**3GPP TSG-SA5 Meeting #155 *S5-242698rev1***

**Jeju, South Korea, 27 - 31 May 2024**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **32.271** | **CR** | **0020** | **rev** | **1** | **Current version:** | **18.0.0** |  |
|  | | | | | | | | |
| *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:*** | Add converged charging architecture for Ranging and Sidelink Positioning | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | China Telecom | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | DUMMY | | | | |  | ***Date:*** | | | 2024-05-16 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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:*** | | There is no converged charging architecture for Ranging and Sidelink Positioning | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add converged charging architecture for Ranging and Sidelink Positioning | | | | | | | | |
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| ***Consequences if not approved:*** | | Converged charging for Ranging and Sidelink Positioning will not be supported | | | | | | | | |
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| ***Clauses affected:*** | | 4.1, 4.y (new) | | | | | | | | |
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|  | | **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:*** | |  | | | | | | | | |



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| **First change** |

## 4.1 High level LCS architecture

### 4.1.1 LCS architecture in GSM/UMTS networks

Figure 4.1.1.1 depicts the logical LCS architecture, as described in TS 23.271 [201].



Figure 4.1.1.1: LCS logical architecture with inter-GMLC [Lr] interface

As can be seen in figure 4.1.1.1, the following LCS elements are relevant for charging:

- V-GMLC,

- H-GMLC,

- R-GMLC.

Editor's note: Add a statement stating that the SGSN and the MSC have also a role in the LCS Charging and that the associated LCS Charging functionality is described in TS 32.250 and TS 32.251

### 4.1.x Ranging and Sidelink Positioning architecture in 5G network

Figure 4.1.x.1 depicts the Ranging based services and Sidelink positioning architecture, as described in TS 23.586 [xx].



Figure 4.1.x.1: Reference architecture for Ranging based services and Sidelink positioning for non-roaming and same PLMN operation in SBI representation

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| **Next change** |

## 4.y LCS converged charging architecture

The LCS converged charging architecture, which is only applicable to Ranging and Sidelink Positioning in this release, is depicted in figure 4.y.1 in service-based representation.

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**Figure 4.y.1: LCS Converged charging architecture**

Figure 4.y.2 depicts the LCS converged charging architecture in reference point representation for non-roaming, which is only applicable to Ranging and Sidelink Positioning in this release:



Figure 4.y.2: LCS converged charging architecture non-roaming reference point representation

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| **End of changes** |