**3GPP TSG-SA5 Meeting #142-e *S5-222197rev1***

**e-meeting, 4 - 12 April 2022**

**Source: MATRIXX Software**

**Title: pCR TR 28.827 Add CTF to two CHFs solution for SMS in 7.2**

**Document for: Agreement**

**Agenda Item: 7.5.3**

# 1 Decision/action requested

**This pCR is to introduce CTF to two CHFs solution for SMS in 7.2**

# 2 References

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

# 3 Rationale

This pCR is to introduce CTF to two CHFs solution for SMS in 7.2

# 4 Detailed proposal

The following changes are proposed to be incorporated into TR 28.827 [1]

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| **First change** |

#### 7.2.4.y Solution #2.y: Visited SMSF (CTF) communicating with both H-CHF and V-CHF

##### 7.2.4.y.1 General

A possible solution for key issues #2x and #2y, charging for SMS provided to the home MNO’s users by the visited MNO, in roaming scenario.

The visited CHF performs converged charging for interconnect, while the home CHF performs converged charging for reconciliation.

##### 7.2.4.y.2 Reference architecture

The Roaming SMS architecture in service-based interface representation is the same as in Figure 7.2.4.x.2-1



Figure 7.2.4.y.2-1: Roaming SMS in reference point representation

##### 7.2.4.y.3 Message flows

Figure 7.2.4.y.3-1 shows a scenario for SMS PEC with CTF to both CHFs communication.



Figure 7.2.4.y.3-1: Roaming PEC SMS - two CHFs communication

1- 3. Initial procedures as per clause 5.4.2.5 of TS 32.274 [x].

4. The SMSF in VPLMN sends Charging Data Request [Event] to H-CHF for the SMS.

5. The H-CHF creates a CDR for this SMS.

6. The H-CHF acknowledges by sending Charging Data Answer [Event] to the V-CHF.

7. The V-CHF sends Charging Data Request [Event] to V-CHF for the SMS.

8. The V-CHF creates a CDR for this SMS.

9. The V-CHF acknowledges by sending Charging Data Answer [Event] to the SMSF in VPLMN.

10. Forward SMS as per clause 5.4.2.5 of TS 32.274 [x].

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| **End of changes** |