**3GPP TSG-SA5 Meeting #138-e *S5-214330rev2***

**e-meeting, 23 - 31 August 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **32.255** | **CR** | **0322** | **rev** | **1** | **Current version:** | **17.2.0** |  |
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| *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:*** | Update description for charging message in Annex C.2 | | | | | | | | | |
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| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI17\_NIESGU | | | | |  | ***Date:*** | | | 2021-08-13 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | The new clause (Annex C.2) was added to describe the Nchf interface behaviors for the GERAN/UTRAN access. Some content that distinguish the use of parameters and conditions of the parameters may be clarified, as following:  The use of charging identifier for EPS bearer charging ID.  The exception of PCC rule for MA PDU session for he GERAN/UTRAN access.  The clarification of parameters in charging messages, e.g., UPF ID, PRA, subscriber identifier.  The clarification of parameters in PDU session charging information e.g., user location information. | | | | | | | | |
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| ***Summary of change:*** | | Provide some clarification related to the uses of parameters in message content, PDU session charging information, CDR data structure. | | | | | | | | |
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| ***Consequences if not approved:*** | | Some information and necessary clarifications to paramters of charging information, charging message and CDR data is missing. | | | | | | | | |
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| ***Clauses affected:*** | | Annex C.2.1, C.3.1.1, C.3.1.2, C.3.2.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  |  | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  |  | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  |  | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| **First modification** |

## C.2.1 5G data connectivity charging principles

The 5G data connectivity charging principles as described in clause 5.1 shall apply with the differences that SMF is replaced by SMF+PGW-C supporting GERAN/UTRAN access, and only following clauses are applicable:

- Clauses 5.1.1 to 5.1.9 except 5.1.6 and 5.1.5.3;

- Clauses 5.1.11 to 5.1.12.

For GERAN/UTRAN access, the Charging Identifier of the PDU session will be generated by SMF+PGW-C for the PDP Context.

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| **Next modification** |

## C.3.1 Data description for support of GERAN/UTRAN access

### C.3.1.1 Message contents

The charging message as described in clause 6.1.1 shall apply to the SMF+PGW-C to support GERAN/UTRAN access. The differences of charging message in clause 6.1.1 used for the SMF+PGW-C to support GERAN/UTRAN access are described as following.

- UPF ID is not applicable;

- Multi-homed PDU address is not applicable;

- PDU Session Charging Information is described in C.3.2

### C.3.1.2 Ga message contents

The Ga message transfer as described in clause 5.2.4 shall apply to the SMF+PGW-C to support GERAN/UTRAN access.

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| **Next modification** |

## C.3.2 5G data connectivity charging specific parameters

### C.3.2.1 Definition of 5G data connectivity charging information

The charging information defined in clause 6.2.1 is used for the SMF+PGW-C to support GERAN/UTRAN access.

The specific PDU session charging information when UE is connected to SMF+P-GW-C via GERAN/UTRAN is provided as defined in table 6.2.1.2.1, with the differences that PDU session is replaced by PDP context in fields description and other differences described under following table C.3.2.1-1:

