**3GPP TSG-SA5 Meeting #157 *S5-245893***

Hyderabad, India, 14 - 18 October 2024

**Source: Huawei**

**Title: New charging solution for service API management**

**Document for: Approval**

**Agenda Item: 7.5.2**

# 1 Decision/action requested

***This is a pCR to add the corresponding solutions about API management charging in TR 28.849.***

# 2 References

[1] 3GPP TR 28.849: "Study on charging aspects of Common API Framework for Northbound APIs (CAPIF) phase 2".

# 3 Rationale

This pCR proposes to introduce the solution of API management charging.

# 4 Detailed proposal

Propose to incorporate the following change into the TR 28.849 [1].

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| **First change** |

### 6.1.5 Possible Solutions

#### 6.1.5.x Solution #1.x: Service API management via CAPIF

##### 6.1.5.x.1 General description

This solution #1.x which relying on CHF/5G Converged Charging System for CAPIF Converged Charging, addresses the Key Issue #1.1.

##### 6.1.5.x.2 Architecture description

Figure 6.1.5.x.2-1 shows the 5G System high level charging architecture for CAPIF Core Function (CCF) Charging, in the reference point representation for non-roaming:



Figure 6.1.5.x.2-1: 5G CCF converged charging architecture non-roaming

##### 6.1.5.x.3 Procedures description

The Figure 6.1.5.x.3-1 describes the high-level charging procedure for CCF Converged charging for API management via CAPIF-4, based on Figure 8.3.3-1, 8.4.3-1, 8.5.3-1 and 8.6.3-1 about the procedure for publish/unpublish/retrieve/update service APIs in the TS 23.222 [2]. The event-based charging, i.e. IEC, PEC and ECUR specified in 3GPP TS 32.290 [4] are supported.



Figure 6.1.5.x.3-1: Event Charging Procedure for API management to the CAPIF (PEC as an example)

1. The CAPIF supports management of the service APIs by the API provider with the CAPIF\_Publish\_Service\_API, including publish/unpublish/get/update service API, as defined in clause 10.3 in TS 23.222 [2]. The API publishing function sent the service API management requests to CAPIF core function over CAPIF-4.

2. CAPIF core function performs service API management procedure which includes storing /removing /retrieving/ updating the API information.

3. The CAPIF sends the service API management response to the API publishing function.

3ch-a. CAPIF core function generates charging data related to the service API managemnt and sends the request for the CHF to store related charging data for CDR generation purpose.

3ch-b. CHF stores received information and creates a CDR related to the service APIs.

3ch-c. CHF informs the CAPIF core function on the result of the request.

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| **End of change** |