

<b>Document Title</b>	RS_E2E: Complete Change Documentation 1.5.0 - 1.5.1
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# 1 RS\_E2E

## 1.1 Specification Item RS\_E2E\_08527

### Trace References:

RS\_Main\_00010

### Content:

<b>Type:</b>	draft
<b>Description:</b>	The protocols E2E protocol shall provide error detection for communicating safety related data according to ISO 26262 ISO_2d_26262_2d_1_2e_0.
<b>Rationale:</b>	E2E communication protection is state-of-art in automotive safety-related series products.
<b>AppliesTo:</b>	AP, CP
<b>Use Case:</b>	Communication between applications of main chassis ECU and power steering ECU.
<b>Supporting Material:</b>	—

### CRs affecting this spec item between releases 1.5.0 and 1.5.1:

- CR AR-1252: [E2E] Review Findings: Minor findings

#### Problem description:

I classify this as minor since it is specified that this is still a draft version.

# Some paragraph are colored with red.

# Most of the \_AppliesTo\_ fields in the table are wrong. E.g. [RS\_E2E\_08528] "E2E protocol shall provide different E2E profiles." This should apply to both not only to AP. All of them should be reviewed.

# [RS\_E2E\_08527]. the use Case looks like a carry over from another requirement. Should the Use Case be so specific for such a general requirement?

# In some other cases Use Cases are still missing, like [RS\_E2E\_08542].

# in chapter 5 "Requirements tracing" the various main requirements do not get the description generated.

#### Agreed solution:

1) [All Requ] change "AppliesTo" fields in the table to AP/CP.

2) [RS\_E2E\_08542] change "Use Cases" field to : Communication between applications of main chassis ECU and power steering ECU to prevent an erroneous steering intervention due to a corruption of the transmitted data.

**BW-C-Level:**

Application	Specification	Bus
1	1	1

- CR AR-86158: [E2E] RS E2E adopt structure to meet harm review findings

**Problem description:**

adopt structure to meet document harmonization requirements and review findings

**Agreed solution:**

see attached file in change mode

**BW-C-Level:**

Application	Specification	Bus
1	1	1

## 1.2 Specification Item RS\_E2E\_08528

**Trace References:**

RS\_Main\_00010

**Content:**

<b>Type:</b>	draft
<b>Description:</b>	E2E Protocol shall provide E2E profiles, where each E2E profile completely defines a particular safety protocol (including header structure, behavior as state machine, error handling etc). Each E2E profile shall be an efficient solution for a particular communication stack used underneath (which are either FlexRay, CAN, CAN FD, LIN or Ethernet), used data length and data frequency, and the required integrity level (see ISO_2d_26262_2d_1_2e_0) of the exchanged data. Note: Each communication stack (e.g. FlexRay) has different BER, which depend on for example:
<b>Rationale:</b>	Interoperability of safety-related communication partners, usage of QM <b>communication</b> <b>communication</b> system.
<b>AppliesTo:</b>	AP, CP





<b>Use Case:</b>	Profile with 8-bit CRC for CAN, and 16-bit CRC for long FlexRay signals, 32/64-bit CRC for Ethernet.
<b>Supporting Material:</b>	—

### CRs affecting this spec item between releases 1.5.0 and 1.5.1:

- CR AR-1252: [E2E] Review Findings: Minor findings

#### Problem description:

I classify this as minor since it is specified that this is still a draft version.

# Some paragraph are colored with red.

# Most of the \_AppliesTo\_ fields in the table are wrong. E.g. [RS\_E2E\_08528] "E2E protocol shall provide different E2E profiles." This should apply to both not only to AP. All of them should be reviewed.

# [RS\_E2E\_08527]. the use Case looks like a carry over from another requirement. Should the Use Case be so specific for such a general requirement?

# In some other cases Use Cases are still missing, like [RS\_E2E\_08542].

# in chapter 5 "Requirements tracing" the various main requirements do not get the description generated.

#### Agreed solution:

1) [All Requ] change "AppliesTo" fields in the table to AP/CP.

2) [RS\_E2E\_08542] change "Use Cases" field to : Communication between applications of main chassis ECU and power steering ECU to prevent an erroneous steering intervention due to a corruption of the transmitted data.

