SWS_DoIP_00003

Change [SWS_DoIP_00205] from:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE, after SWS_DoIP_00003 has been performed, for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

To:

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If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

Change [SWS_DoIP_00071] from:
If the DoIP module needs to send a vehicle announcement message because of SWS_DoIP_00003, it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

To:
If the DoIP module needs to send a vehicle announcement message (see SWS_DoIP_00205), it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

Change [SWS_DoIP_00234] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall retrieve all the SoConId of all the configured UDPConnection, via call to the SoAd_GetSoConId and close all the UDP sockets by calls to the
SoAd_CloseSoCon with the all the retrieved SoConId.   (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. - For each of these DoIPConnections the DoIP module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and close

all the connection by a call to SoAd_CloseSoCon with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

Change [SWS_DoIP_00235] from:
When all UDP sockets are closed (i.e for all the Sockets the function DoIP_SoConModeChg was called with something else than SOAD_SOCON_ONLINE), the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and release the IP
Address assignment via the call to SoAd_ReleaseIpAddrAssignment with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:
In addition to SWS_DoIP_00234, the DoIP module shall release the corresponding IP Address assignment via the call to SoAd_ReleaseIpAddrAssignment for those connections that have DoIPRequestAddressAssignment set to true. (SRS_Eth_00081, SRS_Eth_00028)

Remove the note after SWS_DoIP_00235.

Chapter 9 "Sequence Diagrams"

Adapt sequence diagrams in section 9.4 "Activation Line Handling Active" and in section 9.5 "Activation Line Handling Inactive" accordingly.

Chapter 10 "Configuration specification"

Add the following new config parameters to DoIPTcpConnection (10.2.13 DoIPTcpConnection), DoIPUdpConnection (10.2.14 DoIPUdpConnection), and DoIPUdpVehicleAnnouncementConnection (10.2.17 DoIPUdpVehicleAnnouncementConnection):

SWS Item ECUC_DoIP_xxxx1 :
Name DoIPRequestAddressAssignment
Description The DoIP module shall request IP address assignment by calling SoAd_RequestIpAddrAssignment() for the TcpIpLocalAddr related to this DoIpConnection.
Multiplicity 1
Type EcucBooleanParamDef

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Default value true
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: local

SWS TcpIp
=========

Chapter 8 "API Specification"

Extend [SWS_TCPIP_00065] by a new enumeration literal:
* TCPIP_IPADDR_ASSIGNMENT_ALL - all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to TCPIP_MANUAL

Add an new specification item after [SWS_TCPIP_00080]:
[SWS_TCPIP_xxxx] In case TcpIp_RequestIpAddrAssignment() is called with parameter Type set to TCPIP_IPADDR_ASSIGNMENT_ALL, the IP address assignment for the IP address table entry specified by LocalAddId shall be initiated for all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to TCPIP_MANUAL.
–Last change on issue 74847 comment 42–

BW-C-Level:

Application	Specification	Bus
1	3	1

● RfC #74987: [DoIP] Inconsistency between SWS_DoIP_00071 and DoIPVehicleAnnouncementRepetition

Problem description:

SWS_DoIP_00071 says the first vehicle announcement message is send via the configured DoIPUDPConnection after DoIPInitialVehicleAnnouncementTime and repeated DoIPVehicleAnnouncementRepetition times.
Result is the announcement message is send 1 + the configured value times.

But from the description of DoIPVehicleAnnouncementRepetition (...represents parameter A_DoIP_Annunce_Num of ISO...), I would expect that the announcement message is send only the configured number of times.
(ISO 13400-2:2012, A_DoIP_Announce_Num:

This parameter specifies the number of vehicle
announcement messages which are sent by the DoIP
entity after a valid IP address was configured.)

Also the allowed range is currently 1 .. 255.
With SWS_DoIP_00071 this results in a minimum of 2 announcement messages. If
the number of announcement messages is configurable, shouldn't it be possible to
configure a minimum of 1 (equals 0 repetitions)?

I suggest changing SWS_DoIP_00071 and renaming the configuration param-
eter and so they reflect the ISO description.

Agreed solution:

1) ~ SWS_DoIP_00071:
If the DoIP module needs to send a vehicle announcement message because
of SWS_DoIP_00003, it shall send the vehicle announcement message via
the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehi-
cleAnnouncementTime as described in Table 6. This message shall be sent
DoIPVehicleAnnouncementCount times with a delay of DoIPVehicleAnnounce-
mentInterval between each message. The last "VIN/GID Status" byte of the Vehicle
identification response message is optional as defined in the ISO 13400-2 standard.
It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration
parameter is set to True. (See SWS_DoIP_00086).

2) ~ SWS_DoIP_00286: replace "DoIPVehicleAnnouncementRepetition" with
"DoIPVehicleAnnouncementCount"

3) - ECUC_DoIP_00011: set to obsolete

4) + ECUC_DoIP_xxxxx:
Name: DoIPVehicleAnnouncementCount
Description: Number of vehicle announcement messages on IP address assign-
ment. Represents parameter A_DoIP_Announce_Num of ISO 13400-2:2012.
This newly-added parameter simply replaces ECUC_DoIP_00011, which is set to
obsolete with this RFC. So its position and rest all fields match ECUC_DoIP_00011
under DoIPGeneral.

5- Adapt the diagram at the end of Chapter 10.2.3 "DoIP General" to reflect
these ECUC parameter changes, i.e. just replace "DoIPVehicleAnnouncementRep-
etition" with "DoIPVehicleAnnouncementCount"
–Last change on issue 74987 comment 20–

BW-C-Level:

Application	Specification	Bus
1	3	1

1.35   Specification Item SWS_DoIP_00114

Trace References:

SRS_Eth_00084

Content:

If the DoIPRoutingActivationConfirmationCallback returns DOIP_E_PENDING, the DoIP module shall trigger the callback at next DoIP_MainFunction call again until something else than DOIP_E_PENDING is returned. Additionally the DoIP module shall send a routing activation response message once with the activation response code set to 0x11 as described in chapter REF. The Routing activation shall be considered as confirmed from the moment the DoIPRoutingActivationConfirmationCallback returns E_OK7.3.2.3.2.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #72190: [DoIP] Routing Activation Confirmation Handling not according to the ISO

  Problem description:

  Hi,

  SWS_DoIP_00114 specifies that a Routing Activation Response is sent with the response code set to 0x11 if the DoIPRoutingActivationConfirmationCallback() returns DOIP_E_PENDING. Afterwards DoIPRoutingActivationConfirmationCallback() shall be called cyclically.

  SWS_DoIP_00274 specifies that a Routing Activation Response is sent with the response code set to 0x05 once the DoIPRoutingActivationConfirmationCallback() returns e.g. E_NOT_OK and "the socket connection shall be considered as registered to this DoIPTesterSA without activating the routing."

  We see two issues:
  1. According to the ISO, after a Routing Activation Response with response code 0x05 is sent, the socket shall be closed. This is in contrast to "the socket connection shall be considered as registered to this DoIPTesterSA without activating the routing."

  2.   With the two requirements above, two Routing Activation Response mes-

sages will be sent. The first (0x11) on DoIPRoutingActivationConfirmationCallback()
returning DOIP_E_PENDING. The second (0x05) on DoIPRoutingActivationCon-
firmationCallback() returning e.g. E_NOT_OK. However, the ISO13400-2 includes
the following note: "NOTE 2 This implies that once the additional confirmation from
within the vehicle has been performed, this response code
will not be sent anymore and the DoIP entity will activate routing as requested.
Thus external test equipment can periodically send the routing activation request
message to determine whether confirmation has been successfully completed."

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00114]
If the DoIPRoutingActivationConfirmationCallback returns DOIP_E_PENDING, the
DoIP module shall send a routing activation response message once with the activa-
tion response code set to 0x11 as described in chapter 7.3.2.3.2. (SRS_Eth_00084)

~[SWS_DoIP_00274]
If the DoIPRoutingActivationConfirmationCallback returns E_NOT_OK, the DoIP
module shall send a routing activation response message with the activation
response code set to 0x05 as described in chapter 7.3.2.3.2 and the socket
connection shall be closed as defined in SWS_DoIP_00058.(SRS_Eth_00084)
–Last change on issue 72190 comment 24–

BW-C-Level:

Application	Specification	Bus
1	4	4

1.36 Specification Item SWS_DoIP_00162

Trace References:

Content:

If default development error detection is enabled: The function shall check that the service
DoIP_Init was previously called. If the check fails, the function shall raise the development
error DOIP_E_UNINIT. Otherwise, if DET is not enabled, return E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

Problem description:

The DET was renamed from development error tracer to default error tracer.

This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

"default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted docu-ment, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]

In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to

"Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Document ID 695: ChangeDocumentation

Application	Specification	Bus
1	1	1

1.37   Specification Item SWS_DoIP_00163

Trace References:

Content:

If default development error detection is enabled: The function shall check if the TxPdu Id matches a configured DoIPPduRTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

  Problem description:

  The DET was renamed from development error tracer to default error tracer.

  This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

  "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

  This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
  "Switches the Default Error Tracer (Det) detection and notification..."

  The parameter switches on/off the developement error detection.   The DET does not need to be detected and can be present even when the parameter is set to false.

  Agreed solution:

  Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"

...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error

occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.38   Specification Item SWS_DoIP_00164

Trace References:

Content:

If default development error detection is enabled: The function shall check if the PduInfo Ptr is not a NULL_PTR. If the check fails the function shall raise the development error DOIP_E_PARAM_POINTER. Otherwise, if DET is not enabled, return E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

  Problem description:

  The DET was renamed from development error tracer to default error tracer.

  This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

  "default error" should always be followed by "tracer", otherwise, "development

error" is probably the right term.

This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."

- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer"

to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.39   Specification Item SWS_DoIP_00166

Trace References:

Content:

If default development error detection is enabled: The function shall check that the service DoIP_Init was previously called. If the check fails, the function shall raise the development error DOIP_E_UNINIT. Otherwise, if DET is not enabled, return E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

    Problem description:

    The DET was renamed from development error tracer to default error tracer.

    This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

    "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

    This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
    "Switches the Default Error Tracer (Det) detection and notification..."

    The parameter switches on/off the developement error detection.   The DET does not need to be detected and can be present even when the parameter is set to false.

    Agreed solution:

    Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

    Blueprint/Example:
    - sub chapter is now called "7.x Default errors"
    - "[SWS_xxx_yyyyy]
    In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
    - "[SWS_xxx_yyyyy]
    If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
    - "In case default errors are enabled,..."

- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"

...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:

- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.40 Specification Item SWS_DoIP_00167

Trace References:

Content:

If default development error detection is enabled: The function shall check if the TxPdu
Id matches a configured DoIPPduRTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled,
return E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

  Problem description:

  The DET was renamed from development error tracer to default error tracer.

  This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

  "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

  This could increase the impact (compared to my selection of impacted docu-ment, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
  "Switches the Default Error Tracer (Det) detection and notification..."

  The parameter switches on/off the developement error detection. The DET

does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development

Document ID 695: ChangeDocumentation

errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.41   Specification Item SWS_DoIP_00169

Trace References:

Content:

If default development error detection is enabled: The function shall check that the service DoIP_Init was previously called. If the check fails, the function shall raise the development error DOIP_E_UNINIT. Otherwise, if DET is not enabled, return E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

Document ID 695: ChangeDocumentation

Problem description:

The DET was renamed from development error tracer to default error tracer.

This change was most of the time done automatically and unfortunately renamed "developement error" to "default error".

"default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx

module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"

- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.42   Specification Item SWS_DoIP_00170

Trace References:

Content:

If default development error detection is enabled: The function shall check if the RxPdu
Id matches a configured DoIPPduRRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled,
return E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

  Problem description:

  The DET was renamed from development error tracer to default error tracer.

  This change was most of the time done automatically and unfortunately re-
  named "developement error" to "default error".

  "default error" should always be followed by "tracer", otherwise, "development
  error" is probably the right term.

  This could increase the impact (compared to my selection of impacted docu-
  ment, but formally, the configuration parameters *DevErrorDetect are not using the
  correct description:
  "Switches the Default Error Tracer (Det) detection and notification..."

  The parameter switches on/off the developement error detection.   The DET
  does not need to be detected and can be present even when the parameter is set to
  false.

  Agreed solution:

  Rename "default error" to "development error" in all impacted documents, but not
  in an automated way (Do not change "default error tracer" to "developement error
  tracer"!)

  Blueprint/Example:
  - sub chapter is now called "7.x Default errors"
  - "[SWS_xxx_yyyyy]
  In case default error detection is enabled for the xxxx module: The xxxx module

shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"

...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:

- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:

- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.43 Specification Item SWS_DoIP_00172

Trace References:

Content:

If default development error detection is enabled: The function shall check if the version-info is not a NULL_PTR. If the check fails the function shall raise the development error DOIP_E_PARAM_POINTER.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

  Problem description:

  The DET was renamed from development error tracer to default error tracer.

