**3GPP TSG-SA5 Meeting #144-e *S5-224212***

**e-meeting, 27 June - 1 July 2022**

**Source: Ericsson**

**Title: Adding solutions in clause 7.4 for CHF to CHF communication**

**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

The key issues #4d and #4c are missing solutions, reusing and adapting the solutions from clause 7.2.

# 4 Detailed proposal

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| **First change** |

#### 7.2.4.x Solution #4.x: Reusing Nchf\_ConvergedCharging service API between CHFs

##### 7.2.4.x.1 General

A possible solution for key issue #4d covering requirements REQ-CH\_CVTOA-01 and REQ-CH\_CVTOA-02, service based interface to use between home CHF and additional actor CHF, would be to reuse the Nchf\_ConvergedCharging service API. This would mean that the H-CHF would proxy the request from the AMF, SMF or SMSF to the A-CHF, and the same with the response. The H-CHF could do some changes to message like: filter (e.g. trigger), enrich, or convert (e.g., rating groups).

##### 7.2.4.x.2 Reference architecture

The reference architecture would be the same as in solution #4.3 clause 7.4.4.3.

#### 7.2.4.y Solution #4.y: New Nchf service API between CHFs

##### 7.2.4.y.1 General

A possible solution for key issue #4d covering requirements REQ-CH\_CVTOA-01 and REQ-CH\_CVTOA-02, service based interface to use between home CHF and additional actor CHF, would be to create a new service API. This would mean that the H-CHF would translate the request from the AMF, SMF or SMSF to the new service API towards the H-CHF. This would mean that the message could look completely different and even the triggers in the H-CHF for sending the message towards the A-CHF wouldn’t have to be related to the request from AMF, SMF or SMSF.

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

The reference architecture would be the same as in solution #4.3 clause 7.4.4.3.

#### 7.2.4.z Solution #4.z: Using NRF to find A-CHF

##### 7.2.4.z.1 General

A possible solution for key issue #4c, finding the correct CHF for solution #4.3 where H-CHF communicating with A-CHF.

##### 7.2.4.z.2 Reference architecture

The reference architecture would be the same as in solution #4.3 clause 7.4.4.3.

##### 7.2.4.z.3 Message flows

The H-CHF would in this case use the NRF provided service to find the A-CHF, where the A-CHF would be registered in the NRF.

#### 7.2.4.w Solution #4.w: Using SUPI to find A-CHF

##### 7.2.4.w.1 General

A possible solution key issue #4c, finding the correct CHF for solution #4.3 where H-CHF communicating with A-CHF.

##### 7.2.4.w.2 Reference architecture

The reference architecture would be the same as in solution #4.3 clause 7.4.4.3.

##### 7.2.4.w.3 Message flows

The H-CHF would in this case use the SUPI e.g., the IMSI number series, to find the A-CHF. In this case the A-CHF address would be pre-provisioned in the H-CHF and allocated for example to an IMSI series.

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| **End of changes** |