**3GPP TSG-SA WG6 Meeting #42-bis-e S6-210921**

**e-meeting, 12th – 20th April 2021 (revision of S6-21xxxx)**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.434** | **CR** | **0059** | **rev** | **-** | **Current version:** | **17.1.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **x** | Radio Access Network |  | Core Network | **x** |

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|  | | | | | | | | | | |
| ***Title:*** | Supplementary location information to verticals | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, Hisilicon | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | UASAPP, eSEAL | | | | |  | ***Date:*** | | | 2021-04-05 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | As per the study in TR 23.755, it is agreed to enhance Location Management Service to include supplementary location information to verticals (e.g. UASAPP) | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Update existing procedures to support supplementary location information | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The supplementary location information will not be supported. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 9.3.7, 9.3.8 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **N** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **N** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **N** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

### 9.3.7 Location information subscription procedure

Figure 9.3.7-1 illustrates the high level procedure of location information subscription request. The same procedure can be applied for location management client and other entities that would like to subscribe to VAL user or VAL UE location information. This procedure is also used for intiating tracking a UE's location.



Figure 9.3.7-1: Location information subscription request procedure

1. The VAL server sends a location information subscription request to the location management server to subscribe location information of one or more VAL users or VAL UEs. The request may include an indication for supplementary location information.

2. The location management server shall check if the VAL server is authorized to initiate the location information subscription request. Further, the location management server may initiate location reporting configuration with the location management client of the UE for immediate reporting.

3. The location management server may optionally subscribe for UE location information from 3GPP core network for the UE. If the indication for supplementary location information is included in step 1, then UE location information is obtained from the 3GPP core network.

4. The location management server determines the UE location information of the UE as received in steps 3 and 4.

5. The location management server replies with a location information subscription response indicating the subscription status and if immediate reporting was requested, the location information of the VAL UE(s).

### 9.3.8 Event-trigger location information notification procedure

Figure 9.3.8-1 illustrates the high level procedure of event-trigger usage of location information. The same procedure can be applied for location management client and other entities that would like to subscribe to location information of VAL user or VAL UE. This procedure is also used for obtaining latest UE's location for tracking purpose.



Figure 9.3.8-1: Event-trigger usage of location information procedure

1. The location management server receives the latest location information of the UE as per the location report procedure described in clause 9.3.3.3.

2. The location management server may optionally receive the location information of the UE from 3GPP core network. If the indication for supplementary location information is included in the subscription, then UE location information is obtained from the 3GPP core network.

3. Based on the configurations, e.g., subscription, periodical location information timer, location management server is triggered to report the latest user location information to VAL server. The location management server determines the location information of UE as received in steps 1 and 2, including the supplementary location information (if indicated).

4. The location management server sends the location information report including the latest location information of one or more VAL users or VAL UEs to the VAL server or to the location management client that has previously configured.

5. VAL server may further share this location information to a group or to another VAL user or VAL UE.

NOTE: For other entities, the step 5 can be skipped if not needed.