**3GPP TSG SA WG5 Meeting #158 S5-246603rev1**

**Orlando, Florida, USA 18 - 22 November 2024**

**Source: Huawei**

**Title: Discussion Paper on the handling of non-blocking mode in charging system**

**Document for: Discussion**

**Agenda Item: 7.3**

# 1 Decision/action requested

***Discuss the non-blocking mode from charging aspect.***

# 2 References

[1] 3GPP TS 23.503: "Policy and charging control framework for the 5G System (5GS); Stage 2".

[2] 3GPP TS 32.290: "Telecommunication management; Charging management; 5G system; Services, operations and procedures of charging using Service Based Interface (SBI)".

[5] S5-245578 "Discussion Paper for correction on the non-blocking mode".

# 3 Rationale

3.1 Background

The non-blocking mode is introduced by the 5G core network, offering the possibility of allow a service data flow to start before SMF get response for quota authorization from CHF, as specified in In TS 23.503 [1] clause 6.3.

In the charging service, the SCUR charging scenario is described with two procedures, that reflecting the difference when blocking or non-blocking mode applies. According to the descriptions in TS 32.290 [2] clause 5.3.2.3, the main difference between the two SCUR charging procedures is whether the service is start before the NF consumer (CTF) determine the unit and send charging data request to CHF. This difference only reflects how the 5G core network, i.e. NF consumer (CTF), handles the non-blocking mode, in comparison to blocking mode.

According to the current specification, the use of non-blocking mode is out of control by CHF when receiving a request for quota authorization, and CHF is not aware of whether the non-blocking mode applies.

3.2 Possible Way Forward

**Option A:** Enable the charging system to be aware of the non-blocking mode. The detailed analysis is described in S5-245578 [3], which requires extension in the charging information.

**Option B:** Clarify the charging system is not aware of the non-blocking mode. NF consumer (CTF) shall make sure the non-blocking mode is appropriate.

# 4 Detailed proposal

A set of CRs for Option A have been proposed for several meetings, but have not reached consensus in the charging group yet.

If the group agrees to proceed with Option B, a set of CR (S5-246604/S5-246605) to clarify the principle is proposed in this meeting for approval.