**3GPP TSG-SA5 Meeting #146Bis-e *S5-231115***

Electronic meeting, 16 - 19 January 2023

**Source: Ericsson**

**Title: Adding solution for size of charging information**

**Document for: Approval**

**Agenda Item: 7.5.2**

# 1 Decision/action requested

**Include the proposed changes in TR 28.826.**

# 2 References

[1] 3GPP TR 28.826: " Study on Nchf charging services phase 2 improvements and optimizations"

[2] 3GPP TS 29.500: "5G System; Principles and Guidelines for Services Definition; Stage 3".

[3] IETF RFC 7540: "Hypertext Transfer Protocol Version 2 (HTTP/2)".

# 3 Rationale

The TS 29.501 [1] states in clause 6.2 that “The maximum size of the JSON body of any HTTP request/response shall not exceed 16 million octets before compression is applied, if any.” and “APIs need to be designed taking care to avoid a too large HTTP payload size for performance reasons.”. The RFC 7540 [2] clause 4.2 describes that a receiver can set the maximum frame size, this is for any type of HTTP frame (e.g., headers, data). This means that there is today no possibility for the CHF to limit the size of the chargingdata, it may only set it for all frames or use the maximum defined by the TS 29.501 [1].

# 4 Detailed proposal

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| **First change** |

#### 5.5.5.x Solution #5.x: CHF control of chargingdata size

A possible solution for key issues #1d covering requirements REQ-CH\_INFO-02, control of charging request size.

The CHF can today set the following limits for a request to trigger reporting of charging information:

- time: limits the duration the CTF can wait before reporting.

- volume: limits the volume measured by the CTF before reporting.

- event: limits the number of events measured by the CTF before reporting.

- Number Of CCC: limits the number of charging condition changes performed CTF before reporting.

This solution would add two new limits the size of payload (before and after any compression) of the Charging data request:

- charging data: limits the charging data size that CTF can use in the charging data report before compression is applied, if any.

The new attribute e.g., maxChargingData, would be handled in the same way as the current maxNumberOfccc.

Example of how the definition of trigger could look in the TS 32.291 [6] table 6.1.6.2.1.7-1:

Table 5.5.5.x-1: Definition of type Trigger

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| triggerType | TriggerType | Oc | 0..1 | the events whose occurrence lead to charging event is issued towards the CHF |  |
| triggerCategory | TriggerCategory | M | 1 | This field indicates whether the charging data generated by the NF consumer for the trigger lead to a Charging Event towards the CHF immediately or not. |  |
| timeLimit | DurationSec | OC | 0..1 | Time limit if trigger type is "Expiry of data time limit" |  |
| volumeLimit | Uint32 | OC | 0..1 | Volume limit if trigger type is "Expiry of data volume limit". This attribute is not valid from Nchf\_ ConvergedCharging API version v2.0.0 |  |
| volumeLimit64 | Uint64 | OC | 0..1 | Volume limit if trigger type is "Expiry of data volume limit".This attribute replaces the volumeLimit attribute from Nchf\_ ConvergedCharging API v2.0.0 |  |
| eventLimit | Uint32 | OC | 0..1 | Event limit if trigger type is "Expiry of data event limit". |  |
| maxNumberOfccc | Uint32 | OC | 0..1 | Maximum number if trigger type is "Max nb of number of charging condition changes" |  |
| maxChargingData | Uint64 | OC | 0..1 | Maximum payload size without any compression, if trigger type is "Max charging data”. |  |
| tariffTimeChange | DateTime | OC  | 0..1 | This field contains UTC time indicating the switch time when the tariff will be changed. |  |

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| **End of changes** |