  This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

  "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

  This could increase the impact (compared to my selection of impacted docu-ment, but formally, the configuration parameters *DevErrorDetect are not using the

correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:

– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:

- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.44   Specification Item SWS_DoIP_00175

Trace References:

Content:

If default development error detection is enabled: The function shall check that the service DoIP_Init was previously called. If the check fails, the function shall raise the development error DOIP_E_UNINIT. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

Problem description:

The DET was renamed from development error tracer to default error tracer.

This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

"default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:

Document ID 695: ChangeDocumentation

- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.45 Specification Item SWS_DoIP_00176

Trace References:

Content:

If default development error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]

...

(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection

...

~[SWS_DoIP_00058]

If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]

If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]

If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]

If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]

If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]

If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not

enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP

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Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call
DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call
DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)

Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over
UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId

Description The DoIPSoAdUdpRxPduId is required by the API call
DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants

Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

- RfC #73570: No "default error" in AUTOSAR

Problem description:

The DET was renamed from development error tracer to default error tracer.

This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

"default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Document ID 695: ChangeDocumentation

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development

error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":

Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-
TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-
TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-
TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-
TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.46   Specification Item SWS_DoIP_00177

Trace References:

Content:

If default development error detection is enabled: The function shall check that neither the info nor the availableDataPtr are a NULL_PTR. If the check fails the function shall raise the development error DOIP_E_PARAM_POINTER. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

  Problem description:

The DET was renamed from development error tracer to default error tracer.

This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

"default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"

Document ID 695: ChangeDocumentation

- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"

Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.47 Specification Item SWS_DoIP_00178

Trace References:

Content:

If default development error detection is enabled: The function shall check if the retry is a NULL_PTR. If the check fails the function shall raise the development error DOIP_E_INVALID_PARAMETER. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

  Problem description:

  The DET was renamed from development error tracer to default error tracer.

  This change was most of the time done automatically and unfortunately renamed "developement error" to "default error".

  "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

  This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
  "Switches the Default Error Tracer (Det) detection and notification..."

  The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

  Agreed solution:

  Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

  Blueprint/Example:
  - sub chapter is now called "7.x Default errors"
  - "[SWS_xxx_yyyyy]
  In case default error detection is enabled for the xxxx module: The xxxx module

shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"

...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.48   Specification Item SWS_DoIP_00180

Trace References:

Content:

If default development error detection is enabled: The function shall check that the service DoIP_Init was previously called. If the check fails, the function shall raise the development error DOIP_E_UNINIT.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

   Problem description:

   The DET was renamed from development error tracer to default error tracer.

   This change was most of the time done automatically and unfortunately renamed "developement error" to "default error".

   "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

   This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the

Document ID 695: ChangeDocumentation

correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:

– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:

- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.49   Specification Item SWS_DoIP_00181

Trace References:

Content:

If default development error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved

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via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the

length of the message and the pointer to the to be transmitted message buffer and additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call

the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the

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development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :

Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME

Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over
UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call
DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1

Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

● RfC #73570: No "default error" in AUTOSAR

Problem description:

The DET was renamed from development error tracer to default error tracer.

This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

"default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"

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- "The DET provides services to store default errors"

...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer"

to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.50 Specification Item SWS_DoIP_00182

Trace References:

Content:

If default development error detection is enabled: The function shall check if the result is valid.   If the check fails the function shall raise the development error DOIP_E_INVALID_PARAMETER.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

  Problem description:

  The DET was renamed from development error tracer to default error tracer.

  This change was most of the time done automatically and unfortunately renamed "developement error" to "default error".

  "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

  This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
  "Switches the Default Error Tracer (Det) detection and notification..."

  The parameter switches on/off the developement error detection.   The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]

- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]

[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-
TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-
TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-
TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-
TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.51 Specification Item SWS_DoIP_00183

Trace References:

Content:

If default development error detection is enabled: The function shall check that the service
DoIP_Init was previously called. If the check fails, the function shall raise the development
error DOIP_E_UNINIT. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

Problem description:

The DET was renamed from development error tracer to default error tracer.

This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

"default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted docu-ment, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"

- "[SWS_xxx_yyyyy]

If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]

[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"

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Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.52   Specification Item SWS_DoIP_00184

Trace References:

Content:

If default development error detection is enabled: The function shall check that neither the info nor the bufferSizePtr are a NULL_PTR. If the check fails, the function shall raise the development error DOIP_E_PARAM_POINTER. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

   Problem description:

   The DET was renamed from development error tracer to default error tracer.

   This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

   "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

   This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
   "Switches the Default Error Tracer (Det) detection and notification..."

   The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

   Agreed solution:

   Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

   Blueprint/Example:
   - sub chapter is now called "7.x Default errors"
   - "[SWS_xxx_yyyyy]
   In case default error detection is enabled for the xxxx module: The xxxx module

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shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"

...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer" –Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.53   Specification Item SWS_DoIP_00186

Trace References:

Content:

If default development error detection is enabled: The function shall check that the service DoIP_Init was previously called. If the check fails, the function shall raise the development error DOIP_E_UNINIT. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

  Problem description:

  The DET was renamed from development error tracer to default error tracer.

  This change was most of the time done automatically and unfortunately renamed "developement error" to "default error".

  "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

  This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the

correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:

– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:

- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.54   Specification Item SWS_DoIP_00187

Trace References:

Content:

If default development error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the devel-

opment error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and the SoConId determined by a call to the function SoAd_GetSoConId with the according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

Document ID 695: ChangeDocumentation

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain
the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall
call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function
shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is
not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]

If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]

If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –

Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]

Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over
UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call
DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef

Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD

Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

● RfC #73570: No "default error" in AUTOSAR

Problem description:

The DET was renamed from development error tracer to default error tracer.

This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

"default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"

- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

Document ID 695: ChangeDocumentation

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer" –Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.55   Specification Item SWS_DoIP_00188

Trace References:

Content:

If default development error detection is enabled: The function shall check if the bufferSizePtr is not a NULL_PTR. If the check fails the function shall raise the development error DOIP_E_PARAM_POINTER. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

    Problem description:

    The DET was renamed from development error tracer to default error tracer.

    This change was most of the time done automatically and unfortunately renamed "developement error" to "default error".

    "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

    This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
    "Switches the Default Error Tracer (Det) detection and notification..."

    The parameter switches on/off the developement error detection. The DET

does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"

...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development

errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.56 Specification Item SWS_DoIP_00189

Trace References:

Content:

If default development error detection is enabled: The function shall check if the Tp SduLength is not 0. If TpSduLength is not 0 the function shall raise the development error DOIP_E_INVALID_PARAMETER. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

Problem description:

The DET was renamed from development error tracer to default error tracer.

This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

"default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]

Document ID 695: ChangeDocumentation

In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to

"Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.57   Specification Item SWS_DoIP_00190

Trace References:

Content:

If default development error detection is enabled: The function shall check that the service DoIP_Init was previously called. If the check fails, the function shall raise the development error DOIP_E_UNINIT.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

    Problem description:

    The DET was renamed from development error tracer to default error tracer.

    This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

    "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

    This could increase the impact (compared to my selection of impacted docu-ment, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
    "Switches the Default Error Tracer (Det) detection and notification..."

    The parameter switches on/off the developement error detection.   The DET does not need to be detected and can be present even when the parameter is set to false.

    Agreed solution:

    Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

    Blueprint/Example:

Document ID 695: ChangeDocumentation

- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"

...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows

the development error to be traced to a specific core. ⌋(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.58   Specification Item SWS_DoIP_00191

Trace References:

Content:

If default development error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

Problem description:

Hello,

currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
This can lead to problems when generating symbolic name values.

Therefore, our proposal is to rename the PDU containers.
For DoIPTcpConnection:
-DoIPSoAdTcpRxPdu
-DoIPSoAdTcpTxPdu

For DoIPUdpConnection:
-DoIPSoAdUdpRxPdu
-DoIPSoAdUdpTxPdu

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]
...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]

Document ID 695: ChangeDocumentation

If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection

Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call
DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

Document ID 695: ChangeDocumentation

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call
DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers

Container Name Multiplicity Scope / Dependency

DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over UDP

DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu

SWS Item ECUC_DoIP_00046 :

Container Name DoIPSoAdUdpRxPdu

Description This container describes a Rx PDU received via SoAd over UDP

Configuration Parameters

SWS Item ECUC_DoIP_00048 :

Name DoIPSoAdUdpRxPduId

Description The DoIPSoAdUdpRxPduId is required by the API call DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.

Multiplicity 1

Type EcucIntegerParamDef (Symbolic Name generated for this parameter)

Range 0 .. 65535

Default value –

Post-Build Variant Value false

Value Configuration Class Pre-compile time X All Variants

Link time –

Post-build time –

Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :

Name DoIPSoAdUdpRxPduRef

Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.

Multiplicity 1

Type Reference to [Pdu]

Post-Build Variant Value true

Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE

Link time X VARIANT-LINK-TIME

Post-build time X VARIANT-POST-BUILD

Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu

SWS Item ECUC_DoIP_00047 :

Container Name DoIPSoAdUdpTxPdu

Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

- RfC #73570: No "default error" in AUTOSAR

Problem description:

The DET was renamed from development error tracer to default error tracer.

This change was most of the time done automatically and unfortunately re-

named "developement error" to "default error".

"default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection.   The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the

development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.59   Specification Item SWS_DoIP_00192

Trace References:

Content:

If default development error detection is enabled: The function shall check if the result is valid. If the check fails the function shall raise the development error DOIP_E_INVALID_PARAMETER.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

  Problem description:

  The DET was renamed from development error tracer to default error tracer.

  This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

  "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

  This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
  "Switches the Default Error Tracer (Det) detection and notification..."

  The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

  Agreed solution:

  Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

  Blueprint/Example:
  - sub chapter is now called "7.x Default errors"
  - "[SWS_xxx_yyyyy]
  In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"

Document ID 695: ChangeDocumentation

- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"

...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:

- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-
TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-
TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.60   Specification Item SWS_DoIP_00193

Trace References:

Content:

If default development error detection is enabled: The function shall check that the service
DoIP_Init was previously called. If the check fails, the function shall raise the development
error DOIP_E_UNINIT.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

   Problem description:

   The DET was renamed from development error tracer to default error tracer.

   This change was most of the time done automatically and unfortunately re-
   named "developement error" to "default error".

   "default error" should always be followed by "tracer", otherwise, "development
   error" is probably the right term.

   This could increase the impact (compared to my selection of impacted docu-
   ment, but formally, the configuration parameters *DevErrorDetect are not using the
   correct description:

Document ID 695: ChangeDocumentation

"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —

SWS_DiagnosticOverIP: Complete Change
Documentation 4.3.0 - 4.3.1
AUTOSAR CP Release 4.3.1

- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":

Document ID 695: ChangeDocumentation

Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.61 Specification Item SWS_DoIP_00194

Trace References:

Content:

If default development error detection is enabled: The function shall check if the SoCon Id and Mode are valid. If the check fails the function shall raise the development error DOIP_E_INVALID_PARAMETER.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #73570: No "default error" in AUTOSAR

Problem description:

The DET was renamed from development error tracer to default error tracer.

This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

"default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted docu-ment, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:

Document ID 695: ChangeDocumentation

- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.62   Specification Item SWS_DoIP_00195

Trace References:

Content:

If default development error detection is enabled: The function shall check that the service DoIP_Init was previously called. If the check fails, the function shall raise the development error DOIP_E_UNINIT.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

    Problem description:

    The DET was renamed from development error tracer to default error tracer.

    This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

    "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

    This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
    "Switches the Default Error Tracer (Det) detection and notification..."

    The parameter switches on/off the developement error detection.   The DET does not need to be detected and can be present even when the parameter is set to false.

    Agreed solution:

    Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Document ID 695: ChangeDocumentation

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance

Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.63   Specification Item SWS_DoIP_00196

Trace References:

Content:

If default development error detection is enabled: The function shall check if the SoCon Id and State are valid. If the check fails the function shall raise the development error DOIP_E_INVALID_PARAMETER.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

    Problem description:

    The DET was renamed from development error tracer to default error tracer.

    This change was most of the time done automatically and unfortunately renamed "developement error" to "default error".

"default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"

- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:

- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.64   Specification Item SWS_DoIP_00198

Trace References:

SRS_Eth_00024

Content:

If the DoIP module shall send a DoIP message via UDP it shall call the SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the length of the message and the pointer to the to be transmitted message buffer and additionally the buffer shall be locked.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

  Problem description:

  Hello,

  currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
  This can lead to problems when generating symbolic name values.

