



Elektrobit

## Release Notes

EB tresos Safety E2E Transformers

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# 1. Document history

Version	Date	Author	State	Description
0.1	2018-01-12	Elektrobit Automotive GmbH	PROPOSED	Initial version
0.2	2018-02-14	Elektrobit Automotive GmbH	RELEASED	Update grammar and SomelpXf checker
0.3	2019-06-14	Elektrobit Automotive GmbH	RELEASED	Update checker queries
0.4	2019-07-12	Elektrobit Automotive GmbH	RELEASED	Integrated code inspection findings
0.5	2019-08-09	Elektrobit Automotive GmbH	RELEASED	Integrated code inspection findings
0.6	2019-09-05	Elektrobit Automotive GmbH	RELEASED	Added application queries
0.7	2019-10-11	Elektrobit Automotive GmbH	RELEASED	Finished code inspections for XfrmCV, E2EXfCV, ComXfCV
0.8	2019-10-30	Elektrobit Automotive GmbH	RELEASED	Update grammar and SomelpXf checker, backport ACG-8.5.4
0.9	2020-02-21	Elektrobit Automotive GmbH	RELEASED	Update grammar and SomelpXf checker, Asil-D ready
1.0	2020-03-20	Elektrobit Automotive GmbH	RELEASED	Update version of the SM
1.1	2020-03-25	Elektrobit Automotive GmbH	RELEASED	Update grammar and SomelpXf checker

Version	Date	Author	State	Description
1.2	2020-06-19	Elektrobit Automotive GmbH	RELEASED	Update grammar, ComXf, E2EXf and SomelpXf checker
1.3	2020-08-06	Elektrobit Automotive GmbH	RELEASED	Update grammar, ComXf, E2EXf and SomelpXf checker
1.4	2020-10-21	Elektrobit Automotive GmbH	RELEASED	Update grammar, E2EXf and SomelpXf checker
1.5	2020-12-18	Elektrobit Automotive GmbH	RELEASED	Added report queries, updated DB
1.6	2021-03-02	Elektrobit Automotive GmbH	RELEASED	Update grammar, ComXf, E2EXf and SomelpXf checker

Table 1.1. Document history



## 2. Overview of EB tresos Safety E2E Transformers

### 2.1. Purpose

Welcome to the [EB tresos Safety E2E Transformers](#) release notes.

This document provides.

- ▶ [Chapter 3, “Safety E2E Transformer release notes”](#): release notes of the EB tresos Safety E2E Transformers

## 3. Safety E2E Transformer release notes

### 3.1. Overview

This chapter provides the common [Safety Transformers](#) product release notes. General release notes that are applicable to all products are provided in the EB tresos AutoCore Generic documentation. Refer to the EB tresos E2E Transformer (E2E) documentation [\[E2EXFUG\]](#), EB tresos AutoCore Generic 8 Transformers documentation [\[ACGTRANSFORMERUG\]](#) and profile specific product release notes in addition.

### 3.2. Scope of this release

#### 3.2.1. Checker Tools

The following table lists all configuration [checker tools](#) which are part of this release.

Tool name	Description	Module version
Generic Checker Library	is part of Xfrm module	1.0.10
E2EXf Checker	is part of E2EXf module	1.0.7
ComXf Checker	is part of ComXf module	1.0.5
SomelpXf Checker	is part of SomelpXf module	1.0.7

Table 3.1. List of configuration checker tools

#### 3.2.2. Safety Manual

The following table lists the safety manual which is part of this release.

Document name	Module version
EB tresos Safety E2E Transformers Safety Manual	1.6

Table 3.2. List of documents

## 3.3. Generic Checker Library release notes

### 3.3.1. Change log

This chapter lists the changes between different versions.

#### Module version 1.0.10

2021-03-05

- ▶ Updated grammar to allow only PC-lint compatible preprocessor include guards
- ▶ Updated checker grammar to support macro infix changes for endianness in SomelpXf code
- ▶ Updated checker grammar to expect unsigned suffix in C data element path for array members

#### Module version 1.0.9

2020-12-18

- ▶ Internal module improvement. This module version update does not affect module functionality

#### Module version 1.0.8

2020-11-06

- ▶ Internal module improvement. This module version update does not affect module functionality

#### Module version 1.0.7

2020-10-23

- ▶ Removed restriction on maximum number of dimensions for SomelpXf variable size arrays of profile FULLY\_FLEXIBLE from the grammar

#### Module version 1.0.6

2020-07-16

- ▶ Added support for session handling in the SomelpXf module

#### Module version 1.0.5

2020-06-19

- ▶ Changed checker grammar to allow `CLEARED` as a memory section infix of `ASIL_D_UNSPECIFIED` E2EXf memory section