Table C.3.2.1-1: Structure of PDU Session Charging Information

|  |  |  |
| --- | --- | --- |
| Information Element | Category | Description |
| Charging Id | OM | Described in table 6.2.1.2. |
| Home Provided Charging Id | - | This field is not applicable. |
| User Information | OM | Described in table 6.2.1.2. |
| User Identifier | OC | Described in table 6.2.1.2. |
| User Equipment Info | OC | Described in table 6.2.1.2. |
| unauthenticatedFlag | OC | Described in table 6.2.1.2. |
| Roamer In Out | OC | Described in table 6.2.1.2. |
| User Location Info | OC | Described in table 6.2.1.2.  The "User Location Information" (ULI) IE indicating CGI/SAI/RAI shall apply as described in clause 7.7.51 of TS 29.060. |
| MA PDU Non 3GPP User Location info | - | This field is not applicable. |
| User Location Time | OC | Described in table 6.2.1.2. |
| MA PDU Non 3GPP User Location Time | - | This field is not applicable. |
| UE Time Zone | OC | Described in table 6.2.1.2. |
| Presence Reporting Area Information | OC | This field is not applicable. |
| PDU Session Information | OC | Described in table 6.2.1.2. |
| PDU Session ID | M | Described in table 6.2.1.2. |
| Network Slice Instance Identifier | - | This field is not applicable. |
| PDU Type | OM | Described in table 6.2.1.2. |
| PDU Address | OC | Described in table 6.2.1.2. |
| PDU Ipv4 Address | OC | Described in table 6.2.1.2. |
| PDU IPv6 Address with Prefix | OC | Described in table 6.2.1.2. |
| PDU Address prefix length | OC | Described in table 6.2.1.2. |
| IPv4 Dynamic Address Flag | OC | Described in table 6.2.1.2. |
| IPv6 Dynamic Address Flag | OC | Described in table 6.2.1.2. |
| SSC Mode | - | This field is not applicable. |
| MA PDU session information | - | This field is not applicable. |
| MA PDU session indicator | - | This field is not applicable. |
| ATSSS capability | - | This field is not applicable. |
| SUPI PLMN ID | OC- | Described in table 6.2.1.2. |
| Serving Network Function ID | OC | Described in table 6.2.1.2. |
| Serving Network Function Functionality | M | Described in table 6.2.1.2.  This field holds “SGSN” when SMF+PGW-C serves GERAN/UTRAN access. |
| Serving Network Function Name | - | Described in table 6.2.1.2. |
| Serving Network Function Addresses | OC | Described in table 6.2.1.2. |
| Serving Network Function FQDN | OC | Described in table 6.2.1.2. |
| Serving Network Function PLMN ID | OC | Described in table 6.2.1.2. |
| AMF Identifier | - | This field is not applicable. |
| Serving CN PLMN ID | OC | Described in table 6.2.1.2. |
| RAT Type | OC | Described in table 6.2.1.2. |
| MA PDU Non 3GPP RAT Type | - | This field is not applicable. |
| Data Network Name Identifier | M | Described in table 6.2.1.2, with DNN replaced by APN. |
| DNN Selection Mode | - | This field is not applicable. |
| Authorized QoS Information | OC | Described in table 6.2.1.2  QoS information mapped according interaction with PCC as specified in clause 4.11.0a.2 of TS 23.502 [201] |
| Subscribed QoS Information | OC | Described in table 6.2.1.2  QoS information mapped according interaction with PCC as specified in clause 4.11.0a.2 of TS 23.502 [201]. |
| Authorized Session-AMBR | OC | Described in table 6.2.1.2. |
| Subscribed Session-AMBR | OC | Described in table 6.2.1.2. |
| PDU session start Time | OC | Described in table 6.2.1.2. |
| PDU session stop Time | OC | Described in table 6.2.1.2. |
| Diagnostics | OC | Described in table 6.2.1.2. |
| Enhanced Diagnostics | OC | Described in table 6.2.1.2. |
| Charging Characteristics | OC | Described in table 6.2.1.2. |
| Charging Characteristics  Selection Mode | OC | Described in table 6.2.1.2. |
| 3GPP PS Data Off Status | OC | Described in table 6.2.1.2. |
| Session Stop Indicator | - | This field is not applicable. |
| Redundant Transmission  Type | - | This field is not applicable. |
| PDU Session pair ID | - | This field is not applicable. |
| Unit Count Inactivity Timer | - | This field is not applicable. |
| RAN Secondary RAT Usage Report | - | This field is not applicable. |

The specific PDU Container Information when UE is connected to SMF+P-GW-C via GERAN/UTRAN is provided as defined in table 6.2.1.3.1, with the differences described under following table C.3.2.1-2:

Table C.3.2.1-2: Structure of PDU Container Information

| Information Element | Category | Description |
| --- | --- | --- |
| Time of First Usage | OC | Described in table 6.2.1.3.1. |
| Time of Last Usage | OC | Described in table 6.2.1.3.1. |
| QoS Information | OC | Described in table 6.2.1.3.1. |
| QoS Characteristics | OC | Described in table 6.2.1.3.1. |
| AF Charging Identifier | OC | Described in table 6.2.1.3.1. |
| AF Charging Id String | OC | Described in table 6.2.1.3.1. |
| User Location Information | OC | Described in table 6.2.1.3.1. |
| UE Time Zone | OC | Described in table 6.2.1.3.1. |
| Presence Reporting Area Information | OC | Described in table 6.2.1.3.1. |
| Serving Network Function ID | OC | Described in table 6.2.1.3.1. |
| RAT Type | OC | Described in table 6.2.1.3.1. |
| Sponsor Identity | OC | Described in table 6.2.1.3.1. |
| Application Service Provider Identity | OC | Described in table 6.2.1.3.1. |
| Charging Rule Base Name | OC | Described in table 6.2.1.3.1. |
| 3GPP PS Data Off Status | OC | Described in table 6.2.1.3.1. |
| MA PDU Steering functionality | - | This field is not applicable. |
| MA PDU Steering mode | - | This field is not applicable. |

The specific Roaming QBC information is described in table B.2.2.1.2-1 and QFI Container Information is described in table B.2.2.1.3-1 for when UE is connected to SMF+P-GW via GERAN/UTRAN, with the differences that PDU session is replaced by PDP context in fields description.

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| **The end of change.** |