  Therefore, our proposal is to rename the PDU containers.
  For DoIPTcpConnection:
  -DoIPSoAdTcpRxPdu
  -DoIPSoAdTcpTxPdu

  For DoIPUdpConnection:
  -DoIPSoAdUdpRxPdu
  -DoIPSoAdUdpTxPdu

  Best regards
  Marc

  Agreed solution:

  ~[SWS_DoIP_00002]
  ...
  (a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
  ...

  ~[SWS_DoIP_00058]
  If a connection needs to be closed based on DoIP specific behavior the DoIP module
  shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and

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the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is
not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]

If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]

If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]

If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535

Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :

Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –

Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1

Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.65   Specification Item SWS_DoIP_00204

Trace References:

SRS_Eth_00081, SRS_Eth_00028

Content:

If the DoIP Activation Line status changes from

DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the

DoIP module shall retrieve the loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. For each of these DoIPConnections which has a DoIPRequestAddressAssignment set to true the DoIp module shall retrieve the corresponding SoConId of the first configured UDPConnection, via

via call to the SoAd_GetSoConId and trigger the IP Address assignment via 2

subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIp AddrPtr and DefaultRouterPtr set to NULL_PTRand in the first call type set to

, Netmask set to 0, and Type set to TCPIP_IPADDR_ASSIGNMENT_LINKLOCALALL. For each of these DoIPConnections (irrespective of the value of DoIPRequestAddress Assignment) the DoIP module shall open the respective connection by an according call to SoAd_OpenSoCon. (SRS_Eth_00081, SRS_DOIP and in the second call type set to TCPIP_IPADDR_ASSIGNMENT_DHCPEth_00028, SRS_Eth_00026).

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74847: [DoIP] How to configure DoIPUdpConnection with limited broadcast local IP address

Problem description:

according to ISO/FDIS 13400-2:2011 Vehicle Identification Request can be sent to multicast (limited broadcast). However, it is not specified in SWS how such a limited broadcast local address address can be configured for a DoIPUdpConnection.

Since DoIP shall use SoAd_RequestIpAddrAssignment() with TCPIP_IPADDR_ASSIGNMENT_AUTOIP and TCPIP_IPADDR_ASSIGNMENT_DHCP, it is not possible to use a static local IP address.

How shall limited broadcast local IP address be configured?
–Last change on issue 74847 comment 2–

Agreed solution:

SWS DoIP

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Chapter 7 "Functional Specification"

Change [SWS_DoIP_00204] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and trigger the IP Address assignment via 2 subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr set to NULL_PTR and in the first call type set to TCPIP_IPADDR_ASSIGNMENT_LINKLOCAL_DOIP and in the second call type set to TCPIP_IPADDR_ASSIGNMENT_DHCP. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. For each of these DoIPConnections which has a DoIPRequestAddressAssignment set to true the DoIp module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and trigger the IP Address assignment via subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr and DefaultRouterPtr set to NULL_PTR, Netmask set to 0, and Type set to TCPIP_IPADDR_ASSIGNMENT_ALL. For each of these DoIPConnections (irrespective of the value of DoIPRequestAddressAssign-

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ment) the DoIP module shall open the respective connection by an according call to SoAd_OpenSoCon. (SRS_Eth_00081, SRS_Eth_00028, SRS_Eth_00026).

Remove the note after SWS_DoIP_00204.

Remove SWS_DoIP_00003

Change [SWS_DoIP_00205] from:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE, after SWS_DoIP_00003 has been performed, for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

To:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

Change [SWS_DoIP_00071] from:
If the DoIP module needs to send a vehicle announcement message because of SWS_DoIP_00003, it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

To:
If the DoIP module needs to send a vehicle announcement message (see SWS_DoIP_00205), it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See

SWS_DoIP_00086).(SRS_Eth_00026)

Change [SWS_DoIP_00234] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall retrieve all the SoConId of all the configured UDPConnection, via call to the SoAd_GetSoConId and close all the UDP sockets by calls to the
SoAd_CloseSoCon with the all the retrieved SoConId.   (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. - For each of these DoIPConnections the DoIP module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and close all the connection by a call to SoAd_CloseSoCon with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

Change [SWS_DoIP_00235] from:
When all UDP sockets are closed (i.e for all the Sockets the function DoIP_SoConModeChg was called with something else than SOAD_SOCON_ONLINE), the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and release the IP
Address assignment via the call to SoAd_ReleaseIpAddrAssignment with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:
In addition to SWS_DoIP_00234, the DoIP module shall release the corresponding IP Address assignment via the call to SoAd_ReleaseIpAddrAssignment for those connections that have DoIPRequestAddressAssignment set to true. (SRS_Eth_00081, SRS_Eth_00028)

Remove the note after SWS_DoIP_00235.

Chapter 9 "Sequence Diagrams"

Adapt sequence diagrams in section 9.4 "Activation Line Handling Active" and

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in section 9.5 "Activation Line Handling Inactive" accordingly.

Chapter 10 "Configuration specification"

Add the following new config parameters to DoIPTcpConnection (10.2.13 DoIPTcpConnection), DoIPUdpConnection (10.2.14 DoIPUdpConnection), and DoIPUdpVehicleAnnouncementConnection (10.2.17 DoIPUdpVehicleAnnouncementConnection):

SWS Item ECUC_DoIP_xxxx1 :
Name DoIPRequestAddressAssignment
Description The DoIP module shall request IP address assignment by calling SoAd_RequestIpAddrAssignment() for the TcpIpLocalAddr related to this DoIpConnection.
Multiplicity 1
Type EcucBooleanParamDef
Default value true
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: local

SWS TcpIp
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Chapter 8 "API Specification"

Extend [SWS_TCPIP_00065] by a new enumeration literal:
* TCPIP_IPADDR_ASSIGNMENT_ALL - all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to TCPIP_MANUAL

Add an new specification item after [SWS_TCPIP_00080]:
[SWS_TCPIP_xxxx] In case TcpIp_RequestIpAddrAssignment() is called with parameter Type set to TCPIP_IPADDR_ASSIGNMENT_ALL, the IP address assignment for the IP address table entry specified by LocalAddId shall be initiated for all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to TCPIP_MANUAL.
–Last change on issue 74847 comment 42–

BW-C-Level:

Application	Specification	Bus
1	3	1

1.66   Specification Item SWS_DoIP_00205

Trace References:

SRS_Eth_00026

Content:

If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE , after SWS_DoIP_00003 has been performed, for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74847: [DoIP] How to configure DoIPUdpConnection with limited broadcast local IP address

  Problem description:

  according to ISO/FDIS 13400-2:2011 Vehicle Identification Request can be sent to multicast (limited broadcast). However, it is not specified in SWS how such a limited broadcast local address address can be configured for a DoIPUdpConnection.

  Since DoIP shall use SoAd_RequestIpAddrAssignment() with TCPIP_IPADDR_ASSIGNMENT_AUTOIP and TCPIP_IPADDR_ASSIGNMENT_DHCP, it is not possible to use a static local IP address.

  How shall limited broadcast local IP address be configured?
  –Last change on issue 74847 comment 2–

  Agreed solution:

  SWS DoIP

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  Chapter 7 "Functional Specification"

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Change [SWS_DoIP_00204] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and trigger the IP Address assignment via 2 subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr set to NULL_PTR and in the first call type set to TCPIP_IPADDR_ASSIGNMENT_LINKLOCAL_DOIP and in the second call type set to TCPIP_IPADDR_ASSIGNMENT_DHCP. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. For each of these DoIPConnections which has a DoIPRequestAddressAssignment set to true the DoIp module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and trigger the IP Address assignment via subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr and DefaultRouterPtr set to NULL_PTR, Netmask set to 0, and Type set to TCPIP_IPADDR_ASSIGNMENT_ALL. For each of these DoIPConnections (irrespective of the value of DoIPRequestAddressAssignment) the DoIP module shall open the respective connection by an according call to SoAd_OpenSoCon. (SRS_Eth_00081, SRS_Eth_00028, SRS_Eth_00026).

Remove the note after SWS_DoIP_00204.

Remove SWS_DoIP_00003

Change [SWS_DoIP_00205] from:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE, after SWS_DoIP_00003 has been performed, for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

To:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

Change [SWS_DoIP_00071] from:
If the DoIP module needs to send a vehicle announcement message because of SWS_DoIP_00003, it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

To:
If the DoIP module needs to send a vehicle announcement message (see SWS_DoIP_00205), it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

Change [SWS_DoIP_00234] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall retrieve all the SoConId of all the configured UDPConnection, via call to the SoAd_GetSoConId and close all the UDP sockets by calls to the
SoAd_CloseSoCon with the all the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. - For each of these DoIPConnections the DoIP module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and close all the connection by a call to SoAd_CloseSoCon with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

Change [SWS_DoIP_00235] from:

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When all UDP sockets are closed (i.e for all the Sockets the function DoIP_SoConModeChg was called with something else than SOAD_SOCON_ONLINE), the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and release the IP
Address assignment via the call to SoAd_ReleaseIpAddrAssignment with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:
In addition to SWS_DoIP_00234, the DoIP module shall release the corresponding IP Address assignment via the call to SoAd_ReleaseIpAddrAssignment for those connections that have DoIPRequestAddressAssignment set to true. (SRS_Eth_00081, SRS_Eth_00028)

Remove the note after SWS_DoIP_00235.

Chapter 9 "Sequence Diagrams"

Adapt sequence diagrams in section 9.4 "Activation Line Handling Active" and in section 9.5 "Activation Line Handling Inactive" accordingly.

Chapter 10 "Configuration specification"

Add the following new config parameters to DoIPTcpConnection (10.2.13 DoIPTcpConnection), DoIPUdpConnection (10.2.14 DoIPUdpConnection), and DoIPUdpVehicleAnnouncementConnection (10.2.17 DoIPUdpVehicleAnnouncementConnection):

SWS Item ECUC_DoIP_xxxx1 :
Name DoIPRequestAddressAssignment
Description The DoIP module shall request IP address assignment by calling SoAd_RequestIpAddrAssignment() for the TcpIpLocalAddr related to this DoIpConnection.
Multiplicity 1
Type EcucBooleanParamDef
Default value true
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –

Scope / Dependency scope: local

SWS TcpIp
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Chapter 8 "API Specification"

Extend [SWS_TCPIP_00065] by a new enumeration literal:
* TCPIP_IPADDR_ASSIGNMENT_ALL - all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to TCPIP_MANUAL

Add an new specification item after [SWS_TCPIP_00080]:
[SWS_TCPIP_xxxx] In case TcpIp_RequestIpAddrAssignment() is called with parameter Type set to TCPIP_IPADDR_ASSIGNMENT_ALL, the IP address assignment for the IP address table entry specified by LocalAddId shall be initiated for all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to TCPIP_MANUAL.
–Last change on issue 74847 comment 42–

BW-C-Level:

Application	Specification	Bus
1	3	1

1.67 Specification Item SWS_DoIP_00234

Trace References:

SRS_Eth_00081, SRS_Eth_00028

Content:

If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall retrieve all the shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncement Connections. For each of these DoIPConnections the DoIP module shall retrieve the corresponding SoConId of all the configured UDPConnection, via call to the SoAd_GetSoConId and close all the UDP sockets by calls to the connection by a call to SoAd_CloseSoCon with the all the retrieved SoConId.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #74847: [DoIP] How to configure DoIPUdpConnection with limited broadcast local IP address

Problem description:

according to ISO/FDIS 13400-2:2011 Vehicle Identification Request can be sent to multicast (limited broadcast). However, it is not specified in SWS how such a limited broadcast local address address can be configured for a DoIPUdpConnection.

Since DoIP shall use SoAd_RequestIpAddrAssignment() with TCPIP_IPADDR_ASSIGNMENT_AUTOIP and TCPIP_IPADDR_ASSIGNMENT_DHCP, it is not possible to use a static local IP address.

How shall limited broadcast local IP address be configured?
–Last change on issue 74847 comment 2–

Agreed solution:

SWS DoIP

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Chapter 7 "Functional Specification"

Change [SWS_DoIP_00204] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and trigger the IP Address assignment via 2 subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr set to NULL_PTR and in the first call type set to TCPIP_IPADDR_ASSIGNMENT_LINKLOCAL_DOIP and in the second call type set to TCPIP_IPADDR_ASSIGNMENT_DHCP. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. For each of these DoIPConnections which has a DoIPRequestAddressAssignment set to true the DoIp module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and trigger the IP Address assignment via subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr and DefaultRouterPtr set to NULL_PTR, Netmask set to 0, and Type set to TCPIP_IPADDR_ASSIGNMENT_ALL. For each of these DoIPConnections (irrespective of the value of DoIPRequestAddressAssign-

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ment) the DoIP module shall open the respective connection by an according call to SoAd_OpenSoCon. (SRS_Eth_00081, SRS_Eth_00028, SRS_Eth_00026).

Remove the note after SWS_DoIP_00204.

