
Release Overview

CAR 2 CAR Communication Consortium



About the C2C-CC

Enhancing road safety and traffic efficiency by means of Cooperative Intelligent Transport Systems and Services (C-ITS) is the dedicated goal of the CAR 2 CAR Communication Consortium. The industrial driven, non-commercial association was founded in 2002 by vehicle manufacturers affiliated with the idea of cooperative road traffic based on Vehicle-to-Vehicle Communications (V2V) and supported by Vehicle-to-Infrastructure Communications (V2I). Today, the Consortium comprises 73 members, with 12 vehicle manufacturers, 33 equipment suppliers and 28 research organisations.

Over the years, the CAR 2 CAR Communication Consortium has evolved to be one of the key players in preparing the initial deployment of C-ITS in Europe and the subsequent innovation phases. CAR 2 CAR members focus on wireless V2V communication applications based on ITS-G5 and concentrate all efforts on creating standards to ensure the interoperability of cooperative systems, spanning all vehicle classes across borders and brands as well as other road users. As a key contributor, the CAR 2 CAR Communication Consortium works in close cooperation with the European and international standardisation organisations such as ETSI and CEN.

Disclaimer

The present document has been developed within the CAR 2 CAR Communication Consortium and might be further elaborated within the CAR 2 CAR Communication Consortium. The CAR 2 CAR Communication Consortium and its members accept no liability for any use of this document and other documents from the CAR 2 CAR Communication Consortium for implementation. CAR 2 CAR Communication Consortium documents should be obtained directly from the CAR 2 CAR Communication Consortium.

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Document information

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Title:	Release Overview			Document Type:	TR
Release	1.4.0				
Release Status:	Public				
Status:	Final				

Table 1: Document information

Changes since last version

Title:	CAR 2 CAR Communication Consortium Release Overview
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Explanatory notes:

13/09/2019	Initially provided	Release Management	Steering Committee
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Date	Changes	Edited by	Approved
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Table 2: Change history

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1 Introduction

Other (informational)

TR_ ReIOv_00147

The CAR 2 CAR Communication Consortium is pleased to provide the release 1.4.0 on the 13th of September 2019.

This Release Overview provides information on the specification which are part of this release:

- Which documents are part of the release
 - What are the changes since the last release
- Which documents belong to which class, e.g.
 - Requirement specification
 - Technical report
 - Explanatory
 - Etc.
- Formal requirements by CAR 2 CAR CC on requirements as part of the provided documents.

2 Scope

Other (informational)

TR_ RelOv_00146

This document provides general release information like the CAR 2 CAR release numbering schema or file type or naming conventions.

Besides this, this document gives an overview of the release itself:

- Which documents belong to this release
- What type do these documents have
- What have been the major changes since the last release
- Etc.

3 Formal requirements by CAR 2 CAR CC

3.1 Release types

Release types are closely related to product phase. They support the CAR 2 CAR CC product phases schema and allow to deliver appropriate results in each life cycle phase.

CAR 2 CAR applies three release types:

- Major Release:
 - Newly developed from scratch or
 - Major changes compared to previous release
 - Not necessarily backward incompatible
 - Including Bug fixing
- Minor release:
 - Introduction of new features, which
 - Shall not break backward compatibility
 - If mitigation is possible by the CAR 2 CAR partner and was agreed exceptions might be made.
 - Including Bug fixing
- Revisions
 - Bug fixing
 - Which shall not break backward compatibility