#### Module version 1.0.4

2020-03-25

- ▶ Added check query for matching macro names in macro double declaration guards





- ▶ Removed 'MAX\_NUM\_-' from the checker grammar as a valid namespace prefix of macro declarations

#### **Module version 1.0.3**

2020-02-21

- ▶ Updated checker grammar to allow only SOMEIPXF\_XFRMBUFFERLENGTH\_TYPE as buffer type value in SomelpXf code
- ▶ Updated checker grammar/lexer to detect unknown characters in a parsed file
- ▶ Updated checker grammar to allow any positive decimal integer value in foot and head sequences
- ▶ Updated checker grammar to allow arbitrary array indices, not limited by maximum of 4 anymore

#### **Module version 1.0.2**

2020-01-24

- ▶ Fixed failing self check for case when External Trigger and Sender Receiver communication is configured in the same memory partition

#### **Module version 1.0.1**

2019-10-31

- ▶ Extended SomelpXf grammar to allow lowercase arraysize datatype names

#### **Module version 1.0.0**

2019-09-17

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 0.7.9**

2019-09-06

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 0.7.8**

2019-08-09

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 0.7.7**

2019-07-12

- ▶ Internal module improvement. This module version update does not affect module functionality
- ▶ Added OpenSource statement to release notes

#### **Module version 0.7.6**

2019-06-14

- ▶ Internal module improvement. This module version update does not affect module functionality



#### **Module version 0.7.5**

2019-04-18

- ▶ Added check query for detection of multiple header file inclusion

#### **Module version 0.7.4**

2019-03-22

- ▶ Updated checker grammar to support MODULEPREFIX\_MemMap.h but not MemMap.h as included file anymore

#### **Module version 0.7.3**

2019-01-25

- ▶ Added check query for preprocessor symbol match

#### **Module version 0.7.2**

2018-12-21

- ▶ Updated checker grammar to support E2EXF\_WAIT\_FOR\_FIRST\_DATA\_INIT\_VALUE and E2ESM\_MAX\_WINDOW\_SIZE in E2EXf module

#### **Module version 0.7.1**

2018-10-30

- ▶ Updated checker grammar to support macro guards for SOMEIPXF\_DATA\_TYPE\_NAME macro in SomelpXf module

#### **Module version 0.7.0**

2018-08-24

- ▶ Updated checker grammar to support partition-specific ASIL-D sections in E2EXf module

#### **Module version 0.6.0**

2018-06-22

- ▶ Release of the generic checker library as a standalone module

#### **Module version 0.5.1**

2018-02-14

- ▶ Update of grammar to support client/server APIs and external trigger APIs in the SomelpXf module

#### **Module version 0.5.0**

2018-01-25

- ▶ Initial version

## 3.4. E2EXf Checker release notes

### 3.4.1. Change log

This chapter lists the changes between different versions.

#### **Module version 1.0.7**

2021-03-05

- ▶ Updated preprocessor include guards to be PC-lint compatible

#### **Module version 1.0.6**

2020-11-06

- ▶ Added report query for parameters of client/server and external trigger transformer function definitions

#### **Module version 1.0.5**

2020-10-23

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 1.0.4**

2020-08-05

- ▶ Corrected maximum allowed value of `MaxDataLength` parameter to 65536 bits in Profile P04. Added report query for Profile P04 so that a warning is reported if `MaxDataLength` is higher than 32768 bits

#### **Module version 1.0.3**

2020-07-08

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 1.0.2**

2020-06-19

- ▶ Changed all `NO_INIT` memory sections to `CLEARED` in report queries

#### **Module version 1.0.1**

2020-05-22

- ▶ Removed `E2EXF_VERSION_INFO_API` and `E2EXF_IN_USE` as mandatory preprocessor symbols

#### **Module version 1.0.0**

2019-09-27

- ▶ Internal module improvement. This module version update does not affect module functionality



#### **Module version 0.6.10**

2019-09-06

- ▶ Added check query for detection of wrong header prefixes in PartitionApi header files

#### **Module version 0.6.9**

2019-08-09

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 0.6.8**

2019-07-12

- ▶ Added OpenSource statement to release notes

#### **Module version 0.6.7**

2019-06-14

- ▶ Updated check query E2EXF\_Profile\_IncludeStatement\_In\_Appropriate\_File, added check queries E2EXF\_Profile\_IncludeStatement\_In\_PartitionApi\_h\_File and E2EXF\_Profile\_IncludeStatement\_In\_PartitionApi\_c\_File
- ▶ Updated boundary values for DataLength, MinDataLength and MaxDataLength in profile check queries