Remove SWS_DoIP_00003

Change [SWS_DoIP_00205] from:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE, after SWS_DoIP_00003 has been performed, for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

To:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

Change [SWS_DoIP_00071] from:
If the DoIP module needs to send a vehicle announcement message because of SWS_DoIP_00003, it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

To:
If the DoIP module needs to send a vehicle announcement message (see SWS_DoIP_00205), it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6 and repeat this message DoIPVehicleAnnouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See

SWS_DoIP_00086).(SRS_Eth_00026)

Change [SWS_DoIP_00234] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall retrieve all the SoConId of all the configured UDPConnection, via call to the SoAd_GetSoConId and close all the UDP sockets by calls to the
SoAd_CloseSoCon with the all the retrieved SoConId.   (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. - For each of these DoIPConnections the DoIP module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and close all the connection by a call to SoAd_CloseSoCon with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

Change [SWS_DoIP_00235] from:
When all UDP sockets are closed (i.e for all the Sockets the function DoIP_SoConModeChg was called with something else than SOAD_SOCON_ONLINE), the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and release the IP
Address assignment via the call to SoAd_ReleaseIpAddrAssignment with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:
In addition to SWS_DoIP_00234, the DoIP module shall release the corresponding IP Address assignment via the call to SoAd_ReleaseIpAddrAssignment for those connections that have DoIPRequestAddressAssignment set to true. (SRS_Eth_00081, SRS_Eth_00028)

Remove the note after SWS_DoIP_00235.

Chapter 9 "Sequence Diagrams"

Adapt sequence diagrams in section 9.4 "Activation Line Handling Active" and

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in section 9.5 "Activation Line Handling Inactive" accordingly.

Chapter 10 "Configuration specification"

Add the following new config parameters to DoIPTcpConnection (10.2.13 DoIPTcpConnection), DoIPUdpConnection (10.2.14 DoIPUdpConnection), and DoIPUdpVehicleAnnouncementConnection (10.2.17 DoIPUdpVehicleAnnouncementConnection):

SWS Item ECUC_DoIP_xxxx1 :
Name DoIPRequestAddressAssignment
Description The DoIP module shall request IP address assignment by calling SoAd_RequestIpAddrAssignment() for the TcpIpLocalAddr related to this DoIpConnection.
Multiplicity 1
Type EcucBooleanParamDef
Default value true
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: local

SWS TcpIp
=========

Chapter 8 "API Specification"

Extend [SWS_TCPIP_00065] by a new enumeration literal:
* TCPIP_IPADDR_ASSIGNMENT_ALL - all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to TCPIP_MANUAL

Add an new specification item after [SWS_TCPIP_00080]:
[SWS_TCPIP_xxxx] In case TcpIp_RequestIpAddrAssignment() is called with parameter Type set to TCPIP_IPADDR_ASSIGNMENT_ALL, the IP address assignment for the IP address table entry specified by LocalAddId shall be initiated for all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to TCPIP_MANUAL.
–Last change on issue 74847 comment 42–

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1	3	1

1.68 Specification Item SWS_DoIP_00235

Trace References:

SRS_Eth_00081, SRS_Eth_00028

Content:

When all UDP sockets are closed (i.e for all the Sockets the function In addition to SWS_DoIP_SoConModeChg was called with something else than SOAD_SOCON_ONLINE)00234, the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and release the release the corresponding IP Address assignment via the call to SoAd_ReleaseIpAddrAssignment with the retrieved SoConIdfor those connections that have DoIPRequestAddressAssignment set to true.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74847: [DoIP] How to configure DoIPUdpConnection with limited broadcast local IP address

Problem description:

according to ISO/FDIS 13400-2:2011 Vehicle Identification Request can be sent to multicast (limited broadcast). However, it is not specified in SWS how such a limited broadcast local address address can be configured for a DoIPUdpConnection.

Since DoIP shall use SoAd_RequestIpAddrAssignment() with TCPIP_IPADDR_ASSIGNMENT_AUTOIP and TCPIP_IPADDR_ASSIGNMENT_DHCP, it is not possible to use a static local IP address.

How shall limited broadcast local IP address be configured?
–Last change on issue 74847 comment 2–

Agreed solution:

SWS DoIP

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Chapter 7 "Functional Specification"

Change [SWS_DoIP_00204] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and trigger the IP Address assignment via 2 subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr set to NULL_PTR and in the first call type set to TCPIP_IPADDR_ASSIGNMENT_LINKLOCAL_DOIP and in the second call type set to TCPIP_IPADDR_ASSIGNMENT_DHCP. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_INACTIVE to DOIP_ACTIVATION_LINE_ACTIVE, the DoIP module shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnouncementConnections. For each of these DoIPConnections which has a DoIPRequestAddressAssignment set to true the DoIp module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and trigger the IP Address assignment via subsequent calls to SoAd_RequestIpAddrAssignment with the retrieved SoConId, LocalIpAddrPtr and DefaultRouterPtr set to NULL_PTR, Netmask set to 0, and Type set to TCPIP_IPADDR_ASSIGNMENT_ALL. For each of these DoIPConnections (irrespective of the value of DoIPRequestAddressAssignment) the DoIP module shall open the respective connection by an according call to SoAd_OpenSoCon. (SRS_Eth_00081, SRS_Eth_00028, SRS_Eth_00026).

Remove the note after SWS_DoIP_00204.

Remove SWS_DoIP_00003

Change [SWS_DoIP_00205] from:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE, after SWS_DoIP_00003 has been performed, for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

To:
If the function DoIP_SoConModeChg is called with Mode set to SOAD_SOCON_ONLINE for a UDP vehicle announcement connection, the DoIP module shall send the vehicle announcement message via the corresponding

Tx PDU configured in the DoIPUdpVehicleAnnouncementConnection and belonging to the reported socket connection.(SRS_Eth_00026)

Change [SWS_DoIP_00071] from:
If the DoIP module needs to send a vehicle announcement message because of SWS_DoIP_00003, it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAn-nouncementTime as described in Table 6 and repeat this message DoIPVehicleAn-nouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPU-seVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

To:
If the DoIP module needs to send a vehicle announcement message (see SWS_DoIP_00205), it shall send the first vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAn-nouncementTime as described in Table 6 and repeat this message DoIPVehicleAn-nouncementRepetition times with a delay of DoIPVehicleAnnouncementInterval. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO13400-2 standard. It shall exist only if the "DoIPU-seVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).(SRS_Eth_00026)

Change [SWS_DoIP_00234] from:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall retrieve all the SoConId of all the configured UDPConnection, via call to the SoAd_GetSoConId and close all the UDP sockets by calls to the
SoAd_CloseSoCon with the all the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:
If the DoIP Activation Line status changes from DOIP_ACTIVATION_LINE_ACTIVE to DOIP_ACTIVATION_LINE_INACTIVE, the DoIP module shall shall loop over all DoIPTcpConnection, DoIPUdpConnection, and DoIPUdpVehicleAnnounce-mentConnections. - For each of these DoIPConnections the DoIP module shall retrieve the corresponding SoConId via call to the SoAd_GetSoConId and close all the connection by a call to SoAd_CloseSoCon with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

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Change [SWS_DoIP_00235] from:

When all UDP sockets are closed (i.e for all the Sockets the function DoIP_SoConModeChg was called with something else than SOAD_SOCON_ONLINE), the DoIP module shall retrieve the SoConId of the first configured UDPConnection, via call to the SoAd_GetSoConId and release the IP

Address assignment via the call to SoAd_ReleaseIpAddrAssignment with the retrieved SoConId. (SRS_Eth_00081, SRS_Eth_00028)

To:

In addition to SWS_DoIP_00234, the DoIP module shall release the corresponding IP Address assignment via the call to SoAd_ReleaseIpAddrAssignment for those connections that have DoIPRequestAddressAssignment set to true. (SRS_Eth_00081, SRS_Eth_00028)

Remove the note after SWS_DoIP_00235.

Chapter 9 "Sequence Diagrams"

Adapt sequence diagrams in section 9.4 "Activation Line Handling Active" and in section 9.5 "Activation Line Handling Inactive" accordingly.

Chapter 10 "Configuration specification"

Add the following new config parameters to DoIPTcpConnection (10.2.13 DoIPTcpConnection), DoIPUdpConnection (10.2.14 DoIPUdpConnection), and DoIPUdpVehicleAnnouncementConnection (10.2.17 DoIPUdpVehicleAnnouncementConnection):

SWS Item ECUC_DoIP_xxxx1 :
Name DoIPRequestAddressAssignment
Description The DoIP module shall request IP address assignment by calling SoAd_RequestIpAddrAssignment() for the TcpIpLocalAddr related to this DoIpConnection.
Multiplicity 1
Type EcucBooleanParamDef
Default value true
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants

Link time –
Post-build time –
Scope / Dependency scope: local

SWS TcpIp
=========

Chapter 8 "API Specification"

Extend [SWS_TCPIP_00065] by a new enumeration literal:
* TCPIP_IPADDR_ASSIGNMENT_ALL - all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to TCPIP_MANUAL

Add an new specification item after [SWS_TCPIP_00080]:
[SWS_TCPIP_xxxx] In case TcpIp_RequestIpAddrAssignment() is called with parameter Type set to TCPIP_IPADDR_ASSIGNMENT_ALL, the IP address assignment for the IP address table entry specified by LocalAddId shall be initiated for all configured TcpIpAssignmentMethods with TcpIpAssignmentTrigger set to TCPIP_MANUAL.
–Last change on issue 74847 comment 42–

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Application	Specification	Bus
1	3	1

1.69   Specification Item SWS_DoIP_00246

Trace References:

Content:

If default development error detection is enabled: The function shall check that the service DoIP_Init was previously called. If the check fails, the function shall raise the development error DOIP_E_UNINIT.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

Problem description:

The DET was renamed from development error tracer to default error tracer.

This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

"default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted docu-ment, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx

module shall check API parameters for validity and report detected development errors to the DET. ()"

- "[SWS_xxx_yyyyy]

If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"

- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]

[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"

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- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-
TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer"
to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-
TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-
TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-
TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-
TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-
TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.70 Specification Item SWS_DoIP_00247

Trace References:

Content:

If default development error detection is enabled: The function shall check if the RxPdu Id matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

  Problem description:

  Hello,

  currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
  This can lead to problems when generating symbolic name values.

  Therefore, our proposal is to rename the PDU containers.
  For DoIPTcpConnection:
  -DoIPSoAdTcpRxPdu
  -DoIPSoAdTcpTxPdu

  For DoIPUdpConnection:
  -DoIPSoAdUdpRxPdu
  -DoIPSoAdUdpTxPdu

  Best regards
  Marc

  Agreed solution:

  ~[SWS_DoIP_00002]
  ...
  (a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
  ...

  ~[SWS_DoIP_00058]

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If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and the SoConId determined by a call to the function SoAd_GetSoConId with the according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall

raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call
DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.

Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call
DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –

Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –

Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef

Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

- RfC #73570: No "default error" in AUTOSAR

  Problem description:

  The DET was renamed from development error tracer to default error tracer.

  This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

  "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

  This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
  "Switches the Default Error Tracer (Det) detection and notification..."

  The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

  Agreed solution:

  Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

  Blueprint/Example:

- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"

...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows

the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

Document ID 695: ChangeDocumentation

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.71   Specification Item SWS_DoIP_00248

Trace References:

Content:

If default development error detection is enabled: The function shall check the validity of the PduInfoPtr and call the DET with DOIP_E_PARAM_POINTER error id if it is a NULL_PTR.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

  Problem description:

  The DET was renamed from development error tracer to default error tracer.

  This change was most of the time done automatically and unfortunately renamed "developement error" to "default error".

  "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"

- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.72   Specification Item SWS_DoIP_00249

Trace References:

Content:

If default development error detection is enabled: The function shall check that the service DoIP_Init was previously called. If the check fails, the function shall raise the development error DOIP_E_UNINIT.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

  Problem description:

  The DET was renamed from development error tracer to default error tracer.

  This change was most of the time done automatically and unfortunately renamed "developement error" to "default error".

  "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

  This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
  "Switches the Default Error Tracer (Det) detection and notification..."

  The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

  Agreed solution:

  Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

  Blueprint/Example:
  - sub chapter is now called "7.x Default errors"
  - "[SWS_xxx_yyyyy]
  In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
  - "[SWS_xxx_yyyyy]
  If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
  - "In case default errors are enabled,..."
  - "module raises the Default error XXX_E_TRANSITION"
  - "The DET provides services to store default errors"

Document ID 695: ChangeDocumentation

...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"

Document ID 695: ChangeDocumentation

- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:

- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer" –Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.73 Specification Item SWS_DoIP_00250

Trace References:

Content:

If default development error detection is enabled: The function shall check if the TxPdu Id matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

  Problem description:

  Hello,

  currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
  This can lead to problems when generating symbolic name values.

