**3GPP TSG-SA5 Meeting #143-e *S5-223718***

e-meeting, 9 - 17 May 2022

**Source: Ericsson**

**Title: Solution for issue 2e trigger handling between CHFs**

**Document for: Approval**

**Agenda Item: 7.5.3**

# 1 Decision/action requested

**Include the proposed changes in TR 28.827.**

# 2 References

[1] 3GPP TR 28.827: "Study on 5G charging for additional roaming scenarios and actors"

# 3 Rationale

Two new solutions for issue 2e trigger handling between CHFs: using a charging profile and using trigger handling through V-CHF.

# 4 Detailed proposal

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| **First change** |

#### 7.1.4.x Solution #2.x: Using a charging profile for trigger handling

##### 7.1.4.x.1 General

A possible solution for key issue #2e, trigger handling between visited CHF (V-CHF) and home CHF (H-CHF), would be to use roaming charging profile as defined in TS 32.255 [4] clause 5.1.9. This handling would have to be extended to cover AMF and SMSF, since today there is no possibility to negotiate the triggers between HPLMN and VPLMN for the AMF and SMSF. This would imply using ECUR towards both V-CHF and H-CHF for the SMSF and AMF. For AMF the order for doing the roaming charging profile negotiation would be as follows:

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

2. Changed by V-CHF and transferred to AMF

3. Transferred from AMF to H-CHF

4. Changed by H-CHF and transferred to AMF

5. Applied in AMF and transferred to V-CHF

The order for the SMSF would be the same, where the AMF is changed to V-SMSF.

There would also be a need to add separate reporting for the interconnect compared to the current end user charging (compare FBC and QBC handling for the SMF) for AMF and SMSF, to be able to separate the triggers and allowing reconciliation between, see clause 7.6.

##### 7.1.4.x.2 Reference architecture

The reference architecture would be the same as in solution #2.1 clause 7.2.4.1 or solution #2.2 clause 7.2.4.2.

#### 7.1.4.y Solution #2.y: Using trigger handling through V-CHF

##### 7.1.4.y.1 General

A possible solution for key issue #2e, trigger handling between visited CHF and home CHF, is to require that all charging data request and responses to and from the H-CHF are sent first to the V-CHF. This would allow the V-CHF to influence the trigger setting towards the SMF or other NFs such as AMF and SMSF. The order would be as follows (where the CTF is used to represent AMF, SMF and SMSF):

1. Charging data request with triggers from CTF to V-CHF

2. V-CHF evaluates and may set triggers and transfers them to H-CHF

3. H-CHF evaluates and may set triggers and transfers them to V-CHF

4. V-CHF evaluates and may set triggers

5. Charging data response with triggers from CTF to V-CHF

##### 7.1.4.y.2 Reference architecture

The reference architecture would be the same as in solution #2.1 clause 7.2.4.1.

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| **End of changes** |