**3GPP TSG-SA5 Meeting #145-e *S5-225124rev1***

**e-meeting, 15 - 24 August 2022**

**Source: MATRIXX Software**

**Title: pCR TR 32.847 Solve Editor's Note on solution#1.1**

**Document for: Approval**

**Agenda Item: 7.5.1**

# 1 Decision/action requested

**This pCR is to** **Solve Editor's Note on solution#1.1**

# 2 References

[1] 3GPP TR 32.847 "Study on Charging Aspects for Network Slicing Phase 2"

# 3 Rationale

This pCR is to Solve Editor's Note on solution#1.1, by considering the NS\_quota allowed for a S-NSSAI is based on CCS internal determination.

It is also clarified in this solution, the CCS NS quota management is invoked once the NSACF configured "max. Nb of Reg UEs" value is reached.

# 4 Detailed proposal

The following changes are proposed to be incorporated into TR 32.847 [1]

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| **First change** |

### 6.1.1 Solution#1.1 New NetworkSliceConvergedCharging service to NSACF – beyond configured counts

#### 6.1.1.1 Procedure Description

This solution addresses the Key Issue #1 by considering the new 5GC NF which has been defined as Network Slice Admission Control Function (NSACF). While NSACF counts all UE registrations in S-NSSAI as received from the AMF(s), the CHF/5G Converged Charging System functionalities provide the charging service and quota management capabilities to this NSACF.

During the network slice provisioning, the CHF, under the ConvergedCharging service, receives and stores the "max. Nb of Reg UEs" value which was configured in the NSACF during this provisioning of the network slice as described in TS 23.501 [7] clause 5.15.11.0.

A new NetworkSliceConvergedCharging service is introduced for this Network Slice quota management between the CHF and the NSACF and its use is described in following clause. In this context, the Network Slice quota (NS\_quota) handled by the CHF relates to quota of "Nb of Reg UEs".

During the UEs registration, the NSACF provides the network slice admission control for all AMF(s) by counting the number of registered UEs against quota granted by the CHF under NetworkSliceConvergedCharging service consumption by the NSACF.

The following figure 6.1.1.1-1 represents the high-level entities involved in the solution.



**Figure 6.1.1.1-1 High level functional solution overview**

Slice SLA are obtained by CHF at NSI creation via the ‘service profile’ as specified in 3GPP TS 28.202 [3] (clause 5.1.3 "Network Slice Management charging information"), which includes the max Nb of Reg UEs per S-NSSAI, also configured in the NSACF during provisioning of the network slice.NS\_quota for S-NSSAI is determined by CCS: either set to the NSACF configured "max. Nb of Reg UEs" value, or to a higher value.

#### 6.1.1.2 Flow description

The figure 6.1.1.2-1 describes the high-level charging procedure for Network slice converged charging based on NS\_quota handling by CHF.



**Figure 6.1.1.2-1: NetworkSlice quota management - registration**

The steps are with the following additions:

0ch. CHF gets per S-NSSAI the "max Nb of Reg UEs" obtained during NSI creation and determines the initial value for NS\_quota of Nb of Reg UEs.

0. The NSACF counts the Nb of Reg UEs and check against the configured "max Nb of Reg UEs" value.

1. NS admission control for UEs registrations per 3GPP TS 23.502 [11].

Xch-a: At least one S-NSSAI has reached the configured "max Nb of Reg UEs" value.

Xch-b: the NSACF invokes the Nchf\_NSConvergedCharging service for requesting more NS\_quota of Nb of Reg UEs for the S-NSSAI.

Xch-c. Account and rating control for the S-NSSAI. The S-NSSAI for which the configured value of max Nb of Reg UEs is reached will be either granted with more NS\_quota or the request for more NS\_quota is indicated as rejected by the CCS.

Xch-d. CHF provides response to NSACF with appropriate setting for S-NSSAI(s) based on the status of step Xch-c.

2. NS admission control for UEs registrations per 3GPP TS 23.502 [11].

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| **End of changes** |