  Therefore, our proposal is to rename the PDU containers.
  For DoIPTcpConnection:
  -DoIPSoAdTcpRxPdu
  -DoIPSoAdTcpTxPdu

  For DoIPUdpConnection:
  -DoIPSoAdUdpRxPdu
  -DoIPSoAdUdpTxPdu

Document ID 695: ChangeDocumentation

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00002]

...
(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function
shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is
not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches
a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches
a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over
TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call
DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call

DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd
module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over
UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP

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Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call
DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)

Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

● RfC #73570: No "default error" in AUTOSAR

Problem description:

The DET was renamed from development error tracer to default error tracer.

This change was most of the time done automatically and unfortunately renamed "developement error" to "default error".

"default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

Document ID 695: ChangeDocumentation

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default er-

rors" to "Errors which can occur at runtime in the RTE are classified as development errors"

- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]

[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-TOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-

TOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AU-
TOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-
TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-
TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-
TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.74 Specification Item SWS_DoIP_00252

Trace References:

Content:

If default development error detection is enabled: The function shall check that the service
DoIP_Init was previously called. If the check fails, the function shall raise the development
error DOIP_E_UNINIT.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #73570: No "default error" in AUTOSAR

Problem description:

The DET was renamed from development error tracer to default error tracer.

This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

"default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
"Switches the Default Error Tracer (Det) detection and notification..."

The parameter switches on/off the developement error detection. The DET does not need to be detected and can be present even when the parameter is set to false.

Agreed solution:

Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

Blueprint/Example:
- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"
...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]

In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called.   If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to

"Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.75   Specification Item SWS_DoIP_00258

Trace References:

Content:

If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the according configured DoIPSoAdTcpRxPduRef.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #71056: [DoIP] Container names below DoIPTcpConnection and DoIPUdpConnection should be different

  Problem description:

  Hello,

  currently, below the ECUC containers DoIPTcpConnection and DoIPUdpConnection there are the same names used for the PDU containers (DoIPSoAdRxPdu and DoIPSoAdTxPdu).
  This can lead to problems when generating symbolic name values.

  Therefore, our proposal is to rename the PDU containers.
  For DoIPTcpConnection:
  -DoIPSoAdTcpRxPdu
  -DoIPSoAdTcpTxPdu

  For DoIPUdpConnection:
  -DoIPSoAdUdpRxPdu
  -DoIPSoAdUdpTxPdu

  Best regards
  Marc

  Agreed solution:

  ~[SWS_DoIP_00002]
  ...

(a) DoIPSoAdTcpRxPduId, describes the connection to the SocketConnection
...

~[SWS_DoIP_00058]
If a connection needs to be closed based on DoIP specific behavior the DoIP module
shall call the function SoAd_CloseSoCon with the parameter abort set to TRUE and
the SoConId determined by a call to the function SoAd_GetSoConId with the
according DoIPSoAdTcpTxPdu. Additionally also the according inactivity timer will be
stopped.

~[SWS_DoIP_00198]
If the DoIP module shall send a DoIP message via UDP it shall call the
SoAd_IfTransmit with the TxPduId set to the SoAd internal TxPduId that is retrieved
via the according configured DoIPSoAdUdpTxPduRef, the PduInfoPtr shall contain the
length of the message and the pointer to the to be transmitted message buffer and
additionally the buffer shall be locked.

~[SWS_DoIP_00258]
If the DoIP module is called with DoIP_TpCancelReceive, the DoIP module shall call
the SoAd_TpCancelReceive function with the RxPduId that is retrieved via the
according configured DoIPSoAdTcpRxPduRef.

~[SWS_DoIP_00176]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00181]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpTxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00036]
If default error detection is enabled: The function shall check if the id matches a
configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the
development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not
enabled, return BUFREQ_E_NOT_OK.

Document ID 695: ChangeDocumentation

~[SWS_DoIP_00187]
If default error detection is enabled: The function shall check if
the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall
raise the development error DOIP_E_INVALID_PDU_SDU_ID. Otherwise, if DET is not enabled, return BUFREQ_E_NOT_OK.

~[SWS_DoIP_00191]
If default error detection is enabled: The function shall check if the id matches a configured DoIPSoAdTcpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00247]
If default error detection is enabled: The function shall check if the RxPduId matches a configured DoIPSoAdUdpRxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~[SWS_DoIP_00250]
If default error detection is enabled: The function shall check if the TxPduId matches a configured DoIPSoAdUdpTxPduId. If the check fails the function shall raise the development error DOIP_E_INVALID_PDU_SDU_ID.

~Adapt Diagram in chapter 10.2.11 DoIPConnections

~10.2.13 DoIPTcpConnection
SWS Item ECUC_DoIP_00045 :
Container Name DoIPTcpConnection
Description This container describes a TCP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdTcpRxPdu 1 This container describes a Rx PDU received via SoAd over TCP
DoIPSoAdTcpTxPdu 1 This container describes a Tx PDU sent via SoAd over TCP

+10.2.14 DoIPSoAdTcpRxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpRxPdu
Description This container describes a Rx PDU received via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduId
Description The DoIPSoAdTcpRxPduId is required by the API call
DoIP_SoAdTpRxIndication to receive I-PDUs from the SoAd.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

+10.2.15 DoIPSoAdTcpTxPdu
SWS Item ECUC_DoIP_xxxxx :
Container Name DoIPSoAdTcpTxPdu
Description This container describes a Tx PDU sent via SoAd over TCP
Configuration Parameters

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduId
Description The DoIPSoAdTcpTxPduId is required by the API call
DoIP_SoAdTpTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –

Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_xxxxx :
Name DoIPSoAdTcpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.16 DoIPUdpConnection
SWS Item ECUC_DoIP_00052 :
Container Name DoIPUdpConnection
Description This Container describes a UDP connection to the lower layer SoAd module.
Configuration Parameters

Included Containers
Container Name Multiplicity Scope / Dependency
DoIPSoAdUdpRxPdu 1 This container describes a Rx PDU received via SoAd over UDP
DoIPSoAdUdpTxPdu 1 This container describes a Tx PDU sent via SoAd over UDP

~10.2.17 DoIPSoAdUdpRxPdu
SWS Item ECUC_DoIP_00046 :
Container Name DoIPSoAdUdpRxPdu
Description This container describes a Rx PDU received via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00048 :
Name DoIPSoAdUdpRxPduId
Description The DoIPSoAdUdpRxPduId is required by the API call DoIP_SoAdIfRxIndication to receive I-PDUs from the SoAd.

Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –
Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00049 :
Name DoIPSoAdUdpRxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle
IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers

~10.2.18 DoIPSoAdUdpTxPdu
SWS Item ECUC_DoIP_00047 :
Container Name DoIPSoAdUdpTxPdu
Description This container describes a Tx PDU sent via SoAd over UDP
Configuration Parameters

SWS Item ECUC_DoIP_00051 :
Name DoIPSoAdUdpTxPduId
Description The DoIPSoAdUdpTxPduId is required by the API call
DoIP_SoAdIfTxConfirmation that is called by the SoAd to confirm that the
IPdu has been transmitted successfully.
Multiplicity 1
Type EcucIntegerParamDef (Symbolic Name generated for this parameter)
Range 0 .. 65535
Default value –
Post-Build Variant Value false
Value Configuration Class Pre-compile time X All Variants
Link time –
Post-build time –

Scope / Dependency scope: ECU

SWS Item ECUC_DoIP_00050 :
Name DoIPSoAdUdpTxPduRef
Description Reference to the "global" Pdu structure to allow harmonization of handle IDs in the COM-Stack.
Multiplicity 1
Type Reference to [Pdu]
Post-Build Variant Value true
Value Configuration Class Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME
Post-build time X VARIANT-POST-BUILD
Scope / Dependency scope: local

No Included Containers
–Last change on issue 71056 comment 9–

BW-C-Level:

Application	Specification	Bus
1	4	1

1.76 Specification Item SWS_DoIP_00274

Trace References:

SRS_Eth_00084

Content:

If the DoIPRoutingActivationConfirmationCallback returns something else (le.g. E_NOT_OK) , the DoIP module shall send a routing activation response message with the activation response code set to 0x05 as described in chapter REF7.3.2.3.2 and the socket connection shall be considered as registered to this DoIPTesterSA without activating the routing. closed as defined in SWS_DoIP_00058.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #72190: [DoIP] Routing Activation Confirmation Handling not according to the ISO

  Problem description:

  Hi,

SWS_DoIP_00114 specifies that a Routing Activation Response is sent with the response code set to 0x11 if the DoIPRoutingActivationConfirmationCallback() returns DOIP_E_PENDING. Afterwards DoIPRoutingActivationConfirmationCallback() shall be called cyclically.

SWS_DoIP_00274 specifies that a Routing Activation Response is sent with the response code set to 0x05 once the DoIPRoutingActivationConfirmationCallback() returns e.g. E_NOT_OK and "the socket connection shall be considered as registered to this DoIPTesterSA without activating the routing."

We see two issues:
1. According to the ISO, after a Routing Activation Response with response code 0x05 is sent, the socket shall be closed. This is in contrast to "the socket connection shall be considered as registered to this DoIPTesterSA without activating the routing."

2. With the two requirements above, two Routing Activation Response messages will be sent. The first (0x11) on DoIPRoutingActivationConfirmationCallback() returning DOIP_E_PENDING. The second (0x05) on DoIPRoutingActivationConfirmationCallback() returning e.g. E_NOT_OK. However, the ISO13400-2 includes the following note: "NOTE 2 This implies that once the additional confirmation from within the vehicle has been performed, this response code
will not be sent anymore and the DoIP entity will activate routing as requested. Thus external test equipment can periodically send the routing activation request message to determine whether confirmation has been successfully completed."

Best regards
Marc

Agreed solution:

~[SWS_DoIP_00114]
If the DoIPRoutingActivationConfirmationCallback returns DOIP_E_PENDING, the DoIP module shall send a routing activation response message once with the activation response code set to 0x11 as described in chapter 7.3.2.3.2. (SRS_Eth_00084)

~[SWS_DoIP_00274]
If the DoIPRoutingActivationConfirmationCallback returns E_NOT_OK, the DoIP module shall send a routing activation response message with the activation response code set to 0x05 as described in chapter 7.3.2.3.2 and the socket connection shall be closed as defined in SWS_DoIP_00058.(SRS_Eth_00084)
–Last change on issue 72190 comment 24–

BW-C-Level:

Application	Specification	Bus
1	4	4

1.77   Specification Item SWS_DoIP_00285

Trace References:

Content:

If default development error detection is enabled: The function shall check that the service DoIP_Init was previously called. If the check fails, the function shall raise the development error DOIP_E_UNINIT.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #73570: No "default error" in AUTOSAR

  Problem description:

  The DET was renamed from development error tracer to default error tracer.

  This change was most of the time done automatically and unfortunately re-named "developement error" to "default error".

  "default error" should always be followed by "tracer", otherwise, "development error" is probably the right term.

  This could increase the impact (compared to my selection of impacted document, but formally, the configuration parameters *DevErrorDetect are not using the correct description:
  "Switches the Default Error Tracer (Det) detection and notification..."

  The parameter switches on/off the developement error detection.   The DET does not need to be detected and can be present even when the parameter is set to false.

  Agreed solution:

  Rename "default error" to "development error" in all impacted documents, but not in an automated way (Do not change "default error tracer" to "developement error tracer"!)

  Blueprint/Example:

- sub chapter is now called "7.x Default errors"
- "[SWS_xxx_yyyyy]
In case default error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If default error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the default error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case default errors are enabled,..."
- "module raises the Default error XXX_E_TRANSITION"
- "The DET provides services to store default errors"

...

