**3GPP TSG-SA5 Meeting #141-e *S5-221099***

**e-meeting, 17th – 26th January 2022** Revision of S5-20xxxx

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **32.240** | **CR** | **0438** | **rev** | **1** | **Current version:** | **17.4.0** |  |
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| *For* [***HELP***](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:*** | Addition of the 5G VN group management Charging | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GLAN\_CH | | | | |  | ***Date:*** | | | 2022-01-23 |
|  |  | | | |  | |  | | |  |
| ***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 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)* | |
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| ***Reason for change:*** | | For the support of 5G LAN service charging, the general description about 5G VN group management and communication charging is introduced. The detailed 5G LAN service membership charging is required. | | | | | | | | |
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| ***Summary of change:*** | | Add the description for the support of 5G LAN service membership charging | | | | | | | | |
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| ***Consequences if not approved:*** | | The support of the 5G LAN is incomplete. | | | | | | | | |
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| ***Clauses affected:*** | | 6.2.2(New), 6.2.3(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** |

### 6.2.2 Charging Architecture for 5G VN group

#### 6.2.2.1 General

The 5G VN group communication charging is covered by 5G data connectivity domain converged charging architecture specified in TS 32.255 [15], using the SMF embedding the CTF.

The 5G VN group management converged charging architecture including the following:

* CEF based charging: obtains the 5G VN group information from UDM by CEF, and reports to CHF, specified in the following clauses.
* NEF based charging: reports the 5G VN group charging information by NEF based on the API invocation from AF. NEF exposure function Northbound Application Program Interfaces (APIs) charging specified in TS 32.254 [14], using the NEF embedding the CTF.

NOTE: The NEF based charging (provisioning by AF) and CEF based charging (provisioning by OAM) should not be trigged by the same time, in order to avoid the duplicated charging.

#### 6.2.2.2 Logical Charging architecture(CEF based charging)

The logical ubiquitous charging architecture and the reference points for 5G VN group management with the CEF architecture is shown in figure 6.2.2.2-1.



Figure 6.2.2.2-1: Logical ubiquitous charging architecture and reference points for 5G VN group management with the CEF architecture

### 6.2.3 Charging principles and scenarios

The charging principles and scenarios of 5G VN group communication charging is specified in TS 32.255[15].

#### 6.2.3.1 Basic principles

5G VN group management charging is performed by the NEF or CEF interacting with CHF using Nchf specified in TS 32.290 [57] and TS 32.291 [58]. In order to provide the data required for the charging management activities, the converged charging can be performed for each of the following:

- The CEF are able to get the 5G VN group management information (e.g. GroupIdentifiers) fromUDM via Nudm\_SubscriberDataManagement service, specified in the TS 23.502 [214]. The Charging Data Request and Charging Data Response are exchanged between the CEF and the CHF, based on PEC scenarios specified in TS 32.290 [50]. The Charging Data Request is issued by the CEF towards the CHF when certain conditions (chargeable events) are met.

- The NEF are able to report the 5G VN group modification information (e.g. add/delete 5G VN Group members) based on the API invocation and API notification chargeable events.The interaction between NEF and CHF are specified in the TS 32.254[14].

The 5G VN group management charging information is collected per VN group. The message contents and purpose of each charging event that triggers interaction with CHF, as well as the chargeable events that trigger them, are described in following clauses.

A detailed formal description of the converged charging parameters to CHF defined in the present document can be found in TS 32.291 [58].

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

Editor’s note: In this release, subscription the 5G VN group management information from UDM is not fully supported.

Editor’s note: Whether the detailed charging information for CEF based charging is defined in TS 32.254 or other TSs is ffs.

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| **End of change** |