#### BW-C-Level:

Application	Specification	Bus
1	1	1

- CR AR-86158: [E2E] RS E2E adopt structure to meet harm review findings

#### Problem description:

adopt structure to meet document harminization requirements and rview findings

#### Agreed solution:

see attached file in change mode

**BW-C-Level:**

Application	Specification	Bus
1	1	1

### 1.3 Specification Item RS\_E2E\_08529

**Trace References:**

RS\_Main\_00010

**Content:**

<b>Type:</b>	draft
<b>Description:</b>	Each of the defined E2E profiles shall use an appropriate subset of the following mechanisms:
<b>Rationale:</b>	These are typical mechanisms used by safety protocols, and they can be realized by AUTOSAR.
<b>AppliesTo:</b>	AP, CP
<b>Use Case:</b>	Mechanisms used in an exemplary profile: 4-bit sequence counter, CRC8, Data ID, timeout.
<b>Supporting Material:</b>	—

**CRs affecting this spec item between releases 1.5.0 and 1.5.1:**

- CR AR-1252: [E2E] Review Findings: Minor findings

**Problem description:**

I classify this as minor since it is specified that this is still a draft version.

# Some paragraph are colored with red.

# Most of the `_AppliesTo_` fields in the table are wrong. E.g. [RS\_E2E\_08528] "E2E protocol shall provide different E2E profiles." This should apply to both not only to AP. All of them should be reviewed.

# [RS\_E2E\_08527]. the use Case looks like a carry over from another requirement. Should the Use Case be so specific for such a general requirement?

# In some other cases Use Cases are still missing, like [RS\_E2E\_08542].

# in chapter 5 "Requirements tracing" the various main requirements do not get the description generated.

**Agreed solution:**

1) [All Requi] change "AppliesTo" fields in the table to AP/CP.

2) [RS\_E2E\_08542] change "Use Cases" field to : Communication between

applications of main chassis ECU and power steering ECU to prevent an erroneous steering intervention due to a corruption of the transmitted data.

**BW-C-Level:**

Application	Specification	Bus
1	1	1

- CR AR-86158: [E2E] RS E2E adopt structure to meet harm review findings

**Problem description:**

adopt structure to meet document harmonization requirements and review findings

**Agreed solution:**

see attached file in change mode

**BW-C-Level:**

Application	Specification	Bus
1	1	1

## 1.4 Specification Item RS\_E2E\_08530

**Trace References:**

RS\_Main\_00010

**Content:**

<b>Type:</b>	draft
<b>Description:</b>	Each E2Eprofile defined within the library shall:
<b>Rationale:</b>	A profile is not just a list of mechanisms (e.g CRC8 + sequence number), but the whole logic managing the process. Standardization of header is by far not sufficient. Standardized behaviour is needed to achieve interoperability.
<b>AppliesTo:</b>	AP, CP
<b>Use Case:</b>	Usually one state machine per profile per communicating partner (sender, receiver, client server) is sufficient. ECU1 and ECU2 communicating. ECU1 has different implementation of E2E Profile than ECU2.





**Supporting  
Material:**

–

## CRs affecting this spec item between releases 1.5.0 and 1.5.1:

- CR AR-1252: [E2E] Review Findings: Minor findings

### Problem description:

I classify this as minor since it is specified that this is still a draft version.

# Some paragraph are colored with red.

# Most of the `_AppliesTo_` fields in the table are wrong. E.g. [RS\_E2E\_08528] "E2E protocol shall provide different E2E profiles." This should apply to both not only to AP. All of them should be reviewed.

# [RS\_E2E\_08527]. the use Case looks like a carry over from another requirement. Should the Use Case be so specific for such a general requirement?

# In some other cases Use Cases are still missing, like [RS\_E2E\_08542].

# in chapter 5 "Requirements tracing" the various main requirements do not get the description generated.

### Agreed solution:

1) [All Requ] change "AppliesTo" fields in the table to AP/CP.

2) [RS\_E2E\_08542] change "Use Cases" field to : Communication between applications of main chassis ECU and power steering ECU to prevent an erroneous steering intervention due to a corruption of the transmitted data.

### BW-C-Level:

Application	Specification	Bus
1	1	1

- CR AR-639: [E2E] RS\_E2E review result

### Problem description:

\* Page 6, 3 Acronyms and Abbreviations: "AUTOSAR\_RS\_AdaptiveE2E" in the sentence should be "AUTOSAR\_RS\_E2E".

\* Page 8, 5 Requirements tracing: The following do not match. If traceability is correct, I think that expression should be unified.

