**3GPP TSG-SA5 Meeting #162 *S5-253552rev1***

**Goteborg, Sweden, 25 - 29 August 2025**

**Source: Huawei**

**Title: New SID on 5GA roaming charging reliability enhancement**

**Document for: Approval**

**Agenda Item: 7.2**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>   
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

Title: New SID on 5GA roaming charging reliability enhancement

Acronym: FS\_ RoamRE\_CH

Unique identifier:

Potential target Release: Rel-20

# 1 Impacts

{For Normative work, identify the anticipated impacts. For a Study, identify the scope of the study}

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  |  |  |  |  |
| No | X | X | X | X |  |
| Don't know |  |  |  |  | X |

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a …

|  |  |
| --- | --- |
| X | Study |
|  | Normative – Stage 1 |
|  | Normative – Stage 2 |
|  | Normative – Stage 3 |
|  | Normative – Other\* |

**\* Other = e.g. testing**

## 2.2 Parent Work Item

For a brand-new topic, use “N/A” in the table below. Otherwise indicate the parent Work Item.

|  |  |  |  |
| --- | --- | --- | --- |
| Parent Work / Study Items | | | |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
| N/A |  |  |  |

### 2.3 Other related Work Items and dependencies

|  |  |  |
| --- | --- | --- |
| Other related Work /Study Items (if any) | | |
| Unique ID | Title | Nature of relationship |
| N/A |  |  |

# 3 Justification

For 5G charging, the CHF generates CDRs based on charging information collected from NF consumers through the Nchf interface. Any Nchf related failures will consequently affect the experience of using service.

In the exiting specifications, there are a few descriptions regarding charging reliability as specified in clause 5.5.1 of TS 32.290.But it’s not enough for implementation and deployment, especially in case of roaming charging, e.g., several charging reliability related scenarios as follows:

In the Local Breakout (LBO) roaming charging via N40+N47 in Figure 4.2.6 in TS 32.255.

- In case of one CHF failure detected by CTF, how to handle the charging session with another CHF.

- whether and how to handle the unaligned information elements between charging sessions, e.g., Expiry of Unit Count Inactivity Timer.

In the LBO roaming charging via N40+N107 in Figure 4.2.6a in TS 32.255.

- In case of CTF failure detected by V-CHF, how to handle the charging session between V-CHF and H-CHF.

- In case of H-CHF failure detected by V-CHF, how to handle the charging session between CTF and V-CHF.

- whether and how to handle the unaligned information elements between charging sessions, e.g., Expiry of Unit Count Inactivity Timer.

In summary, it is proposed for SA5 to study how to enhance reliability in roaming scenario from the charging perspective.

# 4 Objective

The objective of the study item is to investigate the following roaming charging reliability enhancement aspects:

**WT-1: Identify the roaming charging mechanism reliability scenarios and requirements.**

**WT-2: Study the potential solutions for the roaming charging reliability scenarios.**

**TU estimates and dependencies**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Work Task ID** | **TU Estimate**  **(Study)** | **TU Estimate**  **(Normative)** | **RAN Dependency**  **(Yes/No/Maybe)** | **SA Dependency**  **(Yes/No/Maybe)** | **Non-3GPP Dependency** |
| WT-1 | 1 | 1 | No | No | No |
| WT-2 | 2 | 2 | No | Yes | No |

**Total TU estimates for the study phase: 3**

**Total TU estimates for the normative phase: 3**

**Total TU estimates: 6**

# 5 Expected Output and Time scale

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| New specifications {One line per specification. Create/delete lines as needed} | | | | | |
| Type | TS/TR number | Title | For info  at TSG# | For approval at TSG# | Rapporteur |
| Internal TR | TR 28.xxx | Study on 5GA roaming charging reliability enhancement | TSG SA #110  (Dec, 2025) | TSG SA #111  (Mar, 2026) |  |
|  |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} | | | |
| TS/TR No. | Description of change | Target completion plenary# | Remarks |
|  |  |  |  |
|  |  |  |  |

# 6 Work item Rapporteur(s)

# 7 Work item leadership

SA5

# 8 Aspects that involve other WGs

# 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| Huawei |
| MATRIXX Software |
| CSCN |
| CATT |
| China Telecom |
|  |
|  |