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| **3GPP TSG-SA5 Meeting #141-e *S5-221397rev1***  **e-meeting, 17 - 26 January 2022**   |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | *CR-Form-v12.1* | | | | | | | | | | **CHANGE REQUEST** | | | | | | | | | |  | | | | | | | | | |  | **32.277** | **CR** | **0037** | **rev** | **-** | **Current version:** | **17.0.0** |  | |  | | | | | | | | | | *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** |
|  | | | | | | | | | | | | | | | | | |
| ***Title:*** | Adding basic principles for 5G ProSe convergent charging | | | | | | | | | | | | | | | | |
|  |  | | | | | | | | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | | | | | | | | |
| ***Source to TSG:*** | SA5 | | | | | | | | | | | | | | | | |
|  |  | | | | | | | | | | | | | | | | |
| ***Work item code:*** | 5G\_ProSe\_CH | | | | | | | | |  | ***Date:*** | | |  | | | |
|  |  | | | | |  | | | | |  | | |  | | | |
| ***Category:*** | **B** |  | | | | | | | | | ***Release:*** | | |  | | | |
|  | *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:*** | | The basic principles for 5G ProSe converged charging is missing. | | | | | | | | | | | | | | | |
|  | |  | | | | | | | | | | | | | | | |
| ***Summary of change:*** | | Adding the basic principles for the converged charging for the 5G ProSe | | | | | | | | | | | | | | | |
|  | |  | | | | | | | | | | | | | | | |
| ***Consequences if not approved:*** | | Charging of 5G ProSe will not be supported for the converged charging | | | | | | | | | | | | | | | |
|  | |  | | | | | | | | | | | | | | | |
| ***Clauses affected:*** | | 5.x(new), 5.x.1(new), 5.x.1.1(new), 5.x.1.2(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:*** | |  | | | | | | | | | | | | | | | |
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| ***This CR's revision history:*** | |  | | | | | | | | | | | | | | | |

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| **1st modified section** |

## 5.x 5G ProSe converged online and offline charging scenarios

### 5.x.1 Basic principles

#### 5.x.1.1 General

Converged charging may be performed by the 5G DDNMF interacting with CHF using Nchf specified in TS 32.290 [55] and TS 32.291 [56]. In order to provide the data required for the charging management activities outlined in TS 32.240 [1] (Credit-Control, accounting, billing, statistics etc.), the 5G DDNMF shall be able to perform converged charging for ProSe services defined in TS 23.304 [241].

The 5G DDNMF shall be able to perform convergent charging by interacting with CHF, for charging data related to 5G ProSe services. The Charging Data Request and Charging Data Response are exchanged between the 5G DDNMF and the CHF, based on PEC, IEC or ECUR scenarios specified in TS 32.290 [55]. The Charging Data Request is issued by the 5G DDNMF towards the CHF when certain conditions (chargeable events) are met.

The contents and purpose of each charging event that triggers interaction with CHF, as well as the chargeable events that trigger them, are described in the following sub-clauses.

A detailed formal description of the converged charging parameters defined in the present document is to be found in TS 32.291 [56].

A detailed formal description of the CDR parameters defined in the present document is to be found in TS 32.298 [51].

#### 5.x.1.2 5G ProSe Direct Discovery charging

The charging information on the use of 5G ProSe Direct Discovery is collected by the 5G DDNMF in HPLMN, VPLMN, and local PLMNs. Inter-operator charging is supported.

The charging information on the use of 5G ProSe Direct Discovery over PC5 reference point can be collected by UEs, both Group Member Discovery and UE-to-Network Relay Discovery are applicable to public safety use and commercial services as defined in TS 23.304 [241] clause 6.3.2.

When a charging event is reported to the CHF, it includes relevant information as listed in clause 5.1.2.

The chargeable events defined in clause 5.2.1.2 can be reused for 5G ProSe Converged Direct Discovery charging.

#### 5.x.1.3 5G ProSe Direct Communication charging

To perform ProSe direct communication over PC5 reference point, the UE is configured with the related information as described in TS 23.304 [241] clause 5.1.3. 5G ProSe usage reporting configuration and rules for charging can be (pre)configured in the UE or provided by the PCF.

Based on the usage information reported by the UE, the ProSe related functions (e.g, 5G DDNMF) in HPLMN produces CDRs or reports charging events for CDRs generation by CHF.

For ProSe Unicast Direct Communication, Broadcast and Groupcast Direct Communication and Direct Communication via ProSe UE-to-Network Relay, either event based charging or session based charging can be used, depending on configuration of the ProSe related functions and CHF.

When a charging event is reported to the CHF, it includes relevant information as listed in clause 5.1.2.

The chargeable events defined in clause 5.2.1.4 can be reused for 5G ProSe Converged Direct Communication charging.

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| **End of changes** |