[RS\_Main\_01003] Description: "data-oriented communication", [RS\_E2E\_08540] Rationale: "message oriented communication", [RS\_E2E\_08541] Rationale: "service oriented communication"



- \* Page 9, [RS\_E2E\_08540] Description: What does "mixed-periodic" mean? I think that explanation is necessary.
- \* Page 9, [RS\_E2E\_08541] Description: "Note: This is currently not supported." Does this sentence need to be deleted?
- \* Page 10, [RS\_E2E\_08542] Description: What does "dynamic restart" mean? I think that explanation is necessary.
- \* Page 11, [RS\_E2E\_08530] Description: What does "unique ID" refer to? Data ID? Profile ID? I think it should be clarified.
- \* Page 13, [RS\_E2E\_08537]: This does not seem to be a requirement for E2E. Also, which SWS is associated with this requirement? I think that SWS is difficult to associate.

#### Agreed solution:

- 1) 3 Acronyms and Abbreviations: change "AUTOSAR\_RS\_AdaptiveE2E" to "AUTOSAR\_RS\_E2E".
- 2) [RS\_E2E\_08541] delete "Note: This is currently not supported." ; change Use Case to "Service- oriented /client-server communication via SOME/IP methods."
- 3) [RS\_E2E\_08530] change "unique ID" to "unique Profile ID"

#### BW-C-Level:

Application	Specification	Bus
1	1	1

- CR AR-86158: [E2E] RS E2E adopt structure to meet harm review findings

#### Problem description:

adopt structure to meet document harmonization requirements and review findings

#### Agreed solution:

see attached file in change mode

#### BW-C-Level:

Application	Specification	Bus
1	1	1

## 1.5 Specification Item RS\_E2E\_08533

#### Trace References:

RS\_Main\_00010

## Content:

<b>Type:</b>	draft
<b>Description:</b>	CRC used in each E2E profile shall be different than the CRC used by the underlying communication protocols (FlexRay, CAN, CAN FD, LIN, Ethernet), for which the given profile is supposed to be used with.
<b>Rationale:</b>	Using the same polynomials twice (once in com stack and again in E2E) provides significantly lower joint detection rate than using two different polynomials.
<b>AppliesTo:</b>	AP, CP
<b>Use Case:</b>	If profile X is supposed to be used only for FlexRay, then its CRC shall be different than the one of FlexRay.
<b>Supporting Material:</b>	–

## CRs affecting this spec item between releases 1.5.0 and 1.5.1:

- CR AR-1252: [E2E] Review Findings: Minor findings

### Problem description:

I classify this as minor since it is specified that this is still a draft version.

# Some paragraph are colored with red.

# Most of the \_AppliesTo\_ fields in the table are wrong. E.g. [RS\_E2E\_08528] "E2E protocol shall provide different E2E profiles." This should apply to both not only to AP. All of them should be reviewed.

# [RS\_E2E\_08527]. the use Case looks like a carry over from another requirement. Should the Use Case be so specific for such a general requirement?

# In some other cases Use Cases are still missing, like [RS\_E2E\_08542].

# in chapter 5 "Requirements tracing" the various main requirements do not get the description generated.

### Agreed solution:

1) [All Requ] change "AppliesTo" fields in the table to AP/CP.

2) [RS\_E2E\_08542] change "Use Cases" field to : Communication between applications of main chassis ECU and power steering ECU to prevent an erroneous steering intervention due to a corruption of the transmitted data.

## BW-C-Level:

Application	Specification	Bus
1	1	1

- CR AR-86158: [E2E] RS E2E adopt structure to meet harm review findings

**Problem description:**

adopt structure to meet document harmonization requirements and review findings

**Agreed solution:**

see attached file in change mode

**BW-C-Level:**

Application	Specification	Bus
1	1	1

## 1.6 Specification Item RS\_E2E\_08534

**Trace References:**

RS\_Main\_00010

**Content:**

<b>Type:</b>	draft
<b>Description:</b>	E2E Protocol shall provide E2E status of a single checked data to the application layer the error information about the detected communication failure.
<b>Rationale:</b>	Error handling strategies are "application dependent", and cannot be "a priori defined".
<b>AppliesTo:</b>	AP, CP
<b>Use Case:</b>	Enable error-dependent reaction of the application using E2E Protocol.
<b>Supporting Material:</b>	—

**CRs affecting this spec item between releases 1.5.0 and 1.5.1:**

- CR AR-1252: [E2E] Review Findings: Minor findings

**Problem description:**

I classify this as minor since it is specified that this is still a draft version.

# Some paragraph are colored with red.

# Most of the \_AppliesTo\_ fields in the table are wrong. E.g. [RS\_E2E\_08528] "E2E protocol shall provide different E2E profiles." This should apply to both not only to AP. All of them should be reviewed.

# [RS\_E2E\_08527]. the use Case looks like a carry over from another requirement. Should the Use Case be so specific for such a general requirement?

