

	Interworking with 3GPP V2X
	WI-0082 3GPP V2X Interworking v1.0.0
	Huawei Technologies, Co. Ltd., Hitachi, China Unicom, AT&T, Convida, Deutsche Telekom, KDDI, Orange
	2018-01-18
	This Work Item is intended to support the interworking between oneM2M service layer and the 3GPP V2X network service.

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1 Title (Acronym)

Interworking with 3GPP V2X.

2 Justification

3GPP TS 23.285 specifies architecture enhancements to facilitate vehicular connectivity for Vehicle-to-Everything (V2X) services. However, some aspects for an end to end service are out of scope of 3GPP and not yet defined.

For example, V1/V2 interface/communication, between the UE and V2X Application Server, is out of scope of 3GPP.

5GAA proposed Cloud (V2X Server) assisted V2V communication (limited to safety relevant ITS services only) in addition to 3GPP V2X architecture, and has started a new WI titled “Study on Application Server Role in V2X Services” to study V2X Application Server (V2X platform).

From Service point of view the vehicular industry benefits form a standardized solution between UE and V2X Application Server, due to scaling and harmonization effects.

oneM2M has already started the study item on vehicular domain but has not yet consider V2X specific features. It’s proposed to complete the solution between UE and V2X Application Server, which is out of scope of 3GPP, to provide a complete end to end V2X standards ecosystem.

This WI intends to study the enablement and best practice for the deployment of V2X services, based on oneM2M, to better support vehicular service, including gap analysis between the 3GPP V2X services and the existing functions in oneM2M.

For example, 3GPP V2X provides MBMS for LTE-Uu reference model which provides group communications via xMB/MB2 reference point to the Application Server, while oneM2M supports MBMS service via the SCEF API.

oneM2M shall consider, how to interwork with 3GPP, and support V2X and CIoT in a harmonized way.

3GPP V2X also specifies service configuration function via device management, where oneM2M can provide added value by its northbound APIs to the application server.

3 Intended Output

Tick all the appropriate cases	
	Change request(s) to existing Technical Specification(s)
	Change request(s) to existing Technical Reports(s)
x	New Permanent Technical Reports(s)
	New Temporary Technical Reports(s)

4 Impact

4.1 oneM2M Work Items

WI-0046 (Vehicular domain enablement) addresses the network independent features of Vehicular enablement.

The present Work Item will focus on the 3GPP V2X service specific functions and interfaces (e.g. V1/V2/V3).

Depending on the potential gaps and synergies to be found, suggestions may be derived to further improve vehicular domain enablement.

WI-0058 (3GPP & Cellular IoT Interworking) specifies the interworking with the 3GPP Cellular IoT networks.

The present Work Item will analyse the interworking with the 3GPP V2X architecture.

Since some common network services (e.g. MBMS) are used for both cases while the way to interwork may be different, a harmonized solution is desirable. In addition, this work can provide opportunities for operators to create more integrated applications for 3GPP V2X services by leveraging of the oneM2M capabilities.

Depending on the analysis of the technical differences and pros/cons between of Cellular and V2X, synergies may be found and recommendations will be exchanged with 3GPP. Furthermore, as 3GPP is working on V2X services for 5G, application layer work in oneM2M would be timely for interworking and E2E V2X services with 5G deployment.

5 Scope

The objective of this work item will initially focus on the creation of a Technical Report describing the interworking solution between oneM2M service layer and 3GPP V2X service architecture and how oneM2M can support V2X service for the benefit of V2X IoT applications.

Mapping of oneM2M architecture, relevant reference points and features to the V2X services exposed by 3GPP network will be covered.

A new Technical Report will be generated. The initial set of issues to be addressed in the Technical Report are as follows:

- Analyze and develop the support and the deployments of 3GPP V2X service architecture in oneM2M system (role mapping of Control Function and V2X Application Server)
- The functional mapping of the V1/V2/V3 interface, such as MBMS, Device management, Location in oneM2M
- The support for PC5/LTE-Uu interface in oneM2M
- Analysis and development of related APIs to support E2E V2X applications

Based on the key findings of this Work Item, Liaison Statements may be generated to initiate alignment of work with the 5GAA and 3GPP. Joint workshops and interoperability events between oneM2M and other SDOs may also be recommended as needed. The overall goal is to drive the technical convergence and standard interoperability.

NOTE: This WID may need to be updated to add additional normative work (e.g. CR to existing TS or a new TS) after the study work completes.

6 Schedule and impacted specifications

New Specifications (if any)									
Document Type	Document Number*	Title	Schedule (TP No.)				Lead WG	Impacted WGs	Comments
			Start	Change Control	Freeze	Approval			
TR	TR-00XX	3GPP V2X Interworking	TP#33	n/a	TP#38	TP#39	WG2	WG5	

* Optional for first versions (i.e. before it will be assigned by the secretariat)

CRs to existing specifications (if any)

Impacted TS/TR	CR number (when known)	Subject of the CR	Approved at plenary#	Impacted WGs	Comments

7 Work Item Rapporteur(s)

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8 History

Document history		
V1.0.0	13 Jan 2018	Initial proposal
	18 Jan 2018	Uploaded as a permanent document following approval of TP-2018-0013R04