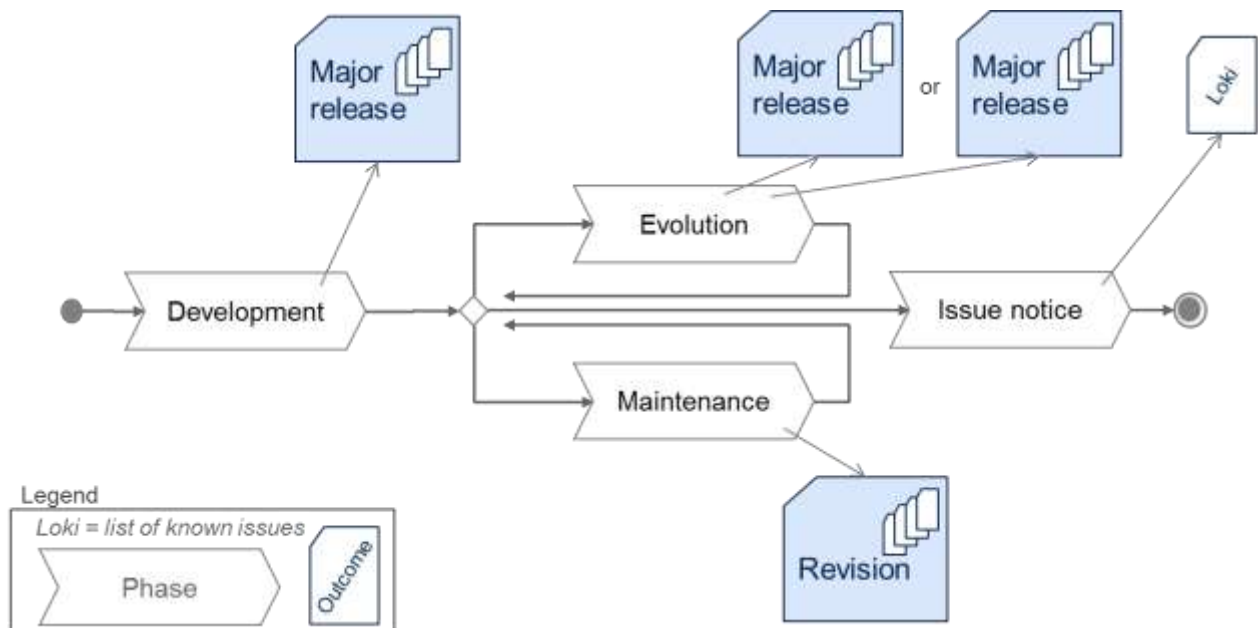


Figure 1: Release types and mapping to product phases

3.2 Document types

CAR 2 CAR Deliverables shall have one of the following Types:

- DocTyp = 2/3/4 letter abbreviation of:
 - EXP = Explanatory (white paper)
 - TR = Technical Report (position paper)
 - RS = Requirement Specification (TCs and BSP, PP, ...)
 - TS = Test Specification
 - PP = Protection Profile

3.3 File names

File names of CAR 2 CAR deliverables shall follow the following schema:

- C2CCC_<DocType>_<ID>_<name>.pdf
 - ID = 4 digits (unordered number provided by Release Management, stored in the MDL)

3.4 Requirement schema

Requirements of CAR 2 CAR deliverables shall follow the following schema:

CAR 2 CAR requirements shall follow the following schema:

```
[<requirement id>]
<requirement text>
<trace to other requirements>
```

CAR 2 CAR requirement IDs shall follow the following schema:

```
<requirement id>    =    <DocType>_<DocAbbreviation>_<number>
<DocType>          =    see dedicated slide
<DocAbbreviations> =    2-6 letter abbreviation of document name
                        (managed in the MasterDocumentList)
<number>           =    5 digit (identical number within a document)
```

Furthermore, requirements in Protection Profiles have in addition a “CC reference”, which stands for Common Criteria reference and shall increase the usability of the CAR 2 CAR CC documents for security experts.

3.5 Conventions to be used within the documents

3.5.1 Modal verbs terminology

Other (informational)

TR_RelOv_00152

In CAR 2 CAR requirement documents the following verbal forms are used:

- **Must**: indicates an absolute requirement of the specification due to legal issues
- **Must not**: indicates an absolute prohibition of the specification due to legal issues.

- **Shall**: indicates an absolute requirement of the specification.
- **Shall not**: indicates an absolute prohibition of the specification.

- **Should**: indicates a recommendation. It means that there may exist valid reasons in particular circumstances to ignore a particular item, but the full implications must be understood and carefully weighed before choosing a different course.
- **Should not**: indicates that something is not recommended. It means that there may exist valid reasons in particular circumstances when the particular behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label.

- **May**: indicates that something is permitted/possible
- **Can**: indicates that something is possible/capable

- **Cannot:** indicates that something is not possible/capable
- **Will / will not:** indicates the Inevitable behavior of the described system
- **Is / Is not:** Indicates facts

3.5.2 Item identification

Other (informational)

TR_ RelOv_00421

Each item of this CAR 2 CAR documents has its unique identifier starting with “<doc_type>_<doc abbreviations>_” as prefix. For any review annotations, remarks and/or questions please refer to this unique ID rather than chapter or page numbers!

3.5.3 Provisions from referenced documents

Other (informational)

TR_ RelOv_00153

Unless otherwise specified in the present document, the normative requirements included in the referenced documents supporting the required functionality of the C2C-CC basic system shall apply. The verbal forms for the definition of provisions of referenced documents are defined either inside the document, or generally by the SDO or the organization providing them. For example normative requirements in ETSI documents are indicated by the verbal form “shall”.

When the requirements defined in the standards published by the various organizations stand in conflict, or contradict the requirements specified inside this document, the ones specified inside this document shall always outweigh the requirements included inside the referenced documents.

3.5.4 Requirements quality

Other (informational)

TR_ RelOv_00424

All Requirements shall have the following properties:

- **Redundancy**
Requirements shall not be repeated within one requirement or in other requirements
- **Clearness**
All requirements shall allow one possibility of interpretation only. Only technical terms of the glossary may be used. Furthermore, it must be clear from the requirement, what object the statement is a requirement on.
Examples:
 - The <...> module shall/should/may ...
 - The <...> module's environment shall ...
 - The <...> configuration shall...
 - The function <...> shall ...
 - The hardware shall ...
- **Atomicity**
Each Requirement shall only contain one requirement. A Requirement is atomic if it cannot be split up in further requirements.
- **Testability**
Requirements shall be testable by analysis, review or test.
- **Traceability**
The source and status of a requirement shall be visible at all times.
- **Formulation**

All requirements shall be formulated so that they can be interpreted without the surrounding context (for example: "the function Xyz..." instead of "this function...").