# In some other cases Use Cases are still missing, like [RS\_E2E\_08542].

# in chapter 5 "Requirements tracing" the various main requirements do not get the description generated.

**Agreed solution:**

- 1) [All Requ] change "AppliesTo" fields in the table to AP/CP.
- 2) [RS\_E2E\_08542] change "Use Cases" field to : Communication between applications of main chassis ECU and power steering ECU to prevent an erroneous steering intervention due to a corruption of the transmitted data.

**BW-C-Level:**

Application	Specification	Bus
1	1	1

- CR AR-86158: [E2E] RS E2E adopt structure to meet harm review findings

**Problem description:**

adopt structure to meet document harmonization requirements and review findings

**Agreed solution:**

see attached file in change mode

**BW-C-Level:**

Application	Specification	Bus
1	1	1

## 1.7 Specification Item RS\_E2E\_08539

**Trace References:**

RS\_Main\_00010

**Content:**

<b>Type:</b>	draft
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<b>Description:</b>	This The E2E mechanism protocol shall support protection of short (ex. 8 bytes) up to and large (4kBex. 4KB, up to 4MB, as application requires), composite data with dynamic-length over TCP/IP and over LIN/CAN/CAN TP/CAN FD/Flex Ray/Ethernet. Note: The max length of protected data depends on the architecture and needs to be evaluated by quantitative analysis within the project using the E2E protocol profile.
<b>Rationale:</b>	Large, composite data need specific protection mechanisms.
<b>AppliesTo:</b>	AP, CP
<b>Use Case:</b>	Communication between applications of main chassis ECU and power steering ECU. (to be detailed)
<b>Supporting Material:</b>	—

## CRs affecting this spec item between releases 1.5.0 and 1.5.1:

- CR AR-1252: [E2E] Review Findings: Minor findings

### Problem description:

I classify this as minor since it is specified that this is still a draft version.

# Some paragraph are colored with red.

# Most of the \_AppliesTo\_ fields in the table are wrong. E.g. [RS\_E2E\_08528] "E2E protocol shall provide different E2E profiles." This should apply to both not only to AP. All of them should be reviewed.

# [RS\_E2E\_08527]. the use Case looks like a carry over from another requirement. Should the Use Case be so specific for such a general requirement?

# In some other cases Use Cases are still missing, like [RS\_E2E\_08542].

# in chapter 5 "Requirements tracing" the various main requirements do not get the description generated.

### Agreed solution:

1) [All Requ] change "AppliesTo" fields in the table to AP/CP.

2) [RS\_E2E\_08542] change "Use Cases" field to : Communication between applications of main chassis ECU and power steering ECU to prevent an erroneous steering intervention due to a corruption of the transmitted data.

### BW-C-Level:

Application	Specification	Bus
1	1	1

- CR AR-1672: [E2E] Review findings: mix of "E2E Protocol shall" with "E2E mechanism shall"

#### Problem description:

Some requirements in their head use "E2E Protocol shall" and use "E2E mechanism shall" in the Description body then others use "E2E Protocol shall" everywhere. Shall it be "E2E Protocol shall" used everywhere?

#### Agreed solution:

[All requ] change "E2E mechanism shall" to "E2E Protocol shall"

#### BW-C-Level:

Application	Specification	Bus
1	1	1

- CR AR-85730: [E2E] Extend the RS\_E2E\_08539 to fit to Profile 7

#### Problem description:

As discussed in <https://jira.autosar.org/browse/AR-85634>, we found that RS\_E2E\_08539 should be updated.

#### Agreed solution:

\*Proposed Solution:\*

# Change the Description field of [RS\_E2E\_08539]  
from

< This E2E mechanism shall support protection of short (8 bytes) up to large (4kB), composite data with dynamic-length over TCP/IP and over LIN/CAN/CAN-TP/FlexRay/Ethernet.

to

> The E2E protocol shall support protection of short (ex. 8 bytes) and large (ex. 4KB, up to 4MB, as application requires), composite data with dynamic-length over TCP/IP and over LIN/CAN/CAN TP/CAN FD/FlexRay/Ethernet.

> Note: The max length of protected data depends on the architecture and needs to be evaluated by quantitative analysis within the project using the E2E protocol profile.