#### **Module version 0.6.6**

2019-05-17

- ▶ Updated check query E2EXF\_Preprocessor\_Symbols\_Valid\_Values to detect invalid values of E2EXF\_WAIT\_FOR\_FIRST\_DATA\_INIT\_VALUE preprocessor

#### **Module version 0.6.5**

2019-04-18

- ▶ Updated E2EXF\_IncludeStatement\_Only\_Once\_In\_Appropriate\_Files checker query to detect missing or multiple includes in E2EXf\_Api.h files
- ▶ Added check query for detection of multiple transformer function declarations
- ▶ Added check query E2EXF\_Profile\_IncludeStatement\_In\_Appropriate\_Files to detect invalid profile header file includes
- ▶ Changed check query E2EXF\_IncludeStatement\_In\_Appropriate\_Files to detect missing header file includes but no multiple includes

#### **Module version 0.6.4**

2019-03-22

- ▶ Added query so that an error is reported if include statement is missing or existing more than once
- ▶ Corrected maximum allowed value of DataLength parameter to 256 bits in Profile PJLR



- ▶ Corrected maximum allowed value of DataLength parameter to 256 bits in Profile P01
- ▶ Updated IncludeStatement query to detect missing or multiple E2EXf\_PARTITIONINFIX\_Partitionapi.h includes

**Module version 0.6.3**

2019-02-15

- ▶ Added query so that an error is reported if preprocessor symbol is not in given range

**Module version 0.6.2**

2019-01-25

- ▶ Internal module improvement. This module version update does not affect module functionality

**Module version 0.6.1**

2018-12-21

- ▶ Added support for JLR profile

**Module version 0.6.0**

2018-06-22

- ▶ Release of the E2EXf safety checker as a standalone module

**Module version 0.5.1**

2018-02-14

- ▶ Internal module improvement. This module version update does not affect module functionality

**Module version 0.5.0**

2018-01-25

- ▶ Initial version

## 3.5. ComXf Checker release notes

### 3.5.1. Change log

This chapter lists the changes between different versions.

**Module version 1.0.5**

2021-03-05

- ▶ Updated preprocessor include guards to be PC-lint compatible



#### **Module version 1.0.4**

2020-11-06

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 1.0.3**

2020-10-23

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 1.0.2**

2020-07-08

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 1.0.1**

2020-06-19

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 1.0.0**

2019-09-27

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 0.6.9**

2019-09-06

- ▶ Changed check query COMXF\_Mandatory\_Define\_Symbols to detect wrong prefixes

#### **Module version 0.6.8**

2019-08-09

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 0.6.7**

2019-07-12

- ▶ Internal module improvement. This module version update does not affect module functionality
- ▶ Added OpenSource statement to release notes
- ▶ Changed mandatory include header file from ComXf\_S\_Stc.h to E2E\_ComXf\_S\_Stc.h

#### **Module version 0.6.6**

2019-06-14

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 0.6.5**

2019-04-18

- ▶ Changed check query COMXF\_IncludeStatement\_In\_Appropriate\_Files to detect missing mandatory header file includes but no multiple includes

#### **Module version 0.6.4**

2019-03-22

- ▶ Added check query COMXF\_IncludeStatement\_In\_Appropriate\_Files to detect missing mandatory header file includes
- ▶ Added check query for detection of mandatory file double include protection

#### **Module version 0.6.3**

2019-02-15

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 0.6.2**

2019-01-25

- ▶ Added names and values of the preprocessor symbols from ComXf\_Cfg.h file to the generated report

#### **Module version 0.6.1**

2018-12-21

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 0.6.0**

2018-06-22

- ▶ Release of the ComXf safety checker as a standalone module

#### **Module version 0.5.1**

2018-02-14

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 0.5.0**

2018-01-25

- ▶ Initial version

## **3.6. SomelpXf Checker release notes**

### **3.6.1. Change log**

This chapter lists the changes between different versions.



#### **Module version 1.0.7**

2021-03-05

- ▶ Updated preprocessor include guards to be PC-lint compatible
- ▶ Added support for macro infix changes for endianness

#### **Module version 1.0.6**

2020-12-18

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 1.0.5**

2020-11-06

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 1.0.4**

2020-10-23

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 1.0.3**

2020-07-08

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 1.0.2**

2020-06-19

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 1.0.1**

2020-05-22

- ▶ Added report query that writes the value of buffer length type macro into the report
- ▶ Added check queries to verify the existence and value of buffer length type macro

#### **Module version 1.0.0**

2020-02-21

- ▶ Added check queries to detect invalid values of preprocessor symbols related to Variable Size Arrays and Fixed Size Arrays with Length Fields (also referred to as extensible Fixed Size Arrays)
- ▶ Added check query to verify that the data element name and endianness are identical in the name of config struct and configuration array size macro name