The correct text would be:
- sub chapter is called "7.x Development errors"
- "[SWS_xxx_yyyyy]
In case development error detection is enabled for the xxxx module: The xxxx module shall check API parameters for validity and report detected development errors to the DET. ()"
- "[SWS_xxx_yyyyy]
If development error detection is enabled: the function shall check that the service xxx_Init was previously called. If the check fails, the function shall raise the development error XXX_E_NOT_INITIALIZED otherwise (if DET is disabled) return E_NOT_OK. ()"
- "In case development errors are enabled,..."
- "module raises the development error XXX_E_TRANSITION"
- "The DET provides services to store development errors"

Solution for SWS_RTE:
– SWS_RTE —
- Change 4.8 Default errors to 4.8 Development errors
- Change "Errors which can occur at runtime in the RTE are classified as default errors" to "Errors which can occur at runtime in the RTE are classified as development errors"
- Remove [SWS_Rte_07676]
- Change [SWS_RTE_06611]"If a violation is detected the RTE shall report a default error to the DET." to "If a violation is detected the RTE shall report a development error to the DET."
- Change [SWS_Rte_06631]
[SWS_Rte_06631] d The RTE shall use the OS Application Identifier as the Instance Id to enable the developer to identify in which runtime section of the RTE the error occurs. This Instance ID is even unique across multi cores and so implicitly allows

the development error to be traced to a specific core. c(SRS_BSW_00337)

SRS_Libraries:
- In chapter "3 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_SPALGeneral:
- In chapter "6.1.1.3.1 [SRS_SPAL_00157] ...": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "6.1.1.4.2 [SRS_SPAL_12448] ...": Rename "Development Error Tracer" to "Default Error Tracer"

SRS_FlashTest:
- In chapter "6.1 Functional Requirements": Rename "Development Error Tracer" to "Default Error Tracer"
- In chapter "7 References":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_MFXLibrary:
- In chapter "2 Acronyms and abbreviations": Rename "Development Error Tracer" to "Default Error Tracer"

SWS_MemoryAbstractionInterface:
- In chapter "3.1 Input documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_FlexRayNetworkManagement:
- In chapter "3.3 Related AUTOSAR documents":
Rename "Development Error Tracer" to "Default Error Tracer"
Rename "AUTOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_CANStateManager:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_PDURouter:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"

SWS_EEPROMDriver:
- In chapter "3.1 Input documents": Rename "AU-TOSAR_SWS_DevelopmentErrorTracer" to "AUTOSAR_SWS_DefaultErrorTracer"
–Last change on issue 73570 comment 47–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.78 Specification Item SWS_DoIP_00286

Trace References:

Content:

DoIP module shall consider the announcement successful and process DoIPVehicleAnnouncementRepetition Count if the SoAd calls the DoIP module via the interface DoIP_SoAdIfTxConfirmation with Result set to E_OK for the announcement related SoAd_IfTransmit() call i.e. if E_NOT_OK is returned for the last announcement message, it will not be considered an announcement.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74987: [DoIP] Inconsistency between SWS_DoIP_00071 and DoIPVehicleAnnouncementRepetition

  Problem description:

  SWS_DoIP_00071 says the first vehicle announcement message is send via the configured DoIPUDPConnection after DoIPInitialVehicleAnnouncementTime and repeated DoIPVehicleAnnouncementRepetition times.
  Result is the announcement message is send 1 + the configured value times.

But from the description of DoIPVehicleAnnouncementRepetition (...represents parameter A_DoIP_Annunce_Num of ISO...), I would expect that the announcement message is send only the configured number of times.
(ISO 13400-2:2012, A_DoIP_Announce_Num:
This parameter specifies the number of vehicle
announcement messages which are sent by the DoIP
entity after a valid IP address was configured.)

Also the allowed range is currently 1 .. 255.
With SWS_DoIP_00071 this results in a minimum of 2 announcement messages. If the number of announcement messages is configurable, shouldn't it be possible to configure a minimum of 1 (equals 0 repetitions)?

I suggest changing SWS_DoIP_00071 and renaming the configuration parameter and so they reflect the ISO description.

Agreed solution:

1) ~ SWS_DoIP_00071:
If the DoIP module needs to send a vehicle announcement message because of SWS_DoIP_00003, it shall send the vehicle announcement message via the configured DoIPUdpVehicleAnnouncementConnection after DoIPInitialVehicleAnnouncementTime as described in Table 6. This message shall be sent DoIPVehicleAnnouncementCount times with a delay of DoIPVehicleAnnouncementInterval between each message. The last "VIN/GID Status" byte of the Vehicle identification response message is optional as defined in the ISO 13400-2 standard. It shall exist only if the "DoIPUseVehicleIdentificationSyncStatus" configuration parameter is set to True. (See SWS_DoIP_00086).

2) ~ SWS_DoIP_00286: replace "DoIPVehicleAnnouncementRepetition" with "DoIPVehicleAnnouncementCount"

3) - ECUC_DoIP_00011: set to obsolete

4) + ECUC_DoIP_xxxxx:
Name: DoIPVehicleAnnouncementCount
Description: Number of vehicle announcement messages on IP address assignment. Represents parameter A_DoIP_Announce_Num of ISO 13400-2:2012.
This newly-added parameter simply replaces ECUC_DoIP_00011, which is set to obsolete with this RFC. So its position and rest all fields match ECUC_DoIP_00011 under DoIPGeneral.

5- Adapt the diagram at the end of Chapter 10.2.3 "DoIP General" to reflect

these ECUC parameter changes, i.e. just replace "DoIPVehicleAnnouncementRep-
etition" with "DoIPVehicleAnnouncementCount"
–Last change on issue 74987 comment 20–

BW-C-Level:

Application	Specification	Bus
1	3	1

1.79   Specification Item SWS_DoIP_00287

Trace References:

SRS_Eth_00026

Content:

Name	DoIP_FurtherActionByteTypeDoIP_FurtherActionByteType		
Kind	Type		
Derived from	uint8		
Description	Used to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.		
Range	0x11..0xFF		Available for additional OEM-specific use
Variation	–		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74849: [DoIP] Further action code values (0x11 to 0xFF) missing

  Problem description:

  Further action code values (0x11 to 0xFF) that are defined in ISO 13400-2 missing in Autosar standard. The further action byte is used in vehicle identification/vehicle announcement.

  ISO 13400-2 mentions range (0x11 to 0xFF) of "further action byte" value in "Table 20 Definition of further action code values" for OEM specific use but this is not mentioned in Autosar standard.

  0x11 to 0xFF Available for additional OEM-specific use. optional

  Please add a configurable parameter (i.e.   DoIPGetFurtherActionByteCallback)

under DoIPGeneral as DoIPGeneral/DoIPGetFurtherActionByteCallback

which should be a string literal. With lower multiplicity 0. If configured, this will be the name of the callback to get the OEM specific further action byte to be used in vehicle identification/announcement message.

Agreed solution:

1- Changes in Chapter 7:

Table 6: Vehicle identification response/vehicle announcement message payload data
Further action required should be changed to Further action or Further action byte.

7.3.2.2.4 Vehicle Identification response/vehicle announcement (payload type 0x0004)
Add [SWS_DoIP_00xxx]
The Further action byte of a vehicle identification response/vehicle announcement message shall contain the 1 Byte value retrieved by a call to the configured DoIPFurtherActionByteCallback (if configured, for the signature see <User>_DoIPGetFurtherActionByteCallback, SWS_DoIP_00xxx). If the function returns E_OK, the Further action byte shall be set to the retrieved value of FurtherActionByte. If the function returns E_NOT_OK, the Further action byte shall be set according to [SWS_DoIP_00082], [SWS_DoIP_00083] or [SWS_DoIP_00084].
(SRS_Eth_00026)

2- Changes in Chapter 8

8.1 Imported types
Add [SWS_DoIP_00xxx]
Name DoIP_FurtherActionByteType
Kind Type
Derived from uint8
Description Used to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.
Range
0x11-0xFF 0x11-0xFF Available for additional OEM-specific use
Variation –
()

8.6.3 Configurable interfaces
8.6.3.6 <User>_DoIPGetFurtherActionByteCallback
Add [SWS_DoIP_00xxx]
Service name: <User>_ DoIPGetFurtherActionByteCallback

Document ID 695: ChangeDocumentation

Syntax: Std_ReturnType <User>_ DoIPGetFurtherActionByteCallback (DoIP_FurtherActionByteType* FurtherActionByte)
Service ID[hex]: 0x00
Sync/Async: Synchronous
Reentrancy: Don't care
Parameters (in): None
Parameters (inout): None
Parameters (out): FurtherActionByte
Pointer containing the information of the FurtherActionByte. Only valid if the return value equals E_OK.
Return value: Std_ReturnType
E_OK: FurtherActionByte contains valid information
E_NOT_OK: FurtherActionByte contains no valid information
Description: Callback function to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.
(SRS_Eth_00026)

8.6.4 DoIP Service Component
The DoIP Service Component shall provide the interface CallbackGetFurtherActionByte as described below to request the value of the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.

Name CallbackGetFurtherActionByte
Comment –
IsService true
Variation ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect) == NULL
Possible Errors
0 E_OK
1 E_NOT_OK

Operations
GetFurtherActionByte
Comments –
Variation –
Parameters FurtherActionByte
Comment –
Type DoIP_FurtherActionByteType
Variation –
Direction OUT
Possible Errors
E_OK Operation successful
E_NOT_OK –

The DoIP Service Component shall be equipped with a service port as described below to request the value of the Further Action Byte for DoIP diagnostic vehicle identification response/vehicle announcement.

Add [SWS_DoIP_00xxx]
Name CBGetfurtherActionByte
Kind RequiredPort
Interface CallbackGetFurtherActionByte
Description –
Variation ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect) == NULL

3- Changes in Chapter 10

10.2.3 DoIPGeneral
Included Containers
Container Name: DoIPFurtherActionByteCallback
Multiplicity: 0..1
Scope / Dependency: This container describes the Callbackfunction to get the Further Action byte. If this container is not configured no Callbackfunction will be used.
If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetFurtherActionByte with the name "CBGetFurtherActionByte".

10.2.x DoIPFurtherActionByteCallback
SWS Item: ECUC_DoIP_000xx
Container Name: DoIPFurtherActionByteCallback
Description: This container describes the Callbackfunction to get the Further Action byte. This container shall always be present. If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetPowerMode with the name "CBGetFurtherActionByte".

Add Configuration Parameters as:

SWS Item: ECUC_DoIP_00xxx
Name: DoIPFurtherActionByteDirect
Description: Direct C Callback function to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement. If the DoIPFurtherActionByteDirect parameter is present, the DoIP module will not use an RPort of ServiceInterface CBGetFurtherActionByte but will call the configured function.

Document ID 695: ChangeDocumentation

Multiplicity 0..1
Type EcucFunctionNameDef
Default value –
maxLength –
minLength –
regularExpression
ConfigurationClass
Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME, VARIANT-POST-BUILD
Post-build time –
Scope / Dependency scope: local
No Included Containers

SWCT
====

Add new chapter below 13.8.6:

13.8.6.x DoIP Service Use Case: Atomic Software-Component provides the further action byte to the DoIP Service Component.

Scenario: An AtomicSoftwareComponent provides the "further action byte" used in vehicle identification/announcement message.

[TPS_SWCT_0xxxx] DoIP Service Use Case: Atomic Software-Component provides the further action byte
ServiceNeeds kind DiagnosticComponentNeeds
ServiceNeedsKind: FurtherActionByteNeeds
RoleBasedPortAssignment valid roles:
CallbackGetFurtherActionByte[1]
RoleBasedDataAssignment
N/A
RepresentedPortGroups
N/A
c(RS_SWCT_03310, RS_SWCT_03190)

Add new subclass of DoIpServiceNeeds named FurtherActionByteNeeds. Description: The FurtherActionByteNeeds indicates that the software-component is able to provide the "further action byte" to the DoIp Service Component."
–Last change on issue 74849 comment 10–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.80 Specification Item SWS_DoIP_00288

Trace References:

SRS_Eth_00026

Content:

Service name:	<User>_DoIPGetFurtherActionByteCallbackDoIPGetFurtherActionByteCallback
Syntax:	Std_ReturnType <User>_DoIPGetFurtherActionByteCallback(DoIP_FurtherActionByteType* FurtherActionByte)
Service ID[hex]:	0x00
Sync/Async:	Synchronous
Reentrancy:	Don't care
Parameters (in):	None
Parameters (inout):	None
Parameters (out):	FurtherActionByteDoIPGetFurtherAction ByteCallback.FurtherActionByte	Pointer containing the information of the FurtherActionByte. Only valid if the return value equals E_OK.
Return value:	Std_ReturnType	E_OK: FurtherActionByte contains valid information E_NOT_OK: FurtherAction Byte contains no valid information
Description:	Callback function to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

● RfC #74849: [DoIP] Further action code values (0x11 to 0xFF) missing

Problem description:

Further action code values (0x11 to 0xFF) that are defined in ISO 13400-2 missing in Autosar standard. The further action byte is used in vehicle identification/vehicle announcement.

ISO 13400-2 mentions range (0x11 to 0xFF) of "further action byte" value in "Table 20 Definition of further action code values" for OEM specific use but this is not mentioned in Autosar standard.

0x11 to 0xFF Available for additional OEM-specific use. optional

Please add a configurable parameter (i.e. DoIPGetFurtherActionByteCallback) under DoIPGeneral as DoIPGeneral/DoIPGetFurtherActionByteCallback

which should be a string literal. With lower multiplicity 0. If configured, this will be the name of the callback to get the OEM specific further action byte to be used in vehicle identification/announcement message.

Agreed solution:

1- Changes in Chapter 7:

Table 6: Vehicle identification response/vehicle announcement message payload data
Further action required should be changed to Further action or Further action byte.