# Change AppliesTo:

from

< AP

to

> AP, CP

**BW-C-Level:**

Application	Specification	Bus
1	1	1

- CR AR-86158: [E2E] RS E2E adopt structure to meet harm review findings

**Problem description:**

adopt structure to meet document harmonization requirements and review findings

**Agreed solution:**

see attached file in change mode

**BW-C-Level:**

Application	Specification	Bus
1	1	1

## 1.8 Specification Item RS\_E2E\_08540

**Trace References:**

RS\_Main\_00010, RS\_Main\_01002, RS\_Main\_01003

**Content:**

<b>Type:</b>	draft
<b>Description:</b>	This The E2E mechanism Protocol shall support protected periodic communication. This includes the following periodicity:
<b>Rationale:</b>	E2E mechanism for message oriented message-oriented communication
<b>AppliesTo:</b>	AP, CP
<b>Use Case:</b>	
<b>Supporting Material:</b>	—

**CRs affecting this spec item between releases 1.5.0 and 1.5.1:**

- CR AR-1252: [E2E] Review Findings: Minor findings

**Problem description:**

I classify this as minor since it is specified that this is still a draft version.

# Some paragraph are colored with red.

# Most of the \_AppliesTo\_ fields in the table are wrong. E.g. [RS\_E2E\_08528] "E2E

protocol shall provide different E2E profiles." This should apply to both not only to AP. All of them should be reviewed.

# [RS\_E2E\_08527]. the use Case looks like a carry over from another requirement. Should the Use Case be so specific for such a general requirement?

# In some other cases Use Cases are still missing, like [RS\_E2E\_08542].

# in chapter 5 "Requirements tracing" the various main requirements do not get the description generated.

#### **Agreed solution:**

1) [All Requ] change "AppliesTo" fields in the table to AP/CP.

2) [RS\_E2E\_08542] change "Use Cases" field to : Communication between applications of main chassis ECU and power steering ECU to prevent an erroneous steering intervention due to a corruption of the transmitted data.

#### **BW-C-Level:**

Application	Specification	Bus
1	1	1

- CR AR-1672: [E2E] Review findings: mix of "E2E Protocol shall" with "E2E mechanism shall"

#### **Problem description:**

Some requirements in their head use "E2E Protocol shall" and use "E2E mechanism shall" in the Description body then others use "E2E Protocol shall" everywhere. Shall it be "E2E Protocol shall" used everywhere?

#### **Agreed solution:**

[All requ] change "E2E mechanism shall" to "E2E Protocol shall"

#### **BW-C-Level:**

Application	Specification	Bus
1	1	1

- CR AR-86158: [E2E] RS E2E adopt structure to meet harm review findings

#### **Problem description:**

adopt structure to meet document harmonization requirements and review findings

#### **Agreed solution:**

see attached file in change mode



**BW-C-Level:**

Application	Specification	Bus
1	1	1

- CR AR-86774: FO\_R1.5.1 Document finalization

**Problem description:**

Before the FO R1.5.1 will be released the document shall get a Change history and shall get a formal check.

**Agreed solution:**

Please note: the following changes shall be done when all the changes of your document are clear (for R1.5.1)!

# Please insert a change history entry for document finalization at the beginning of the Document Change History table in your document and use the content described below. Please keep the entries of the previous changes untouched in the Change History!

Date	Release	Changed by
Change Description		
2019-03-29 1.5.1	AUTOSAR Release Management	[cd]
# # In case your document has not been changed since last release, please use as Change Description [cd] the entry "No content changes".		
# # In case your document will be released for the first time, please use as Change Description [cd] the entry "Initial release".		
# # In case your document has been already released (in another standard), please put as first line of Change Description [cd] the following:		
Migration of document to standard Foundation.		
# # If none of the previous 3 cases are valid for your document, describe with up to 4 bullet points the major changes for this release. The description shall contain no references to Bugzilla or JIRA issue numbers. This text will make up the Change History of the to-be-released document.		
# # Please send an overview of the technical deficiencies of chapter "4.1 Limitations" to [rm@autosar.org  mailto:tm-ap@autosar.org]by *2019-03-15 EOD*.		
# *For LaTeX documents*, please consider the following steps:		
# # perform "rake CheckDocumentSource"		
# # resolve the issues indicated by the upcoming rake task "CheckDocumentSource"		
Thereby follow the hints in [ <a href="https://www.autosar.org/wiki/doku.php?id=tools:checklatexsource">https://www.autosar.org/wiki/doku.php?id=tools:checklatexsource</a> ]		
# *For Word documents*, please check your document once more against this checklist:		
[ <a href="https://svn.autosar.org/repos/work/02_ProjectOrganization/06_Templates/AUTOSAR_Checklist_1">https://svn.autosar.org/repos/work/02_ProjectOrganization/06_Templates/AUTOSAR_Checklist_1</a> ]		
Please verify also the PDF file as this is the one which will be released (it is automatically generated right next to the Word source document within four hours).		

