**3GPP TSG-SA5 Meeting #154 *S5-241467***

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**Source: Nokia**

**Title: New SID on Charging Aspects of CAPIF**

**Document for: Approval**

**Agenda Item: 7.5**

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 Charging Aspects of CAPIF

Acronym: FS\_XXXXX

Unique identifier: TBD

Potential target Release: *Rel-19*

# 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  |  |  | x |  |
| No | 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\* |

### 2.2 Parent Work Item

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

### 2.3 Other related Work Items and dependencies

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

**Dependency on non-3GPP (draft) specification:**

# 3 Justification

This study item aims to study how to integrate into the Charging Domain in order to support CAPIF.

In TS 23.501 clause 6.2.5.1 it’s stated that in case NEF is used for external exposure that CAPIF may be supported (CAPIF API Provider domain Functions), Northbound APIs which can be supported by 5GC network, can be discovered by the NEF through a CAPIF function.

In TS 23.222, there are references on the need to support charging, although, the specification is outdated because it doesn’t make references to Converged Charging scenarios, but only to Online and Offline Charging Scenarios.

The current Charging specifications are absent of information on how CAPIF should be integrated with Charging Management Domain, though there are requirements from TS23.222 that should be studied and evaluated, as listed below:

* The CAPIF shall support online and offline charging for service APIs usage.
* The CAPIF shall provide mechanisms to record the usage (e.g. invocation count) of the service APIs for charging purpose, on a per API invoker basis.
* The CAPIF shall provide mechanisms to record timestamp of the service API invocation.
* The CAPIF shall provide mechanisms to record the service API related information, e.g. API location.
* The CAPIF shall support online and offline charging for 3rd party API providers' service APIs usage.
* The CAPIF shall provide mechanisms to query charging related information of the 3rd party service APIs by the authorized users.

NEF can implement the functionalities of the CAPIF core function (according to TS23.222 clause B.2.2.2), the API exposing function, the API publishing function and the API management function.

Therefore, it should be evaluated the necessity of supporting CAPIF by the Charging Domain, taking in consideration the above listed requirements. Additionally, It shall be evaluated TS 32.254, and identify the Northbound API Charging principles and scenarios that can be applied to CAPIF.

# 4 Objective

The objective of the study is to:

* WT-1: Identify new charging scenarios and requirements for supporting CAPIF.
* WT-3: Identify NEF functionalities which can implement CAPIF functionalities for charging scenarios.
* WT-3: Study the potential charging solutions in order to support CAPIF.

## 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 | 0 | No | No | No |
| WT-2 | 1 | 0 | No | No | No |
| WT-3 | 1 | 0 | No | No | No |

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

**Total TU estimates: 3**

# 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 Charging Aspects for CAPIF | *TSG SA#105*  *(Dec 2025)* | TSG SA#105 (Dec 2025) | Not yet available |
|  |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| 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)

Not yet Available

# 7 Work item leadership

SA5

# 8 Aspects that involve other WGs

None

# 9 Supporting Individual Members

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| --- |
| Supporting IM name |
| Nokia |
| China Mobile |
| Matrixx Software |
| Verizon |
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