**3GPP TSG-SA3 Meeting #84-LI-e-b *s3i220115r1***

**Online, , 2nd Mar 2022 - 4th Mar 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **33.127** | **CR** | **0162** | **rev** | **1** | **Current version:** | **17.3.0** |  |
|  | | | | | | | | |
| *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 |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Enhancement of LI/LALS system in VPLMN | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | SA3LI (Ministère Economie et Finances) | | | | | | | | | |
| ***Source to TSG:*** | SA3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | LI17 | | | | |  | ***Date:*** | | | 2022-03-02 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **C** |  | | | | | ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Solution to locate target based on visited GMLC in VPLMN | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Location request of GMLC to AMF/MME of VPLMN | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Regulatory issue to locate inbound roamer to CPSs | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.3.3.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | s3i220115 | | | | | | | | |

##### \*\*\* First change \*\*\*

7.3.3.1 General

LALS provides lawful access to the target's location. LALS is based on the Location Services (LCS) capabilities defined in the TS 23.271 [5], TS 23.273 [30] and in the OMA MLP specification [6]. The 5G Core Network support of LCS is described in clause 4.4.4 of TS 23.501 [2] and clause 4.13.5 of TS 23.502 [4].

LALS shall adhere to the requirements in clauses 6.6 (Security) and 6.3 (Detect and Capture) of TS 33.126 [3]. The LCS supporting LALS shall be able to provide priority to LALS requests. The subscriber location privacy settings shall be overridden for LALS by setting the privacy override indicator to "override" in the LI LCS client profile in the GMLC (see clause 5.4.4 of TS 23.273 [30]).

For inbound roaming targets, the VPLMN LCS functional entities fulfilling LALS requests, by default, shall not communicate with the target's HPLMN, as it may cause detectability issues, but rather the GMLC shall be able to determine the serving AMF/MME from which it can acquire the inbound roaming target's location. Detectability issues may also exist when LALS is invoked for outbound roaming targets. This means by default, the GMLC shall refrain from performing the positioning of an outbound roaming target.

NOTE 0: The visited GMLC may send the location request to all the AMF/MME of the VPLMN. If the visited GMLC has knowledge of the last AMF/MME serving the target UE, it may use that one in the first attempt.

Depending on national requirements and LCS capabilities of the CSP, the location information provided by LALS may vary in location information types (mobile network cell ID, location shape and geo-coordinates, civic address, or a combination of those), in the set of additional location parameters (map data, motion state, speed, etc.), as well as in the accuracy of provided location information.

NOTE 1: The accuracy of positioning is, usually, a trade-off for the location acquisition delay. It also depends on other positioning technology specific factors.

The parameters controlling the LALS output are either delivered per warrant over the LI\_X1 interface from the ADMF to the LI-LCS Client, or to the Location Triggering Function (LTF, see Clause 7.3.3.3), or are pre-configured in the LI-LCS Client. The LI-LCS Client is a special type of IRI-POI in the CSP network fulfilling the role of the LCS client for LALS purposes. As such, the LI-LCS client shall support all the requirements and interfaces in accordance with 3GPP TS 23.273 [30] for an LCS client.

NOTE 2: The LI-LCS Client profile at GMLC is to be provisioned and accessed by authorized personnel only. The mechanism of this functionality is outside the scope of the present document.

There are two types of the location interception defined in the present document: target positioning and triggered location.

Target positioning determines the target's location independently of the services used by the target.

Triggered location determines the LALS based location of the target when specific network or service events related to the target occur.

The warrant for target positioning and for triggered location of the same target may be independent of each other and may be overlapping in time or combined in a single intercept warrant by the LEA.

There may be multiple active LALS warrants from different LEAs at any given time.

##### \*\*\* End of first change \*\*\*

##### \*\*\* End of last change \*\*\*