# If not already done, please hide the whole internal document change history.

Please check the PDF file and ensure that nothing of the internal document change history is shown. Especially in case of remaining bullet points, please follow this instruction to get rid of those in your Word document, as well:

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# \*For MOD documents only\*

Please create or adapt the folder "contents". That folder shall include all files which will be used for the Release 19-03 (zip-archive). That folder shall also include the two files: "\_disclaimer.txt" and "\_readme.txt"

The file "\_readme.txt" shall include (besides existing information):

Document Title:\{\{DOC LONG NAME\}

Document Owner: AUTOSAR

Document Responsibility: AUTOSAR

Document Identification Number:\{\{UID\}

Document Status: Final

Part of AUTOSAR Standard: Foundation

Part of AUTOSAR Release: 1.5.1

Date: 2019-03-29

#### BW-C-Level:

Application	Specification	Bus
1	1	1

## 1.9 Specification Item RS\_E2E\_08541

### Trace References:

RS\_Main\_00010, RS\_Main\_01002, RS\_Main\_01003

### Content:

<b>Type:</b>	draft
<b>Description:</b>	This E2E mechanism Protocol shall support protected non-periodic communication. The following shall be supported:
<b>Rationale:</b>	E2E mechanism for service oriented service-oriented communication
<b>AppliesTo:</b>	AP, CP





<b>Use Case:</b>	Service oriented/Service-oriented client-server communication as used in AP architectures (to be detailed). Methods implement client-server communication in AP service interfaces via SOME/IP methods.
<b>Supporting Material:</b>	—

## CRs affecting this spec item between releases 1.5.0 and 1.5.1:

- CR AR-1252: [E2E] Review Findings: Minor findings

### Problem description:

I classify this as minor since it is specified that this is still a draft version.

# Some paragraph are colored with red.

# Most of the \_AppliesTo\_ fields in the table are wrong. E.g. [RS\_E2E\_08528] "E2E protocol shall provide different E2E profiles." This should apply to both not only to AP. All of them should be reviewed.

# [RS\_E2E\_08527]. the use Case looks like a carry over from another requirement. Should the Use Case be so specific for such a general requirement?

# In some other cases Use Cases are still missing, like [RS\_E2E\_08542].

# in chapter 5 "Requirements tracing" the various main requirements do not get the description generated.

### Agreed solution:

1) [All Requi] change "AppliesTo" fields in the table to AP/CP.

2) [RS\_E2E\_08542] change "Use Cases" field to : Communication between applications of main chassis ECU and power steering ECU to prevent an erroneous steering intervention due to a corruption of the transmitted data.

### BW-C-Level:

Application	Specification	Bus
1	1	1

- CR AR-1672: [E2E] Review findings: mix of "E2E Protocol shall" with "E2E mechanism shall"

### Problem description:

Some requirements in their head use "E2E Protocol shall" and use "E2E mechanism shall" in the Description body then others use "E2E Protocol shall" everywhere.

Shall it be "E2E Protocol shall" used everywhere?

### Agreed solution:

[All requ] change "E2E mechanism shall" to "E2E Protocol shall"

### BW-C-Level:

Application	Specification	Bus
1	1	1

- CR AR-639: [E2E] RS\_E2E review result

### Problem description:

\* Page 6, 3 Acronyms and Abbreviations: "AUTOSAR\_RS\_AdaptiveE2E" in the sentence should be "AUTOSAR\_RS\_E2E".

\* Page 8, 5 Requirements tracing: The following do not match. If traceability is correct, I think that expression should be unified.

[RS\_Main\_01003] Description: "data-oriented communication", [RS\_E2E\_08540] Rationale: "message oriented communication", [RS\_E2E\_08541] Rationale: "service oriented communication"

\* Page 9, [RS\_E2E\_08540] Description: What does "mixed-periodic" mean? I think that explanation is necessary.

\* Page 9, [RS\_E2E\_08541] Description: "Note: This is currently not supported." Does this sentence need to be deleted?

\* Page 10, [RS\_E2E\_08542] Description: What does "dynamic restart" mean? I think that explanation is necessary.

\* Page 11, [RS\_E2E\_08530] Description: What does "unique ID" refer to? Data ID? Profile ID? I think it should be clarified.

\* Page 13, [RS\_E2E\_08537]: This does not seem to be a requirement for E2E. Also, which SWS is associated with this requirement? I think that SWS is difficult to associate.

### Agreed solution:

1) 3 Acronyms and Abbreviations: change "AUTOSAR\_RS\_AdaptiveE2E" to "AUTOSAR\_RS\_E2E".

2) [RS\_E2E\_08541] delete "Note: This is currently not supported." ; change Use Case to "Service- oriented /client-server communication via SOME/IP methods."