7.3.2.2.4 Vehicle Identification response/vehicle announcement (payload type 0x0004)
Add [SWS_DoIP_00xxx]
The Further action byte of a vehicle identification response/vehicle announcement message shall contain the 1 Byte value retrieved by a call to the configured DoIPFurtherActionByteCallback (if configured, for the signature see <User>_DoIPGetFurtherActionByteCallback, SWS_DoIP_00xxx). If the function returns E_OK, the Further action byte shall be set to the retrieved value of FurtherActionByte. If the function returns E_NOT_OK, the Further action byte shall be set according to [SWS_DoIP_00082], [SWS_DoIP_00083] or [SWS_DoIP_00084].
(SRS_Eth_00026)

2- Changes in Chapter 8

8.1 Imported types
Add [SWS_DoIP_00xxx]
Name DoIP_FurtherActionByteType
Kind Type
Derived from uint8
Description Used to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.
Range
0x11-0xFF 0x11-0xFF Available for additional OEM-specific use
Variation –
()

8.6.3 Configurable interfaces
8.6.3.6 <User>_DoIPGetFurtherActionByteCallback
Add [SWS_DoIP_00xxx]
Service name: <User>_ DoIPGetFurtherActionByteCallback
Syntax: Std_ReturnType   <User>_   DoIPGetFurtherActionByteCallback   (
DoIP_FurtherActionByteType* FurtherActionByte)
Service ID[hex]: 0x00
Sync/Async: Synchronous
Reentrancy: Don't care
Parameters (in): None
Parameters (inout): None
Parameters (out): FurtherActionByte
Pointer containing the information of the FurtherActionByte. Only valid if the return
value equals E_OK.
Return value: Std_ReturnType
E_OK: FurtherActionByte contains valid information
E_NOT_OK: FurtherActionByte contains no valid information
Description: Callback function to get the OEM specific Further Action Byte for the
DoIP vehicle identification response/vehicle announcement.
(SRS_Eth_00026)

8.6.4 DoIP Service Component
The DoIP Service Component shall provide the interface CallbackGetFurtherAc-
tionByte as described below to request the value of the OEM specific Further Action
Byte for the DoIP vehicle identification response/vehicle announcement.

Name CallbackGetFurtherActionByte
Comment –
IsService true
Variation ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect)
== NULL
Possible Errors
0 E_OK
1 E_NOT_OK

Operations
GetFurtherActionByte
Comments –
Variation –
Parameters FurtherActionByte
Comment –
Type DoIP_FurtherActionByteType
Variation –

Direction OUT
Possible Errors
E_OK Operation successful
E_NOT_OK –

The DoIP Service Component shall be equipped with a service port as de-scribed below to request the value of the Further Action Byte for DoIP diagnostic vehicle identification response/vehicle announcement.

Add [SWS_DoIP_00xxx]
Name CBGetfurtherActionByte
Kind RequiredPort
Interface CallbackGetFurtherActionByte
Description –
Variation ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect) == NULL

3- Changes in Chapter 10

10.2.3 DoIPGeneral
Included Containers
Container Name: DoIPFurtherActionByteCallback
Multiplicity: 0..1
Scope / Dependency: This container describes the Callbackfunction to get the Further Action byte. If this container is not configured no Callbackfunction will be used.
If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetFurtherActionByte with the name "CBGetFurtherActionByte".

10.2.x DoIPFurtherActionByteCallback
SWS Item: ECUC_DoIP_000xx
Container Name: DoIPFurtherActionByteCallback
Description: This container describes the Callbackfunction to get the Further Action byte. This container shall always be present. If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetPowerMode with the name "CBGetFurtherActionByte".

Add Configuration Parameters as:

SWS Item: ECUC_DoIP_00xxx
Name: DoIPFurtherActionByteDirect
Description: Direct C Callback function to get the OEM specific Further Action

Byte for the DoIP vehicle identification response/vehicle announcement. If the
DoIPFurtherActionByteDirect parameter is present, the DoIP module will not use
an RPort of ServiceInterface CBGetFurtherActionByte but will call the configured
function.
Multiplicity 0..1
Type EcucFunctionNameDef
Default value –
maxLength –
minLength –
regularExpression
ConfigurationClass
Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME, VARIANT-POST-BUILD
Post-build time –
Scope / Dependency scope: local
No Included Containers

SWCT
====

Add new chapter below 13.8.6:

13.8.6.x DoIP Service Use Case: Atomic Software-Component provides the
further action byte to the DoIP Service Component.

Scenario: An AtomicSoftwareComponent provides the "further action byte"
used in vehicle identification/announcement message.

[TPS_SWCT_0xxxx] DoIP Service Use Case: Atomic Software-Component
provides the further action byte
ServiceNeeds kind DiagnosticComponentNeeds
ServiceNeedsKind: FurtherActionByteNeeds
RoleBasedPortAssignment valid roles:
CallbackGetFurtherActionByte[1]
RoleBasedDataAssignment
N/A
RepresentedPortGroups
N/A
c(RS_SWCT_03310, RS_SWCT_03190)

Add new subclass of DoIpServiceNeeds named FurtherActionByteNeeds. De-
scription: The FurtherActionByteNeeds indicates that the software-component is

able to provide the "further action byte" to the DoIp Service Component."
–Last change on issue 74849 comment 10–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.81 Specification Item SWS_DoIP_00289

Trace References:

SRS_Eth_00026

Content:

Name	CBGetfurtherActionByteDoIP.CBGetfurtherActionByte		
Kind	RequiredPort	Interface	CallbackGetFurtherAction Byte
Description	–		
Variation	{ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect)} == NULL		

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74849: [DoIP] Further action code values (0x11 to 0xFF) missing

  Problem description:

  Further action code values (0x11 to 0xFF) that are defined in ISO 13400-2 missing in Autosar standard. The further action byte is used in vehicle identification/vehicle announcement.

  ISO 13400-2 mentions range (0x11 to 0xFF) of "further action byte" value in "Table 20 Definition of further action code values" for OEM specific use but this is not mentioned in Autosar standard.

  0x11 to 0xFF Available for additional OEM-specific use. optional

  Please add a configurable parameter (i.e. DoIPGetFurtherActionByteCallback) under DoIPGeneral as DoIPGeneral/DoIPGetFurtherActionByteCallback

  which should be a string literal. With lower multiplicity 0. If configured, this

will be the name of the callback to get the OEM specific further action byte to be used in vehicle identification/announcement message.

Agreed solution:

1- Changes in Chapter 7:

Table 6: Vehicle identification response/vehicle announcement message payload data
Further action required should be changed to Further action or Further action byte.

7.3.2.2.4 Vehicle Identification response/vehicle announcement (payload type 0x0004)
Add [SWS_DoIP_00xxx]
The Further action byte of a vehicle identification response/vehicle announcement message shall contain the 1 Byte value retrieved by a call to the configured DoIPFurtherActionByteCallback (if configured, for the signature see <User>_DoIPGetFurtherActionByteCallback, SWS_DoIP_00xxx). If the function returns E_OK, the Further action byte shall be set to the retrieved value of FurtherActionByte. If the function returns E_NOT_OK, the Further action byte shall be set according to [SWS_DoIP_00082], [SWS_DoIP_00083] or [SWS_DoIP_00084].
(SRS_Eth_00026)

2- Changes in Chapter 8

8.1 Imported types
Add [SWS_DoIP_00xxx]
Name DoIP_FurtherActionByteType
Kind Type
Derived from uint8
Description Used to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.
Range
0x11-0xFF 0x11-0xFF Available for additional OEM-specific use
Variation –
()

8.6.3 Configurable interfaces
8.6.3.6 <User>_DoIPGetFurtherActionByteCallback
Add [SWS_DoIP_00xxx]
Service name: <User>_ DoIPGetFurtherActionByteCallback
Syntax: Std_ReturnType <User>_ DoIPGetFurtherActionByteCallback (DoIP_FurtherActionByteType* FurtherActionByte)
Service ID[hex]: 0x00

Sync/Async: Synchronous
Reentrancy: Don't care
Parameters (in): None
Parameters (inout): None
Parameters (out): FurtherActionByte
Pointer containing the information of the FurtherActionByte. Only valid if the return value equals E_OK.
Return value: Std_ReturnType
E_OK: FurtherActionByte contains valid information
E_NOT_OK: FurtherActionByte contains no valid information
Description: Callback function to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.
(SRS_Eth_00026)

8.6.4 DoIP Service Component
The DoIP Service Component shall provide the interface CallbackGetFurtherActionByte as described below to request the value of the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.

Name CallbackGetFurtherActionByte
Comment –
IsService true
Variation ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect) == NULL
Possible Errors
0 E_OK
1 E_NOT_OK

Operations
GetFurtherActionByte
Comments –
Variation –
Parameters FurtherActionByte
Comment –
Type DoIP_FurtherActionByteType
Variation –
Direction OUT
Possible Errors
E_OK Operation successful
E_NOT_OK –

The DoIP Service Component shall be equipped with a service port as described below to request the value of the Further Action Byte for DoIP diagnostic

vehicle identification response/vehicle announcement.

Add [SWS_DoIP_00xxx]
Name CBGetfurtherActionByte
Kind RequiredPort
Interface CallbackGetFurtherActionByte
Description –
Variation ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect)
== NULL

3- Changes in Chapter 10

10.2.3 DoIPGeneral
Included Containers
Container Name: DoIPFurtherActionByteCallback
Multiplicity: 0..1
Scope / Dependency: This container describes the Callbackfunction to get the Further Action byte. If this container is not configured no Callbackfunction will be used.
If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetFurtherActionByte with the name "CBGetFurtherActionByte".

10.2.x DoIPFurtherActionByteCallback
SWS Item: ECUC_DoIP_000xx
Container Name: DoIPFurtherActionByteCallback
Description: This container describes the Callbackfunction to get the Further Action byte. This container shall always be present. If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetPowerMode with the name "CBGetFurtherActionByte".

Add Configuration Parameters as:

SWS Item: ECUC_DoIP_00xxx
Name: DoIPFurtherActionByteDirect
Description: Direct C Callback function to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement. If the DoIPFurtherActionByteDirect parameter is present, the DoIP module will not use an RPort of ServiceInterface CBGetFurtherActionByte but will call the configured function.
Multiplicity 0..1
Type EcucFunctionNameDef
Default value –

Document ID 695: ChangeDocumentation

maxLength –
minLength –
regularExpression
ConfigurationClass
Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME, VARIANT-POST-BUILD
Post-build time –
Scope / Dependency scope: local
No Included Containers

SWCT
====

Add new chapter below 13.8.6:

13.8.6.x DoIP Service Use Case: Atomic Software-Component provides the further action byte to the DoIP Service Component.

Scenario: An AtomicSoftwareComponent provides the "further action byte" used in vehicle identification/announcement message.

[TPS_SWCT_0xxxx] DoIP Service Use Case: Atomic Software-Component provides the further action byte
ServiceNeeds kind DiagnosticComponentNeeds
ServiceNeedsKind: FurtherActionByteNeeds
RoleBasedPortAssignment valid roles:
CallbackGetFurtherActionByte[1]
RoleBasedDataAssignment
N/A
RepresentedPortGroups
N/A
c(RS_SWCT_03310, RS_SWCT_03190)

Add new subclass of DoIpServiceNeeds named FurtherActionByteNeeds. Description: The FurtherActionByteNeeds indicates that the software-component is able to provide the "further action byte" to the DoIp Service Component."
–Last change on issue 74849 comment 10–

BW-C-Level:

Application	Specification	Bus
1	1	1

Document ID 695: ChangeDocumentation

1.82   Specification Item SWS_DoIP_00290

Trace References:

SRS_Eth_00026

Content:

Name	CallbackGetFurtherActionByteCallbackGetFurtherActionByte	
Comment	–	
IsService	true	
Variation	{ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect)} == NULL	
Possible Errors	0	E_OK
	1	E_NOT_OK

Operations:

GetFurtherActionByteCallbackGetFurtherActionByte.GetFurtherActionByte			
Comments	–		
Variation	–		
Parameters	FurtherActionByteCallbackGetFurtherActionByte.GetFurtherActionByte.FurtherActionByte	Comment	–
		Type	DoIP_FurtherActionByteType
		Variation	–
		Direction	OUT
Possible Errors	E_OK	Operation successful, FurtherActionByte contains valid information.	
	E_NOT_OK	Operation not successful, FurtherActionByte contains no valid information.	

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74849: [DoIP] Further action code values (0x11 to 0xFF) missing

  Problem description:

  Further action code values (0x11 to 0xFF) that are defined in ISO 13400-2 missing in Autosar standard. The further action byte is used in vehicle identification/vehicle announcement.

Document ID 695: ChangeDocumentation

ISO 13400-2 mentions range (0x11 to 0xFF) of "further action byte" value in "Table 20 Definition of further action code values" for OEM specific use but this is not mentioned in Autosar standard.

0x11 to 0xFF Available for additional OEM-specific use. optional

Please add a configurable parameter (i.e. DoIPGetFurtherActionByteCallback) under DoIPGeneral as DoIPGeneral/DoIPGetFurtherActionByteCallback

which should be a string literal. With lower multiplicity 0. If configured, this will be the name of the callback to get the OEM specific further action byte to be used in vehicle identification/announcement message.

