|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **3GPP TSG-SA5 Meeting #142-e *S5-222309rev3*****e-meeting, 4 - 12 April 2022**

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **32.277** | **CR** | **0033** | **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)*.* |

 |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **x** |
|  |
| ***Title:***  | Update of charging requirement |
|  |  |
| ***Source to WG:*** | CATT |
| ***Source to TSG:*** | SA5 |
|  |  |
| ***Work item code:*** | 5G\_ProSe |  | ***Date:*** | 2022-3-15 |
|  |  |  |  |  |
| ***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 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:*** | The requirement of LTE and 5G is mixed up and not clear. |
|  |  |
| ***Summary of change:*** | Revert the change on ProSe function and separate the descriptions of LTE and 5G requirement. |
|  |  |
| ***Consequences if not approved:*** | Incorrect specification potentially leading to incorrect implementations. |
|  |  |
| ***Clauses affected:*** | 5.1.1 |
|  |  |
|  | **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:*** |  |

|  |
| --- |
| **1st modified section** |

### 5.1.1 Requirements

There are three types of ProSe services defined in TS 23.303 [238]:

- ProSe Direct Discovery, including ProSe open Direct Discovery and restricted Direct Discovery, and

- ProSe EPC-level Discovery, and

- ProSe one-to-many Direct Communication for Public Safety Use, and

- ProSe one-to-one Direct Communication, including UE-to-Network Relay for Public Safety Use.

The following are high-level charging requirements for ProSe services, derived from the requirements in TS 22.115 [101], and TS 23.303 [238].

ProSe Function shall be able to collect charging information for UEs in HPLMN, in online and offline charging for:

- ProSe open Direct Discovery Model A;

- ProSe restricted Direct Discovery Model A and Model B;

- ProSe EPC-level Discovery.

ProSe Function shall be able to collect charging information for UEs in VPLMN in offline charging for:

- ProSe open Direct Discovery for Announce;

- ProSe restricted Direct Discovery for Announce.

ProSe Function shall be able to collect charging information for UEs in VPLMN and Local PLMNs where applicable in offline charging for:

- ProSe open Direct Discovery for Monitor and Match;

- ProSe restricted Direct Discovery for Monitor and Match.

NOTE a: the notion of "Local PLMN" does not apply to WLAN-based ProSe Direct Discovery, so the requirements related to charging for Local PLMN do not apply to WLAN-based ProSe Direct Discovery.

ProSe Function shall be able to indicate the PC5 radio technology (e.g., E-UTRA, WLAN) used for ProSe Direct Discovery in the charging information.

ProSe Function shall be able to collect charging information from UEs in HPLMN and VPLMN in offline charging for:

 - ProSe one-to-many Direct Communication for Public Safety Use;

- ProSe one-to-one Direct Communication for Public Safety Use, including UE-to-Network Relay;

For ProSe one-to-many Direct Communication for Public Safety Use, the following requirements apply to the UE delivery of usage information to the ProSe Function:

- When the UE is in E-UTRAN coverage, if the usage information recorded for the current collection period is not empty, it shall report the usage information as configured when the earlier one of the following criteria are met:

- a configured collection period has elapsed; the end of an associated configured reporting window has not been reached; and the UE temporarily switches to RRC CONNECTED mode; or

- a configured collection period has elapsed and the end of an associated configured reporting window has been reached.

- When the UE is out of E-UTRAN coverage, the UE shall generate reports from the recorded usage information every collection period and store the non-empty reports in a non-volatile memory, and send the reports once the UE returns to coverage.

- The storage of the usage information and the execution of the reporting procedure shall be in a secure environment in the UE that is trusted by the operator.

NOTE 1: The secured storage and execution of the reporting procedure do not guarantee that the recording of the usage information is trusted.

NOTE 2: When the UE operates out of coverage for a long time, the stored reports may reach the limit of the memory. The handling of such situation is determined by UE implementation.

- The UE shall upload the usage information to a location configured by the ProSe Function securely over PC3ch using the mechanism defined in TS 33.303 [240].

- If a replacement of USIM occurs when UE is out of coverage, the usage information for a given IMSI shall remain stored on the UICC or ME as long as the UE does not use the USIM associated with that IMSI.

- The results of the collection and delivery of usage information reports should not affect the UE's use of the ProSe Direct Communication service.

NOTE 3: For Public Safety use the UE is able to use ProSe Direct Communication service even if there are errors in usage information collection or reporting.

ProSe Function shall be capable of handling the Charging Characteristics. Charging Characteristics can be specific for a subscription or for subscribed services. ProSe Function shall use the Charging Characteristics profile to decide if online or offline charging is used for a user. The Charging Characteristics is provided by the HSS to the ProSe Function as part of the subscription information. Requirements of the use of Charging Characteristics are provided in annex A of the present document.

 which replace the functions described above

For above high-level charging requirements for ProSe services, for converged charging

- CHF selection by 5G DDNMF is performed via NRF based discovery.- PC5 QoS flows within PC5 link is supported in 5GS.

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