3) [RS\_E2E\_08530] change "unique ID" to "unique Profile ID"

### BW-C-Level:

Application	Specification	Bus
1	1	1

- CR AR-86158: [E2E] RS E2E adopt structure to meet harm review findings

**Problem description:**

adopt structure to meet document harmonization requirements and review findings

**Agreed solution:**

see attached file in change mode

**BW-C-Level:**

Application	Specification	Bus
1	1	1

## 1.10 Specification Item RS\_E2E\_08542

**Trace References:**

RS\_Main\_00010

**Content:**

<b>Type:</b>	draft
<b>Description:</b>	E2E Protocol shall support:
<b>Rationale:</b>	Depending on the variance in startup behavior and expected message frequency of the communication partners a later start or over/undersampling needs to be handled by the protection mechanism.
<b>AppliesTo:</b>	AP, CP
<b>Use Case:</b>	(Communication between applications of main chassis ECU and power steering ECU to be detailed) prevent an erroneous steering intervention due to a corruption of the transmitted data.
<b>Supporting Material:</b>	—

**CRs affecting this spec item between releases 1.5.0 and 1.5.1:**

- CR AR-1252: [E2E] Review Findings: Minor findings

**Problem description:**

I classify this as minor since it is specified that this is still a draft version.

# Some paragraph are colored with red.

# Most of the \_AppliesTo\_ fields in the table are wrong. E.g. [RS\_E2E\_08528] "E2E protocol shall provide different E2E profiles." This should apply to both not only to AP. All of them should be reviewed.

# [RS\_E2E\_08527]. the use Case looks like a carry over from another requirement.

Should the Use Case be so specific for such a general requirement?

# In some other cases Use Cases are still missing, like [RS\_E2E\_08542].

# in chapter 5 "Requirements tracing" the various main requirements do not get the description generated.

**Agreed solution:**

1) [All Requ] change "AppliesTo" fields in the table to AP/CP.

2) [RS\_E2E\_08542] change "Use Cases" field to : Communication between applications of main chassis ECU and power steering ECU to prevent an erroneous steering intervention due to a corruption of the transmitted data.

**BW-C-Level:**

Application	Specification	Bus
1	1	1

- CR AR-1269: [RS\_E2E] Missing information

**Problem description:**

Some requirements state \_(to be detailed)\_ or have empty fields (e.g. Rationale in RS\_E2E\_08542). This should not be the case in a released document.

**Agreed solution:**

add Rational in RS\_E2E\_08542:

Depending on the variance in startup behavior and expected message frequency of the communication partners a later start or over/undersampling needs to be handled by the protection mechanism.

**BW-C-Level:**

Application	Specification	Bus
1	1	1

- CR AR-86158: [E2E] RS E2E adopt structure to meet harm review findings

**Problem description:**

adopt structure to meet document harmonization requirements and review findings

**Agreed solution:**

see attached file in change mode

**BW-C-Level:**

Application	Specification	Bus
1	1	1

## 1.11 Specification Item RS\_E2E\_08543

### Trace References:

RS\_Main\_00010

### Content:

<b>Type:</b>	draft
<b>Description:</b>	E2E Protocol shall support both static and dynamic length of transmitted data.
<b>Rationale:</b>	Depending on the used protocol static or dynamic length of transmitted data needs to be handled by the protection mechanism.
<b>AppliesTo:</b>	AP, CP
<b>Use Case:</b>	E2E protected transmission of a variable length array over SOME/IP.
<b>Supporting Material:</b>	—

### CRs affecting this spec item between releases 1.5.0 and 1.5.1:

- CR AR-1252: [E2E] Review Findings: Minor findings

#### Problem description:

I classify this as minor since it is specified that this is still a draft version.

# Some paragraph are colored with red.

# Most of the `_AppliesTo_` fields in the table are wrong. E.g. [RS\_E2E\_08528] "E2E protocol shall provide different E2E profiles." This should apply to both not only to AP. All of them should be reviewed.

# [RS\_E2E\_08527]. the use Case looks like a carry over from another requirement. Should the Use Case be so specific for such a general requirement?

# In some other cases Use Cases are still missing, like [RS\_E2E\_08542].

# in chapter 5 "Requirements tracing" the various main requirements do not get the description generated.

#### Agreed solution:

1) [All Requ] change "AppliesTo" fields in the table to AP/CP.

2) [RS\_E2E\_08542] change "Use Cases" field to : Communication between applications of main chassis ECU and power steering ECU to prevent an erroneous steering intervention due to a corruption of the transmitted data.

