**3GPP TSG-SA WG6 Meeting #36-e S6-200391**

**E-meeting, 24th – 28th Feb 2020 (revision of S6-xxxxxx)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.286** | **CR** | **0017** | **rev** | **<Rev#>** | **Current version:** | 16.2.0 |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Clarifications on V2X USD | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CATT | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | V2XAPP | | | | |  | ***Date:*** | | | 2020-02-18 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) Rel-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | For the V2X USD provisioning, using multicast is different with unicast in that the target is the UEs within a service area of MBMS coverage but not the specified UEs.  The VAE server can send the provisioning message periodically over multicat so that to assure the UEs within coverage to be informed. In this case the VAE server may not expect the acknowledgements from all the UEs in the high density UE area which may cost uplink signaling burden. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Clarify the procedure of V2X USD provisioning using multicast. Add relevant abbreviation. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Redundant signaling for V2X USD provisioning over multicast may exist. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 3.2, 9.6.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* First Change \* \* \* \*

## 3.2 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply.   
An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

AS Application Server

AID Application Object Identifier

E-UTRAN Evolved Universal Terrestrial Radio Access Network

EPS Evolved Packet System

ETSI European Telecommunications Standards Institute

LTE Long-Term Evolution

MBMS Multimedia Broadcast Multicast Service

PSID Provider Service Identifier

SAE Society of Automotive Engineers

SCEF Service Capability Exposure Function

SCS Services Capability Server

UE User Equipment

USD User Service Description

V2I Vehicle-to-Infrastructure

V2N Vehicle-to-Network

V2P Vehicle-to-Pedestrian

V2V Vehicle-to-Vehicle

V2X Vehicle-to-Everything

VAE V2X Application Enabler

\* \* \* Next Change \* \* \* \*

### 9.6.3 V2X USD provisioning

#### 9.6.3.1 General

This subclause describes the procedure for VAE server provisioning the V2X USD information to V2X UE via V1-AE reference point for V2X communication using MBMS.

#### 9.6.3.2 Procedure

Figure 9.6.3.2-1 illustrates the procedure for provisioning V2X USD to the V2X UE via V1-AE reference point.

Pre-conditions:

1. The V2X UE has connected to the VAE server.

2. If multicast delivery mode is used, the MBMS bearer being used is activated by the VAE server.



Figure 9.6.3.2-1: V2X USD provisioning

1. The VAE server is triggered for providing V2X USD to V2X UE.

2. The VAE server sends the V2X USD announcement to the VAE client in the V2X UE with the information of the V2X USDs corresponding to the V2X applications. The V2X USD information consists of TMGI, list of SAIs, frequency and SDP information for V2X applications' communication using MBMS. The details of V2X USD are specified in subclause 4.4.7.2 in 3GPP TS 23.285 [5]. This message can be sent via unicast or multicast.

3. Upon receiving the V2X USD announcement, the VAE client of the V2X UE stores the received V2X USDs.

NOTE: The principles for storing and applying precedence when V2X USD is configured via different mechanisms (e.g. MBMS service announcement or pre-configuration or by VAE server via V1‑AE reference point) is as per V2X service provider's policy.

4. The VAE client of the V2X UE provides an acknowledgement to the VAE server of the V2X AS. This step is optional when the announcement is sent via multicast.