Agreed solution:

1- Changes in Chapter 7:

Table 6: Vehicle identification response/vehicle announcement message payload data
Further action required should be changed to Further action or Further action byte.

7.3.2.2.4 Vehicle Identification response/vehicle announcement (payload type 0x0004)
Add [SWS_DoIP_00xxx]
The Further action byte of a vehicle identification response/vehicle announcement message shall contain the 1 Byte value retrieved by a call to the configured DoIPFurtherActionByteCallback (if configured, for the signature see <User>_DoIPGetFurtherActionByteCallback, SWS_DoIP_00xxx). If the function returns E_OK, the Further action byte shall be set to the retrieved value of FurtherActionByte. If the function returns E_NOT_OK, the Further action byte shall be set according to [SWS_DoIP_00082], [SWS_DoIP_00083] or [SWS_DoIP_00084].
(SRS_Eth_00026)

2- Changes in Chapter 8

8.1 Imported types
Add [SWS_DoIP_00xxx]
Name DoIP_FurtherActionByteType
Kind Type
Derived from uint8
Description Used to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.
Range
0x11-0xFF 0x11-0xFF Available for additional OEM-specific use

Document ID 695: ChangeDocumentation

Variation –
()

8.6.3 Configurable interfaces
8.6.3.6 <User>_DoIPGetFurtherActionByteCallback
Add [SWS_DoIP_00xxx]
Service name: <User>_ DoIPGetFurtherActionByteCallback
Syntax: Std_ReturnType   <User>_   DoIPGetFurtherActionByteCallback   (
DoIP_FurtherActionByteType* FurtherActionByte)
Service ID[hex]: 0x00
Sync/Async: Synchronous
Reentrancy: Don't care
Parameters (in): None
Parameters (inout): None
Parameters (out): FurtherActionByte
Pointer containing the information of the FurtherActionByte. Only valid if the return
value equals E_OK.
Return value: Std_ReturnType
E_OK: FurtherActionByte contains valid information
E_NOT_OK: FurtherActionByte contains no valid information
Description: Callback function to get the OEM specific Further Action Byte for the
DoIP vehicle identification response/vehicle announcement.
(SRS_Eth_00026)

8.6.4 DoIP Service Component
The DoIP Service Component shall provide the interface CallbackGetFurtherAc-
tionByte as described below to request the value of the OEM specific Further Action
Byte for the DoIP vehicle identification response/vehicle announcement.

Name CallbackGetFurtherActionByte
Comment –
IsService true
Variation ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect)
== NULL
Possible Errors
0 E_OK
1 E_NOT_OK

Operations
GetFurtherActionByte
Comments –
Variation –
Parameters FurtherActionByte

Comment –
Type DoIP_FurtherActionByteType
Variation –
Direction OUT
Possible Errors
E_OK Operation successful
E_NOT_OK –

The DoIP Service Component shall be equipped with a service port as described below to request the value of the Further Action Byte for DoIP diagnostic vehicle identification response/vehicle announcement.

Add [SWS_DoIP_00xxx]
Name CBGetfurtherActionByte
Kind RequiredPort
Interface CallbackGetFurtherActionByte
Description –
Variation ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect) == NULL

3- Changes in Chapter 10

10.2.3 DoIPGeneral
Included Containers
Container Name: DoIPFurtherActionByteCallback
Multiplicity: 0..1
Scope / Dependency: This container describes the Callbackfunction to get the Further Action byte. If this container is not configured no Callbackfunction will be used.
If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetFurtherActionByte with the name "CBGetFurtherActionByte".

10.2.x DoIPFurtherActionByteCallback
SWS Item: ECUC_DoIP_000xx
Container Name: DoIPFurtherActionByteCallback
Description: This container describes the Callbackfunction to get the Further Action byte. This container shall always be present. If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetPowerMode with the name "CBGetFurtherActionByte".

Add Configuration Parameters as:

SWS Item: ECUC_DoIP_00xxx
Name: DoIPFurtherActionByteDirect
Description: Direct C Callback function to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement. If the DoIPFurtherActionByteDirect parameter is present, the DoIP module will not use an RPort of ServiceInterface CBGetFurtherActionByte but will call the configured function.
Multiplicity 0..1
Type EcucFunctionNameDef
Default value –
maxLength –
minLength –
regularExpression
ConfigurationClass
Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME, VARIANT-POST-BUILD
Post-build time –
Scope / Dependency scope: local
No Included Containers

SWCT
====

Add new chapter below 13.8.6:

13.8.6.x DoIP Service Use Case: Atomic Software-Component provides the further action byte to the DoIP Service Component.

Scenario: An AtomicSoftwareComponent provides the "further action byte" used in vehicle identification/announcement message.

[TPS_SWCT_0xxxx] DoIP Service Use Case: Atomic Software-Component provides the further action byte
ServiceNeeds kind DiagnosticComponentNeeds
ServiceNeedsKind: FurtherActionByteNeeds
RoleBasedPortAssignment valid roles:
CallbackGetFurtherActionByte[1]
RoleBasedDataAssignment
N/A
RepresentedPortGroups
N/A
c(RS_SWCT_03310, RS_SWCT_03190)

Add new subclass of DoIpServiceNeeds named FurtherActionByteNeeds. De-scription: The FurtherActionByteNeeds indicates that the software-component is able to provide the "further action byte" to the DoIp Service Component."
–Last change on issue 74849 comment 10–

BW-C-Level:

Application	Specification	Bus
1	1	1

1.83   Specification Item SWS_DoIP_00291

Trace References:

SRS_Eth_00026

Content:

The "Further action" byte of a vehicle identification response/vehicle announcement mes-sage shall contain the 1 Byte value retrieved by a call to the configured DoIPFurtherAction ByteCallback (if configured, for the signature see <User>_DoIPGetFurtherActionByteCall-back, SWS_DoIP_00288). If the function returns E_OK, the "Further action" byte shall be set to the retrieved value of FurtherActionByte. If the function returns E_NOT_OK, the "Further action" byte shall be set according to [SWS_DoIP_00082], [SWS_DoIP_00083] or [SWS_DoIP_00084].

RfCs affecting this spec item between releases 4.3.0 and 4.3.1:

- RfC #74849: [DoIP] Further action code values (0x11 to 0xFF) missing

  Problem description:

  Further action code values (0x11 to 0xFF) that are defined in ISO 13400-2 missing in Autosar standard. The further action byte is used in vehicle identification/vehicle announcement.

  ISO 13400-2 mentions range (0x11 to 0xFF) of "further action byte" value in "Table 20 Definition of further action code values" for OEM specific use but this is not mentioned in Autosar standard.

  0x11 to 0xFF Available for additional OEM-specific use. optional

  Please add a configurable parameter (i.e. DoIPGetFurtherActionByteCallback) under DoIPGeneral as DoIPGeneral/DoIPGetFurtherActionByteCallback

which should be a string literal. With lower multiplicity 0. If configured, this will be the name of the callback to get the OEM specific further action byte to be used in vehicle identification/announcement message.

Agreed solution:

1- Changes in Chapter 7:

Table 6: Vehicle identification response/vehicle announcement message payload data
Further action required should be changed to Further action or Further action byte.

7.3.2.2.4 Vehicle Identification response/vehicle announcement (payload type 0x0004)
Add [SWS_DoIP_00xxx]
The Further action byte of a vehicle identification response/vehicle announcement message shall contain the 1 Byte value retrieved by a call to the configured DoIPFurtherActionByteCallback (if configured, for the signature see <User>_DoIPGetFurtherActionByteCallback, SWS_DoIP_00xxx). If the function returns E_OK, the Further action byte shall be set to the retrieved value of FurtherActionByte. If the function returns E_NOT_OK, the Further action byte shall be set according to [SWS_DoIP_00082], [SWS_DoIP_00083] or [SWS_DoIP_00084].
(SRS_Eth_00026)

2- Changes in Chapter 8

8.1 Imported types
Add [SWS_DoIP_00xxx]
Name DoIP_FurtherActionByteType
Kind Type
Derived from uint8
Description Used to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement.
Range
0x11-0xFF 0x11-0xFF Available for additional OEM-specific use
Variation –
()

8.6.3 Configurable interfaces
8.6.3.6 <User>_DoIPGetFurtherActionByteCallback
Add [SWS_DoIP_00xxx]
Service name: <User>_ DoIPGetFurtherActionByteCallback
Syntax: Std_ReturnType <User>_ DoIPGetFurtherActionByteCallback (DoIP_FurtherActionByteType* FurtherActionByte)

Document ID 695: ChangeDocumentation

Service ID[hex]: 0x00
Sync/Async: Synchronous
Reentrancy: Don't care
Parameters (in): None
Parameters (inout): None
Parameters (out): FurtherActionByte
Pointer containing the information of the FurtherActionByte. Only valid if the return
value equals E_OK.
Return value: Std_ReturnType
E_OK: FurtherActionByte contains valid information
E_NOT_OK: FurtherActionByte contains no valid information
Description: Callback function to get the OEM specific Further Action Byte for the
DoIP vehicle identification response/vehicle announcement.
(SRS_Eth_00026)

8.6.4 DoIP Service Component
The DoIP Service Component shall provide the interface CallbackGetFurtherAc-
tionByte as described below to request the value of the OEM specific Further Action
Byte for the DoIP vehicle identification response/vehicle announcement.

Name CallbackGetFurtherActionByte
Comment –
IsService true
Variation ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect)
== NULL
Possible Errors
0 E_OK
1 E_NOT_OK

Operations
GetFurtherActionByte
Comments –
Variation –
Parameters FurtherActionByte
Comment –
Type DoIP_FurtherActionByteType
Variation –
Direction OUT
Possible Errors
E_OK Operation successful
E_NOT_OK –

The DoIP Service Component shall be equipped with a service port as de-

scribed below to request the value of the Further Action Byte for DoIP diagnostic vehicle identification response/vehicle announcement.

Add [SWS_DoIP_00xxx]
Name CBGetfurtherActionByte
Kind RequiredPort
Interface CallbackGetFurtherActionByte
Description –
Variation ecuc(DoIP/DoIPGeneral/DoIPFurtherActionByteCallback/DoIPFurtherActionByteDirect) == NULL

3- Changes in Chapter 10

10.2.3 DoIPGeneral
Included Containers
Container Name: DoIPFurtherActionByteCallback
Multiplicity: 0..1
Scope / Dependency: This container describes the Callbackfunction to get the Further Action byte. If this container is not configured no Callbackfunction will be used.
If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetFurtherActionByte with the name "CBGetFurtherActionByte".

10.2.x DoIPFurtherActionByteCallback
SWS Item: ECUC_DoIP_000xx
Container Name: DoIPFurtherActionByteCallback
Description: This container describes the Callbackfunction to get the Further Action byte. This container shall always be present. If the DoIPFurtherActionByteDirect parameter is not present, the DoIP module will use an RPort of ServiceInterface CallbackGetPowerMode with the name "CBGetFurtherActionByte".

Add Configuration Parameters as:

SWS Item: ECUC_DoIP_00xxx
Name: DoIPFurtherActionByteDirect
Description: Direct C Callback function to get the OEM specific Further Action Byte for the DoIP vehicle identification response/vehicle announcement. If the DoIPFurtherActionByteDirect parameter is present, the DoIP module will not use an RPort of ServiceInterface CBGetFurtherActionByte but will call the configured function.
Multiplicity 0..1
Type EcucFunctionNameDef

Default value –
maxLength –
minLength –
regularExpression
ConfigurationClass
Pre-compile time X VARIANT-PRE-COMPILE
Link time X VARIANT-LINK-TIME, VARIANT-POST-BUILD
Post-build time –
Scope / Dependency scope: local
No Included Containers

SWCT
====

Add new chapter below 13.8.6:

13.8.6.x DoIP Service Use Case: Atomic Software-Component provides the further action byte to the DoIP Service Component.

Scenario: An AtomicSoftwareComponent provides the "further action byte" used in vehicle identification/announcement message.

[TPS_SWCT_0xxxx] DoIP Service Use Case: Atomic Software-Component provides the further action byte
ServiceNeeds kind DiagnosticComponentNeeds
ServiceNeedsKind: FurtherActionByteNeeds
RoleBasedPortAssignment valid roles:
CallbackGetFurtherActionByte[1]
RoleBasedDataAssignment
N/A
RepresentedPortGroups
N/A
c(RS_SWCT_03310, RS_SWCT_03190)

Add new subclass of DoIpServiceNeeds named FurtherActionByteNeeds. Description: The FurtherActionByteNeeds indicates that the software-component is able to provide the "further action byte" to the DoIp Service Component."
–Last change on issue 74849 comment 10–

BW-C-Level:

Application	Specification	Bus
1	1	1

Document ID 695: ChangeDocumentation