**3GPP TSG-SA5 Meeting #133e *S5-205075r1***

**e-meeting 12th Oct-21st Oct 2020** Revision of S5-205075

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| *CR-Form-v11.4* | | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | | |
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|  | **32.291** | **CR** | **0275** | **rev** | **1** | **Current version:** | **16.5.1** |  |
|  | | | | | | | | | |
| *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:*** | Add the QNC subscription | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI16, 5GS\_Ph1-SBI\_CH | | | | |  | ***Date:*** | | | 2020-10-15 |
|  |  | | | |  | |  | | |  |
| ***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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
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| ***Reason for change:*** | | As per the TS 23.503, the PCF can configure QoS Notification Control (QNC) via PCC rule to indicate whether notifications are requested from the access network (i.e. 3GPP RAN) when the GFBR can no longer (or can again) be guaranteed for a QoS Flow for 5G charging. The CHF also need to support the QNC. | | | | | | | | |
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| ***Summary of change:*** | | Clearly specify the GFBR trigger. | | | | | | | | |
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| ***Consequences if not approved:*** | | The GFBR status trigger may be not applicable. | | | | | | | | |
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| ***Clauses affected:*** | | 6.1.6.2.2.6,6.1.6.3.6 | | | | | | | | |
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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 ... | | |
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| ***Other comments:*** | |  | | | | | | | | |

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| **First change** |

###### 6.1.6.2.2.6 Type PDUSessionChargingInformation

Table 6.1.6.2.2.6-1: Definition of type PDUSessionChargingInformation

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| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| chargingId | ChargingId | OM | 0..1 | Charging identifier for correlation between different records of a single PDU session |  |
| homeProvided ChargingId | ChargingId | OC | 0..1 | Charging identifier for correlation between H-SMF and V-SMF. |  |
| userInformation | UserInformation | OM | 0..1 | including information of user and user equipment, |  |
| userLocationinfo | UserLocation | OC | 0..1 | provides information on the location |  |
| mAPDUNon3GPPUserLocationInfo | UserLocation | OC | 0..1 | provides information on the location under the non-3GPP access for the MA PDU session | ATSSS |
| presenceReportingAreaInformation | map(PresenceInfo) | OC | 0..N | When the data type is present in response message, it includes the PRA information provisioned by the CHF, in which case the "presenceState" attribute within the PresenceInfo data type shall not be supplied. When the data type is present in request message, it’s used to report user presence reporting area status.  The praId attribute within the PresenceInfo data type shall be the key of the map. |  |
| uetimeZone | TimeZone | OC | 0..1 | the UE Timezone the UE is currently located |  |
| pduSessionInformation | PDUSessionInformation | OC | 0..1 | PDU session level information, including PDU session ID, PDU type, SSC Mode, QoS, network slicing etc.  It needs to be present in the request, but it is optional in the response. |  |
| unitCountInactivityTimer | DurationSec | OC | 0..1 | threshold for the time period resource idle  Upon the initial interaction with the CHF, the SMF use this attribute to provide pre-configured threshold to CHF.  when present in response message, it contains the threshold supplied by CHF in response of initial request to override existing threshold in SMF.  It’s only present when unit count inactivity timer trigger is active. |  |
| rANSecondaryRATUsageReport | RANSecondaryRATUsageReport | OC | 0..1 | Secondary RAT usage reported from RAN. |  |

