**r3GPP TSG-SA5 Meeting #154 *S5-241619rev1***

Changsha, China, 15 - 19 April 2024

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
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|  | **32.255** | **CR** | **0520** | **rev** | **1** | **Current version:** | **18.3.0** |  |
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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:***  | Rel-18 CR 32.255 Correction to the roaming charging profile mechanism |
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| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | S5 |
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| ***Work item code:*** | CHRACHF |  | ***Date:*** | 2024-04-17 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-18 |
|  | *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 canbe found in 3GPP o. | *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:*** | When “Roaming Charging Profile” can be changed is not clear. |
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| ***Summary of change:*** | Clarify the two situations where “Roaming Charging Profile” can be changed. |
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| ***Consequences if not approved:*** | The “Roaming Charging Profile” mechanism is not complete. |
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| ***Clauses affected:*** | 5.2.1.7 |
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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:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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| **First change** |

#### 5.2.1.7 Roaming QoS flow Based charging (QBC)

When QoS flow Based Charging specified in 5.2.1.6 is used in a context of roaming, a "Roaming Charging Profile" is defined to allow, when shared, QBC synchronized between both PLMNs and includes:

- The set of chargeable events as per Table 5.2.1.6.1 and associated category.

- The set of thresholds for chargeable events based on trigger thresholds.

- An indication on whether the "Default partial record" or the "Individual partial record" mechanism per clause 5.2.3, is used by CHF.

A default "Roaming Charging Profile" is specified for the SMF and comprises:

- The set of chargeable events and associated category specified as the default per Table 5.2.1.6.1.

- The default set of thresholds configured in the Charging Characteristics for QBC.

- The "Default partial record" mechanism indicated as the one used by CHF.

In home routed scenario, during the PDU session establishment, the default "Roaming charging profile" for the V-SMF is based on the configuration and may be set, changed, applied, and transferred in the following order:

1. Default set by V-SMF and transferred to V-CHF

2. Changed by V-CHF and transferred to V-SMF

3. Transferred from V-SMF to H-SMF

4. Transferred from H-SMF to H-CHF

4. Changed by H-CHF and transferred to H-SMF

5. Transferred from H-SMF to V-SMF

6. Applied in V-SMF and transferred to V-CHF

In local breakout scenario, during the PDU session establishment, the default "Roaming charging profile" for the V-SMF is based on the "Charging characteristics", and may be set, changed, applied, and transferred in the following order:

1. Default set by V-SMF and transferred to V-CHF

2. Changed by V-CHF and transferred to V-SMF

3. Transferred from V-SMF to H-CHF

4. Changed by H-CHF and transferred to V-SMF

5. Applied in V-SMF and transferred to V-CHF

In local breakout scenario, the default "Roaming charging profile" for the V-SMF connected to V-CHF and V-CHF connected to H-CHF, is based on the “Charging characteristics”, and may be set, changed, applied, and transferred in the following order:

1. Default set by V-SMF and transferred to V-CHF

2. Changed by V-CHF and transferred to H-CHF

3. Changed by H-CHF and transferred to V-CHF

4. Validated by V-CHF and transferred to V-SMF

5. Applied in V-SMF

In the VPLMN, at PDU session establishment or PDU session transfer from a different VPLMN, the default "Roaming Charging Profile" in the new V-SMF may optionally be overridden by a new "Roaming Charging Profile" supplied by the CHF in the Charging Data Response [Initial] with:

- updated set of chargeable events and associated category.

- updated thresholds for chargeable events based on trigger thresholds.

- the selected partial record mechanism ("Default partial record" or "Individual partial record").

This updated "Roaming Charging Profile" is transferred from the new V-SMF to the H-SMF and may be acknowledged or replaced by the HPLMN selected "Roaming Charging Profile" to be used by the new V-SMF.

In the HPLMN, at PDU session establishment or V-SMF change for a PDU session, the "Roaming Charging Profile", when received by the H-SMF from the new V-SMF, may be updated by the CHF in the HPLMN in the Charging Data Response [Initial] to H-SMF. This HPLMN CHF selected "Roaming Charging Profile" is used by the H-SMF and transferred towards the VPLMN.

The "Roaming Charging Profile" resulting from the exchange between the VPLMN and HPLMN at PDU session establishment may be changed by the H-CHF:

- At each V-SMF change in Home routed scenario, the "Roaming Charging Profile" may be renegotiated between the VPLMN and HPLMN.

- During the PDU session lifetime if V-SMF includes the Roaming charging profile in the Charging Data Request. The updated Roaming Charging profile is valid until the next change.

The capability specified in clause 5.2.1.2.1 for the CHF to be able to update the triggers after the PDU session is established for a given VPLMN shall not be applicable for Roaming QBC.

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| **End of change** |