**3GPP TSG-SA5 Meeting #145-e *S5-225302***

**e-meeting, 15 - 24 August 2022**

**Source: Ericsson**

**Title: Adding use case in clause 7.5 for roaming where there are multiple additional actors**

**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

There might be a reseller between the additional actor (e.g., MVNO) and the MNO. The reseller will aggregate several additional actors and do wholesale towards these. The additional actors will still do retail charging and might require online capabilities. Allowing a architecture where there is a reseller between the MNO and the additional actor might impact the solution selected.

# 4 Detailed proposal

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| **First change** |

#### 7.5.1.1 Use case #5a: Use case for additional actor does retail changing for 5G data connectivity while roaming

This use case focuses on visited MNO, home MNO, additional actor (e.g., MVNO), and subscriber business roles.

A subscriber has a UE and a subscription with the additional actor which allows usage of 5G data connectivity. The additional actor has their own billing and charging (CHF), but no other NFs. The additional actor has an agreement with the home MNO that allows its subscribers roaming and the home MNO as a roaming agreement with the visited MNO.

The MVNO charging of the subscriber could be based on data volume that the UE has used in the visited MNO’s network considering of the following aspects:

- RAT type;

- S-NSSAI;

- DNN;

- QoS information.

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| **Second change** |

#### 7.5.1.x Use case #5b: Use case for additional actor does wholesale charging for 5G data connectivity while roaming towards another additional actor

This use case focuses on visited MNO, home MNO, additional actors, and subscriber business roles.

A subscriber has a UE and a subscription with an additional actor (retailer) which allows usage of 5G data connectivity while. The additional actor (retailer) has an agreement with another additional actor (wholesaler) for usage of 5G data connectivity while roaming. The other additional actor (wholesaler) has agreement with the home MNO which in turn has roaming agreement with the visited MNO for 5G data connectivity while roaming. This allows the additional actor’s (retailer) subscribers (UEs) to use the visited MNO’s network. The additional actors have their own billing and charging (CHFs), but no other NFs.

The additional actor (wholesaler) charging of the additional actor (retailer) could be based on data volume that additional actor’s (retailer) subscribers (UEs) has used in the home MNO’s network considering of the following aspects:

- PLMN;

- RAT type;

- S-NSSAI;

- DNN;

- QoS information.

The additional actor (retailer) charging of their subscriber could be based on data volume that the subscriber (UE) has used in the visited MNO’s network considering of the following aspects:

- PLMN;

- RAT type;

- S-NSSAI;

- DNN;

- QoS information.

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| **Third change** |

### 7.5.2 Potential charging requirements

**REQ-CH\_CVTOHTOA-01:** The charging mechanism in visited MNO should support conveying charging information for the 5G data connectivity usage to home MNO, allowing further conveying it to the additional actor for each UE.

**REQ-CH\_ CVTOHTOA-02:** The charging mechanism in home MNO should support conveying charging information for the 5G data connectivity usage to additional actor for each UE.

**REQ-CH\_ CVTOHTOA-03:** The charging mechanism in additional actor should support receiving charging information related to 5G data connectivity usage for each UE.

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| **Third change** |

### 7.5.3 Key issues

The following key issues are identified:

- **Key Issue #5a**: Collection of charging mechanism in visited MNO about the 5G data connectivity usage.

- **Key Issue #5b:** Conveying the charging information from visited to the home MNO

- **Key Issue #5c:** Conveying the charging information to the home MNO and additional actor

- **Key Issue #5d:** Finding the correct CHF in home MNO and MVNO

**- Key Issue #5e:** Service based interface to use between visited CHF, home CHF and additional actor

**- Key Issue #5f:** Trigger handling between visited CHF, home CHF and additional actor

- **Key Issue #5g:** Conveying the charging information to the home MNO and additional actors

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| **End of changes** |