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

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

|  |
| --- |
| *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)*.* |
|  |

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

|  |
| --- |
|  |
| ***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 canbe 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 |
|  |  |
| ***Consequences if not approved:*** | Converged charging for Ranging and Sidelink Positioning will not be supported |
|  |  |
| ***Clauses affected:*** | 4.1, 4.y (new) |
|  |  |
|  | **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** |

## 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

|  |
| --- |
| **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.

****

**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

|  |
| --- |
| **End of changes** |