**3GPP TSG-SA5 Meeting #146Bis-e *S5-231117***

Electronic meeting, 16 - 19 January 2023

**Source: Ericsson**

**Title: Correcting requirements and key issues in clause 7.1**

**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

Correcting the requirements, since REQ-CH\_VMNO-08 also covers REQ-CH\_VMNO-05, the latter can be removed.

The need of an interface for negotiation of QBC triggers is needed is also not clear, and therefore the need of studying the relationship to the QFI and handling of PDU session level triggers should be connected to these, moving key issues #1f and #1g into #1e.

# 4 Detailed proposal

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| **First change** |

### 7.1.2 Potential charging requirements

**REQ-CH\_VMNO-01:** The charging mechanism in visited MNO should support charging based on the 5G data connectivity usage for each home MNO.

**REQ-CH\_VMNO-02:** The charging mechanism in visited MNO should support collecting charging information related to 5G data connectivity usage for each home MNO.

**REQ-CH\_VMNO-03:** The charging mechanism in visited MNO should support charging based on the 5G connection and mobility usage for each home MNO.

**REQ-CH\_VMNO-04:** The charging mechanism in visited MNO should support collecting charging information related to 5G connection and mobility usage for each home MNO.

**REQ-CH\_VMNO-05:** The charging mechanism in visited MNO should support charging based on SMS usage for each home MNO.

**REQ-CH\_VMNO-06:** The charging mechanism in visited MNO should support collecting charging information related to SMS usage for each home MNO.

**REQ-CH\_VMNO-07:** The charging triggers to be used in visited MNO may be negotiation with each home MNO.

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| **Second change** |

### 7.1.3 Key issues

The following key issues are identified:

- **Key Issue #1a**: Aggregation of charging information in visited MNO for 5G data connectivity usage per home MNO.

- **Key Issue #1b**: Aggregation of charging information in visited MNO for 5G connection and mobility usage per home MNO.

- **Key Issue #1c**: Aggregation of charging information in visited MNO for SMS usage per home MNO.

- **Key Issue #1d**: Whether the FBC triggers should be negotiated between visited MNO and home MNO, if needed, how to handle the negotiation mechanism for FBC triggers synchronization.

- **Key Issue #1e**: How the QBC triggers should be negotiated between visited MNO and home MNO, if needed, and to handle QoS flow level triggers in relationship to QFIs and negotiation of PDU session level triggers.

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| **Third change** |

##### 7.1.4.1.1 General

A possible solution for key issue #1a covering requirements REQ-CH\_VMNO-01 and REQ-CH\_VMNO-02, wholesale charging for 5G data connectivity provided to the home MNO by the visited MNO, covering both home routed and local breakout case.

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| **Fourth change** |

##### 7.1.4.2.1 General

A possible solution for key issues #1b covering requirements REQ-CH\_VMNO-03 and REQ-CH\_VMNO-04, wholesale charging for 5G connection and mobility provided to the home MNO by the visited MNO, covering both home routed and local breakout case.

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| **Fifth change** |

##### 7.1.4.4.1 General

A possible solution for key issue #1e covering requirement REQ-CH\_VMNO-07, Roaming Charging Profile negotiation enhancement for 5G data connectivity charging provided to the home MNO by the visited MNO.

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| **Sixth change** |

##### 7.1.4.5.1 General

A possible solution for key issue #1c covering requirements REQ-CH\_VMNO-05 and REQ-CH\_VMNO-06, wholesale charging for SMS provided to the home MNO by the visited MNO.

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| **Seventh change** |

##### 7.1.4.7.1 General

A possible solution for key issue #1e covering requirement REQ-CH\_VMNO-07, using preconfigured roaming charging triggers.

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| **Eighth change** |

##### 7.1.4.8.1 General

A possible solution for key issue #1d covering requirements REQ-CH\_VMNO-07, about the FBC negotiation between visited MNO and home MNO.

The FBC (Flow Based Charging) is not used for wholesale and settlement between visited MNO and home MNO. The triggers of FBC are not used for negotiation between visited MNO and home MNO. The V-CHF sets the FBC triggers independent of HPLMN.

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| **Ninth change** |

##### 7.1.4.10.1 General

A possible solution for key issue #1e covering requirement REQ-CH\_VMNO-07, about the PDU Session level setting for QBC triggers.

The QBC triggers and FBC triggers includes its separated PDU session level trigger setting.

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| **Tenth change** |

7.1.4.11.1 General

A possible solution for key issue #1e covering requirements REQ-CH\_VMNO-07, about the QoS flow level trigger setting during the PDU session.

The QBC triggers mechanism is specified in the clause 5.2.1.6 TS 32.255 [4] and Roaming Charging Profile is specified in clause 5.2.1.7 of TS 32.255 [4]. The QBC triggers include PDU session level triggers and QoS Flow level triggers.

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| **End of changes** |