3GPP TSG SA WG5 Meeting 137-e TDoc S5-213346

electronic meeting, online, 10 - 19 May 2021

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **32.255** | **CR** | **0317** | **rev** | **1** | **Current version:** | **16.8.0** |  |
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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:*** | Correcting handling of volume quota threshold per UPF | | | | | | | | | |
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| ***Source to WG:*** | Ericsson LM | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI16 | | | | |  | ***Date:*** | | | 2021-05-18 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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:*** | | If reporting is per UPF it’s undefined wherever the volume quota threshold is for the charging session or for the UPF. | | | | | | | | |
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| ***Summary of change:*** | | Adding so that it’s possible to clearly express if the volume quota threshold should be counted on UPF or charging session. | | | | | | | | |
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| ***Consequences if not approved:*** | | The interpretation will be undefined which may lead to incorrect charging. | | | | | | | | |
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| ***Clauses affected:*** | | 6.1.1.2, 6.1.1.3 | | | | | | | | |
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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:*** | | Revision of S5-213346 | | | | | | | | |

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| **First change** |

#### 6.1.1.2 Charging Data Request message

Table 6.1.1.2.1 illustrates the basic structure of a Charging Data Request message from the SMF as used for 5G data connectivity converged charging.

Table 6.1.1.2.1: Charging Data Request message contents

| **Information Element** | | **Category for converged charging** | | **Category for offline only charging** | | **Description** | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Session Identifier | | OC | | OC | | Described in TS 32.290 [57] | |
| Subscriber Identifier | | OM | | M | | Described in TS 32.290 [57]  In case SUPI is not present (for emergency service), the User Equipment Info in table 6.2.1.2.1. shall be present for identifying the user. | |
| NF Consumer Identification | | M | | M | | Described in TS 32.290 [57] | |
| NF Functionality | | M | | OC | | Described in TS 32.290 [57] | |
| NF Name | | OC | | OC | | Described in TS 32.290 [57] | |
| NF Address | | OC | | OC | | Described in TS 32.290 [57] | |
| NF PLMN ID | | OC | | OC | | Described in TS 32.290 [57] | |
| Invocation Timestamp | | M | | M | | Described in TS 32.290 [57] | |
| Invocation Sequence Number | | M | | M | | Described in TS 32.290 [57] | |
| Retransmission Indicator | | OC | | OC | | Described in TS 32.290 [57] | |
| Notify URI | | OC | | OC | | Described in TS 32.290 [57] | |
| Service Specification Information | | OC | | OC | | Described in TS 32.290 [57] | |
| Supported Features | | OC | | - | | This field indicates the features supported by the NF consumer. | |
| Triggers | | OC | | OC | | This field is described in TS 32.290 [57] and holds the 5G data connectivity specific triggers described in clause 5.2.1. | |
| Multiple Unit Usage | | OC | | OC | | Described in TS 32.290 [57]  This field is not applicable to QBC. | |
| Rating Group | | M | | M | | Described in TS 32.290 [57] | |
| Requested Unit | | OC | | - | | Described in TS 32.290 [57] | |
| Used Unit Container | | OC | | OC | | Described in TS 32.290 [57] | |
| Triggers | | OC | | OC | | This field is described in TS 32.290 [57] and holds the 5G data connectivity specific triggers described in clause 5.2.1. | |
| PDU Container Information | | OC | | OC | | This field holds the 5G data connectivity PDU session container specific information described in clause 6.2. | |
| UPF ID | | OC | | OC | | This field holds the UPF identifier used to identify the UPF.  This field shall only be included when quota is requested per UPF, used units are reported per UPF, or when volume quota threshold is to be set per UPF. | |
| multi-homed PDU address | | Oc | | Oc | | This field holds the IPv6 prefix used by UPF. It may only be used for IPv6 multi-homed PDU sessions and then only for reporting used units. | |
| PDU Session Charging Information | | OM | | OM | | This field holds the 5G data connectivity specific information described in clause 6.2. | |
| Roaming QBC information | | OM | | OM | | This field holds the roaming QBC specific information defined in clause 6.2.1.4  This field is not applicable to FBC. | |

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| **Second change** |

#### 6.1.1.3 Charging data response message

Table 6.1.1.3.1 illustrates the basic structure of a Charging Data Response message from the CHF as used for 5G data connectivity converged charging.

Table 6.1.1.3.1: Charging Data Response message contents

| **Information Element** | | **Category for converged charging** | | **Category for offline only charging** | | **Description** | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Session Identifier | | OC | | OC | | Described in TS 32.290 [57] | |
| Invocation Timestamp | | M | | M | | Described in TS 32.290 [57] | |
| Invocation Result | | OC | | M | | Described in TS 32.290 [57] | |
| Invocation Result Code | | OC | | M | | Described in TS 32.290 [57] | |
| Failed Parameter | | OC | | OC | | Described in TS 32.290 [57] | |
| Failure Handling | | OC | | OC | | Described in TS 32.290 [57] | |
| Invocation Sequence Number | | M | | M | | Described in TS 32.290 [57] | |
| Session Failover | | OC | | OC | | Described in TS 32.290 [57] | |
| Supported Features | | OC | | - | | This field indicates the features supported by the NF consumer. | |
| Multiple Unit Information | | OC | | OC | | Described in TS 32.290 [57]  This field is not applicable to QBC. | |
| Result Code | | OC | | OC | | Described in TS 32.290 [57] | |
| Rating Group | | M | | M | | Described in TS 32.290 [57] | |
| UPF ID | | OC | | OC | | This field holds the UPF identifier used either when quota is granted per UPF, or when volume quota threshold is set per UPF by CHF | |
| Granted Unit | | OC | | - | | Described in TS 32.290 [57] | |
| Validity Time | | OC | | - | | Described in TS 32.290 [57] | |
| Final Unit Indication | | OC | | - | | Described in TS 32.290 [57] | |
| Time Quota Threshold | | OC | | - | | Described in TS 32.290 [57] | |
| Volume Quota Threshold | | OC | | - | | Described in TS 32.290 [57] | |
| Unit Quota Threshold | | OC | | - | | Described in TS 32.290 [57] | |
| Quota Holding Time | | OC | | - | | Described in TS 32.290 [57] | |
| Triggers | | OC | | OC | | This field is described in TS 32.290 [57] and holds the 5G data connectivity specific triggers described in clause 5.2.1. | |
| Triggers | | OC | | OC | | This field is described in TS 32.290 [57] and holds the 5G data connectivity specific triggers described in clause 5.2.1. | |
| PDU Session Charging Information | | OM | | OM | | This field holds the 5G data connectivity specific information described in clause 6.2. | |
| Roaming QBC Information | | OM | | OM | | This field holds the roaming QBC specific information defined in clause 6.2.1.4  This field is not applicable to FBC. | |

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| **End of changes** |