#### **Module version 0.6.12**

2019-10-31





- ▶ Removed check that requires SomelpXf\_Cfg.h files to #include stddef.h

#### **Module version 0.6.11**

2019-09-27

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 0.6.10**

2019-09-06

- ▶ Added check query SOMEIPXF\_Mandatory\_Define\_Symbols to detect invalid prefixes in config header files
- ▶ Updated query SOMEIPXF\_Mandatory\_Define\_Symbols to also detect invalid prefixes in PartitionApi header files

#### **Module version 0.6.9**

2019-08-09

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 0.6.8**

2019-07-12

- ▶ Internal module improvement. This module version update does not affect module functionality
- ▶ Added OpenSource statement to release notes

#### **Module version 0.6.7**

2019-06-14

- ▶ Internal module improvement. This module version update does not affect module functionality

#### **Module version 0.6.6**

2019-05-17

- ▶ Added check query SOMEIPXF\_External\_Array\_Variable\_Definitions to detect invalid external array variable definitions in SomelpXf\_Int\_Cfg.h file

#### **Module version 0.6.5**

2019-04-18

- ▶ Added check query SOMEIPXF\_IncludeStatement\_In\_Appropriate\_Files to detect missing mandatory header file includes
- ▶ Added check query SOMEIPXF\_IncludeStatement\_In\_Optional\_Cfg\_c\_file to detect missing header file includes in optional file SomelpXf\_Cfg.c

#### **Module version 0.6.4**

2019-03-22



- ▶ Internal module improvement. This module version update does not affect module functionality

**Module version 0.6.3**

2019-02-15

- ▶ Internal module improvement. This module version update does not affect module functionality

**Module version 0.6.2**

2019-01-25

- ▶ Internal module improvement. This module version update does not affect module functionality

**Module version 0.6.1**

2018-12-21

- ▶ Internal module improvement. This module version update does not affect module functionality

**Module version 0.6.0**

2018-06-22

- ▶ Release of the SomelpXf safety checker as a standalone module

**Module version 0.5.1**

2018-02-14

- ▶ Support recursive queries for nested data structures

**Module version 0.5.0**

2018-01-25

- ▶ Initial version

## 3.6.2. Limitations

The SomelpXf checker tool does not verify the generated code of client/server APIs and external trigger APIs of the SomelpXf module.

# Appendix A. Document configuration information

This document has been created by the DocBook engine using the source files and revisions listed below. All paths are relative to the directory [https://subversion.ebgroup.elektrobit.com/svn/autosar/asc\\_E2ESE/asc\\_-E2ESEXfmgmt/stable/RFI\\_ACG-8.8.3-X3\\_1/doc/RN](https://subversion.ebgroup.elektrobit.com/svn/autosar/asc_E2ESE/asc_-E2ESEXfmgmt/stable/RFI_ACG-8.8.3-X3_1/doc/RN).

Filename	Revision
ASCE2ESE-623-Safety_E2E_Transformers_release_notes.xml	3737

# Glossary

Safety Transformer  
Checker

The Safety Transformers Checker is a tool to verify the generated code from SomelpXf, ComXf, and E2EXf. In this way, the confidence in the generated code is increased. Each of the Transformers (SomelpXf, ComXf, and E2EXf) has an own dedicated checker tool and this is included in the module plugin.

- ▶ The E2EXf checker tool verifies the generated code of the *E2EXf* module.
- ▶ The SomelpXf checker tool verifies the generated code of the *SomelpXf* module.
- ▶ The ComXf checker tool verifies the generated code of the *ComXf* module.

EB tresos Safety E2E  
Transformers

EB tresos Safety E2E Transformers, short Safety Transformers, is composed of the following products:

- ▶ *EB tresos Safety E2E Transformer (E2E)*
- ▶ *EB tresos Safety E2E Transformer (SOME/IP)*
- ▶ *EB tresos Safety E2E Transformer (COM)*

The end-to-end protected sending and receiving of data with an AUTOSAR stack. The EB tresos Safety E2E Transformers consists of an end-to-end communication protection library (*E2E*), the actual end-to-end communication transformer module (*E2EXf*), a module for data serialization and de-serialization, i.e. either *SomelpXf* or *ComXf*, a state machine *E2ESM*, *SCrc* and different profiles, e.g. P01, P02, P04, P05, P06, and P07, for the integration into an AUTOSAR basic software stack.

# Bibliography

**[ACGTRANS-  
FORMERUG]**

*EB tresos AutoCore Generic 8 Transformers documentation:*

[AutoCore\\_Generic\\_Transformers\\_documentation.pdf](#)

**[E2EXFUG]**

*EB tresos E2E Transformer (E2E) documentation:*

[E2E\\_E2EXF\\_documentation.pdf](#)