4 Deliverables

The following table shows all documents which are part of this release (1.4.0):

Table 3: Deliverables

UID	Abbreviation	Symbol for Referencing	Long Name	File Name	
2000	RelOv	[C2CCC RelOv]	Release Overview	C2CCC_TR_2000_Release Overview.pdf	
2002	tcAdWe	[C2CCC tc Docs]	[C2CCC tcAdWe]	Triggering Conditions and Data Quality Adverse Weather Conditions	C2CCC_RS_2002_Adverse Weather.pdf
2003	tcDaSi		[C2CCC tcDaSi]	Triggering Conditions and Data Quality Dangerous Situation	C2CCC_RS_2003_Dangerous Situation.pdf
2004	tcIRC		[C2CCC tcIRC]	Triggering Conditions and Data Quality Exchange of IRCs	C2CCC_RS_2004_Exchange of IRC.pdf
2005	tcSpVe		[C2CCC tcSpVe]	Triggering Conditions and Data Quality Special Vehicle Warning	C2CCC_RS_2005_Special Vehicle.pdf
2006	tcStVe		[C2CCC tcStVe]	Triggering Conditions and Data Quality Stationary Vehicle Warning	C2CCC_RS_2006_Stationary Vehicle.pdf
2007	tcTrJa		[C2CCC tcTrJa]	Triggering Conditions and Data Quality Traffic Jam	C2CCC_RS_2007_Traffic Jam.pdf
2035	OBJ	[C2CCC OBJ]	Objectives	C2CCC_RS_2035_Objectives	
2036	FEA	[C2CCC FEA]	Features	C2CCC_RS_2036_Features	
2037	BSP	[C2CCC BSP]	Basic System Profile	C2CCC_RS_2037_Profile	
2052	Refs	[C2CCC Refs]	Reference list	C2CCC_RS_2052_References	
2056	HSM	[C2CCC HSM]	Protection Profile V2X Hardware Security Module	C2CCC_RS_2056_HSM	
2066	tcPCI	[C2CCC tcPCI]	Triggering Conditions and Data Quality Stationary Vehicle Warning	C2CCC_RS_2066_Pre-Crash Information	
2067	PCIASN	[C2CCC PCIASN]	ASN.1 extension for Pre-Crash Information	C2CCC_RS_2067_Pre-Crash Information_Asn Extension	

The entries of column “Symbol for Referencing” are used to reference documents of this release. Furthermore the symbol: [C2CCC tc Docs] represents all Triggering Condition documents as in the table above.

5 History

The achievements of this release are:

- Harmonization with infrastructure requirements
- Improvement of position and timing requirements
- Introduction of PTW aspects in the Profile and Triggering Condition documents
- Rework of *Protection Profile V2X Hardware Security Module (UID 2056)*.
 - Add: Lifecycle description for initial development and for software update
 - Add: Optional package for HSM software update
 - Add: Optional packages for secure private key importing using online and offline method
 - Add: Optional package for external HSM
 - Modify: Protection of communication with VCS protected at VCS level
 - Modify: Move secure channel from base PP to external HSM package
 - Add: restrictions for ECC cryptography (only NIST + BP curves and sizes ≥ 256 bits)
 - Add: Optional package for key derivation for support of implicit certificates and butterfly key derivation
- Extension of the release bundle by:
 - Triggering Conditions and Data Quality Pre-Crash Information (*UID 2066*)
 - ASN.1 extension for Pre-Crash Information Initially provided (*UID 2067*)

The following table shows the changes since the last release per document:

Table 4: History

UID	Long Name	History
2000	Release Overview	Initially provided
2002	Triggering Conditions and Data Quality Adverse Weather Conditions	Minor corrections
2003	Triggering Conditions and Data Quality Dangerous Situation	Minor corrections
2004	Triggering Conditions and Data Quality Exchange of IRCs	Minor corrections
2005	Triggering Conditions and Data Quality Special Vehicle Warning	Minor corrections
2006	Triggering Conditions and Data Quality Stationary Vehicle Warning	Minor corrections
2007	Triggering Conditions and Data Quality Traffic Jam	Minor corrections

2035	Objectives	Minor corrections
2036	Features	Minor corrections
2037	Basic System Profile	Rework (see introduction to this chapter)
2052	Reference list	Minor corrections
2056	Protection Profile V2X Hardware Security Module	Large rework (see introduction to this chapter)
2066	Triggering Conditions and Data Quality Pre-Crash Information	Initially provided
2067	ASN.1 extension for Pre-Crash Information	Initially provided