**BW-C-Level:**

Application	Specification	Bus
1	1	1

- CR AR-86158: [E2E] RS E2E adopt structure to meet harm review findings

**Problem description:**

adopt structure to meet document harmonization requirements and review findings

**Agreed solution:**

see attached file in change mode

**BW-C-Level:**

Application	Specification	Bus
1	1	1

## 1.12 Specification Item RS\_E2E\_08544

**Trace References:**

RS\_Main\_00010

**Content:**

<b>Type:</b>	draft
<b>Description:</b>	E2E Protocol shall provide a configurable mechanism to detect timeouts and delayed data.
<b>Rationale:</b>	This mechanism can be used to detect loss and delay of communication data, as requested by ISO 26262.
<b>AppliesTo:</b>	AP, CP
<b>Use Case:</b>	
<b>Supporting Material:</b>	—

**CRs affecting this spec item between releases 1.5.0 and 1.5.1:**

- CR AR-86158: [E2E] RS E2E adopt structure to meet harm review findings

**Problem description:**



adopt structure to meet document harmonization requirements and review findings

**Agreed solution:**

see attached file in change mode

**BW-C-Level:**

Application	Specification	Bus
1	1	1

## 1.13 Specification Item RS\_E2E\_08545

**Trace References:**

[RS\\_Main\\_00010](#)

**Content:**

<b>Type:</b>	draft
<b>Description:</b>	E2E protocol shall provide a detection mechanism for corrupted data
<b>Rationale:</b>	This mechanism can be used to detect corrupted communication data, as requested by ISO 26262.
<b>AppliesTo:</b>	AP, CP
<b>Use Case:</b>	
<b>Supporting Material:</b>	—

**CRs affecting this spec item between releases 1.5.0 and 1.5.1:**

- CR AR-86158: [E2E] RS E2E adopt structure to meet harm review findings

**Problem description:**

adopt structure to meet document harmonization requirements and review findings

**Agreed solution:**

see attached file in change mode

**BW-C-Level:**

Application	Specification	Bus
1	1	1

## 1.14 Specification Item RS\_E2E\_08546

### Trace References:

RS\_Main\_00010

### Content:

<b>Type:</b>	draft
<b>Description:</b>	E2E protocol shall provide a detection mechanism for masquerading or incorrect addressing
<b>Rationale:</b>	This mechanism can be used to detect masquerade or incorrect addressing of communication data, as requested by ISO 26262.
<b>AppliesTo:</b>	AP, CP
<b>Use Case:</b>	
<b>Supporting Material:</b>	—

### CRs affecting this spec item between releases 1.5.0 and 1.5.1:

- CR AR-86158: [E2E] RS E2E adopt structure to meet harm review findings

#### Problem description:

adopt structure to meet document harmonization requirements and review findings

#### Agreed solution:

see attached file in change mode

#### BW-C-Level:

Application	Specification	Bus
1	1	1

## 1.15 Specification Item RS\_E2E\_08547

### Trace References:

RS\_Main\_00010

### Content:

<b>Type:</b>	draft
<b>Description:</b>	E2E protocol shall provide a detection mechanism for repetition, insertion or incorrect sequence of data
<b>Rationale:</b>	This mechanism can be used to detect repeated, inserted communication data or data with incorrect sequence, as requested by ISO 26262.
<b>AppliesTo:</b>	AP, CP
<b>Use Case:</b>	
<b>Supporting Material:</b>	—

### CRs affecting this spec item between releases 1.5.0 and 1.5.1:

- CR AR-86158: [E2E] RS E2E adopt structure to meet harm review findings

#### Problem description:

adopt structure to meet document harmonization requirements and review findings

#### Agreed solution:

see attached file in change mode

#### BW-C-Level:

Application	Specification	Bus
1	1	1

## 1.16 Specification Item RS\_E2E\_08548

### Trace References:

RS\_Main\_00010

### Content:

<b>Type:</b>	draft
<b>Description:</b>	E2E Protocol shall optionally provide E2E overall state of the so far checked data to the application layer.





<b>Rationale:</b>	Error handling strategies are “application dependent”, and cannot be “a priori defined”.
<b>AppliesTo:</b>	AP, CP
<b>Use Case:</b>	Enable error-dependent reaction of the application using E2E Protocol.
<b>Supporting Material:</b>	–

**CRs affecting this spec item between releases 1.5.0 and 1.5.1:**

- CR AR-86158: [E2E] RS E2E adopt structure to meet harm review findings

**Problem description:**

adopt structure to meet document harmonization requirements and review findings

**Agreed solution:**

see attached file in change mode

**BW-C-Level:**

Application	Specification	Bus
1	1	1