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| **Next change** |

##### 6.1.6.3.6 Enumeration: TriggerType

Table 6.1.6.3.6-1: Enumeration TriggerType

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| Enumeration value | Description | Applicability |
| QUOTA\_THRESHOLD | the quota threshold has been reached |  |
| QHT | the quota holding time specified in a previous response has been hit (i.e. the quota has been unused for that period of time) |  |
| FINAL | a service termination has happened |  |
| QUOTA\_EXHAUSTED | the quota has been exhausted |  |
| VALIDITY\_TIME | the credit authorization lifetime provided from CHF has expired |  |
| OTHER\_QUOTA\_TYPE | usage reporting of the particular quota type indicated in the used unit container where it appears is that, for a multi-dimensional quota, one reached a trigger condition and the other quota is being reported. |  |
| FORCED\_REAUTHORISATION | a Server initiated re-authorization procedure, i.e. receipt of notify service operation |  |
| UNIT\_COUNT\_INACTIVITY\_TIMER | the unit count inactivity timer has expired |  |
| ABNORMAL\_RELEASE | PDU session has abnormal released. |  |
| QOS\_CHANGE | In request message, this value is used to indicate that QoS change has happened. Any of elements of QoSData may result in QoS change.  In response message, this value is used to indicate that a change of authorized QoS shall cause the service consumer to ask for a re-authorization of the associated quota. |  |
| VOLUME\_LIMIT | Volume limit has been reached. |  |
| TIME\_LIMIT | Time limit has been reached |  |
| EVENT\_LIMIT | Event limit has been reached |  |
| PLMN\_CHANGE | PLMN has been changed. |  |
| USER\_LOCATION\_CHANGE | In request message, this value is used to indicate that User location has been changed.  In response message, this value is used to indicate that a change in the end user location shall cause the service consumer to ask for a re-authorization of the associated quota |  |
| RAT\_CHANGE | In request message, this value is used to indicate that RAT type has been changed.  In response message, this value is used to indicate that a change in the radio access technology shall cause the service consumer to ask for a re-authorization of the associated quota |  |
| SESSION\_AMBR\_CHANGE | In request message, this value is used to indicate that Session AMBR has been changed.  In response message, this value is used to indicate that a change in the session AMBR shall cause the service consumer to ask for a re-authorization of the associated quota. |  |
| GFBR\_GUARANTEED\_STATUS\_CHANGE | this value is used to indicate that GFBR targets for the indicated SDFs are changed ("NOT\_GUARANTEED" or "GUARANTEED" again).  NF Consumer (CTF) needs to ensure requesting the notification from the access network. |  |
| UE\_TIMEZONE\_CHANGE | In request message, this value is used to indicate that UE timezone has been changed.  In response message, this value is used to indicate that a change in the time zone where the end user is located shall cause the service consumer to ask for a re-authorization of the associated quota. |  |
| TARIFF\_TIME\_CHANGE | Tariff time change has happened. |  |
| MAX\_NUMBER\_OF\_CHANGES\_IN\_CHARGING\_CONDITIONS | Max number of change has been reached |  |
| MANAGEMENT\_INTERVENTION | Management intervention |  |
| CHANGE\_OF\_UE\_PRESENCE\_IN\_PRESENCE\_REPORTING\_AREA | In request message, this value is used to indicate that Change of UE presence in PRA has happened.  In response message, this value is used to indicate a request of reporting the event that the user enters/leaves the area(s) as indicated in the presenceReportingArea Attribute |  |
| CHANGE\_OF\_3GPP\_PS\_DATA\_OFF\_STATUS | In request message, this value is used to indicate that Change of 3GPP PS Data off status has happened.  In response message, this value is used to indicate that a change in the 3GPP PS Data off status shall cause the service consumer to ask for a re-authorization of the associated quota |  |
| SERVING\_NODE\_CHANGE | A serving node (e.g., AMF) change in the NF Consumer |  |
| REMOVAL\_OF\_UPF | A used UPF is removed |  |
| ADDITION\_OF\_UPF | A new UPF is added. |  |
| INSERTION\_OF\_ISMF | A new I-SMF is inserted |  |
| REMOVAL\_OF\_ISMF | A used I-SMF is removed |  |
| CHANGE\_OF\_ISMF | A used I-SMF is removed, and a new I-SMF is inserted |  |
| START\_OF\_SERVICE\_DATA\_FLOW | A Service Data Flow has started |  |
| HANDOVER\_CANCEL | The handover is canceled. |  |
| HANDOVER\_START | The handover is start. |  |
| HANDOVER\_COMPLETE | The handover is completed. |  |
| ECGI\_CHANGE | In request message, this value is used to indicate that ECGI has been changed.  In response message, this value is used to indicate that a change in the end user location shall cause the service consumer to ask for a re-authorization of the associated quota | 5GIEPC\_CH |
| TAI\_CHANGE | In request message, this value is used to indicate that TAI has been changed.  In response message, this value is used to indicate that a change in the end user location shall cause the service consumer to ask for a re-authorization of the associated quota | 5GIEPC\_CH |
| ADDITION\_OF\_ACCESS | Addition of access to the MA PDU session | ATSSS |
| REMOVAL\_OF\_ACCESS | Removal of access to the MA PDU session | ATSSS |
| START\_OF\_SDF\_ADDITIONAL\_ACCESS | Start of service data flow on additional access in a MA PDU session | ATSSS |

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| **End of change** |