Objectives

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). The Consortium members represent worldwide major vehicle manufactures, equipment suppliers and 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 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

Document information

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Table 1: Document information

Changes since last version

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Table 2: Changes since last version

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1 Introduction

Other (informational) **RS_OBJ_147**

Cooperative Intelligent Transport Systems (C-ITS) are a specific subset of Intelligent Transport Systems (ITS) and are defined as a network of systems in which communication partners (vehicles, traffic infrastructure and service providers) exchange information as the basis for a new level of traffic safety and efficiency improvement. As a result of this definition C-ITS is seen as a key technology to fulfill the EU objective ‘vision zero’. This means that almost no more traffic participants are killed or have a heavy accident in traffic.

The wide scope of the C-ITS definition affects all parts of traffic and thus involves many different stakeholders. This set of stakeholders may also comprise international entities or Standards Developing Organizations (SDO) of different nations. A stakeholder representing automotive industry in field of C-ITS is the CAR 2 CAR Communication Consortium (C2C-CC), an association of vehicle manufacturers, suppliers and research organizations. The primary objective of the C2C-CC is to ensure interoperability in field of C-ITS between different vehicle manufacturers.

2 Scope

Other (informational) **RS_OBJ_146**

The present document provides objectives regarding C-ITS from C2C-CC point of view. They focuse on vehicles but can be applied to other traffic participants too.

In terms of C2C-CC an objective is defined as an abstract requirement without any further specification about its details. An objective itself is always further detailed by at least one of two ways:

- by a feature, which describes a desired ability in scope of vehicles. The feature again is detailed by one or more pure requirements, which contains the implementation details.
- by a feature request, which describes an expected ability for every other entity outside vehicle scope (e.g. other traffic participants). The feature request again is detailed by one or more requirement requests, if necessary.

Thus, an objective can be considered as the most abstract requirement. This implies that an objective itself is not directly testable. An objective can be assumed as ‘tested’, if all of its detailing features or feature requests are assumed as ‘tested’. An exemplary structure of this relation between the mentioned requirement layers is in shown in Figure 1.

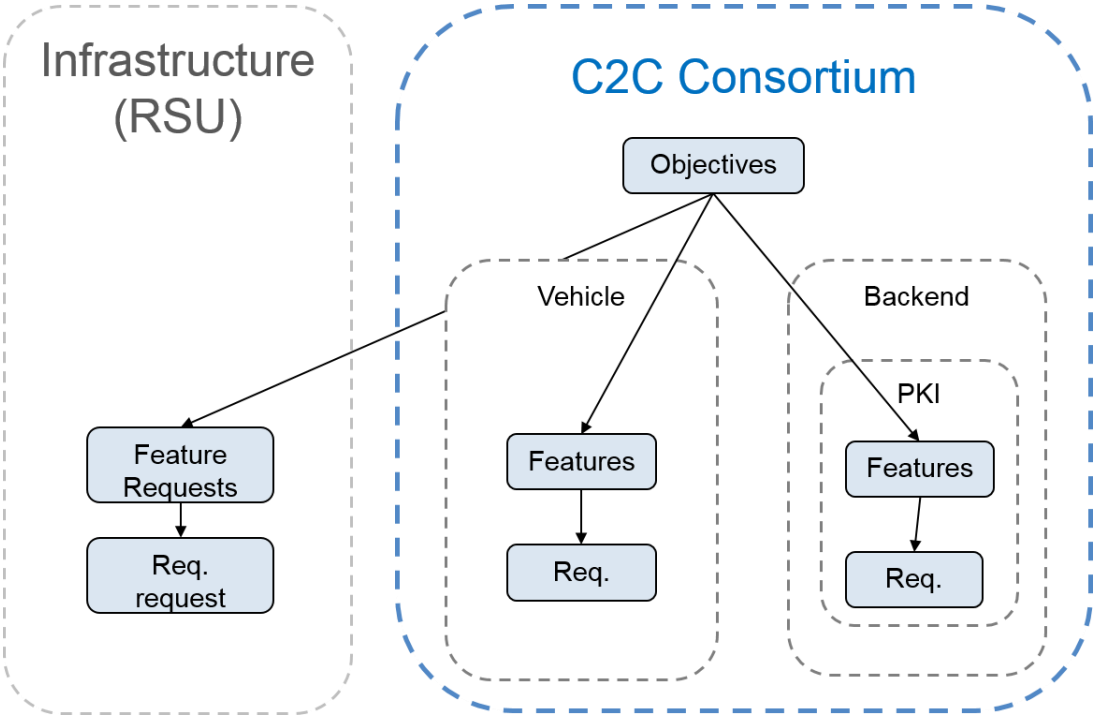

Figure 1: Example structure of the relation between objectives, features/feature requests and requirements/requirements requests.

3 Conventions uses

Other (informational) **RS_OBJ_152**

Conventions used in this and other C2C-CC specification documents can be found in [C2CCC ConV].

4 Objective specifications

Objective **RS_OBJ_426**

Improvement of road safety shall be supported based on communication between geographically scattered entities. The communication shall have the following characteristics:

- ad hoc: This means that no specific network infrastructure is required to establish a communication link.
- local: This means that only communication with entities in vicinity of the originator is necessary.
- low Latency: This means that the time between the transmission of information and reception of those information is minimal.

Detailed by:

Objective **RS_OBJ_427**

To improve the quality of the environmental information for each traffic participant, C-ITS stations shall enable cooperative perception with trusted information.

Detailed by:

Objective **RS_OBJ_428**

To enable major benefits for all traffic participants, a single C-ITS station shall be able to communicate with different types of traffic participants. Beside vehicles this includes Roadside Units and Vulnerable Road Users.

Detailed by:

Objective **RS_OBJ_429**

To enable and support future cooperative driving functions, data exchange between C-ITS stations shall create a new source of beneficial information for each C-ITS station.

Detailed by:

Objective **RS_OBJ_430**

Improvement of traffic efficiency shall be supported by providing traffic related information based on communication between C-ITS stations.

Detailed by:

Objective **RS_OBJ_431**

A C-ITS station shall only transmit plausible information to other C-ITS stations. This is a common base for improving road safety.

Detailed by:

Objective **RS_OBJ_157**

The vehicle C-ITS station shall provide services for integrity and authenticity protection.

Note: The integrity of the in-vehicle network should be protected against unwanted actions emitted by the vehicle C-ITS station. This protection is out of scope of this document.

Detailed by:

Objective **RS_OBJ_408**

The vehicle C-ITS station shall provide measures to protect the privacy of the driver/vehicle.

Detailed by: