**3GPP TSG-SA5 Meeting #143-e *S5-223228rev2***

**e-meeting, 9 - 17 May 2022**

**Source: MATRIXX Software**

**Title: pCR TR 32.847 Add NWDAF based NS charging new solution for Key issue#6 Document for: Approval**

**Agenda Item: 7.5.3**

# 1 Decision/action requested

**This pCR is to introduce a new solution for Key issue#6 - NWDAF based NS charging**

# 2 References

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

# 3 Rationale

This pCR is to introduce a new solution for Key issue#6 – NWDAF based NS charging

# 4 Detailed proposal

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

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| **First change** |

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TR 32.845: "Charging management; Study on charging aspects of network slicing”.

[3] 3GPP TS 28.202: "Charging management; Network slice management charging in the 5G System (5GS); Stage 2".

[4] 3GPP TS 28.201: "Charging management; Network slice performance and analytics charging in the 5G System (5GS); Stage 2".

[5] 3GPP TR 23.700-40: "Study on enhancement of network slicing; Phase 2”.

[6] GSMA 5GJA NG.116: "Generic Network Slice Template".

[7] 3GPP TS 23.501: "System Architecture for the 5G System (5GS); Stage 2".

[8] 3GPP TS 28.530: "Management and orchestration; Concepts, use cases and requirements".

[9] 3GPP TS 32.255: "Telecommunication management; Charging management; 5G data connectivity domain charging; Stage 2".

[10] 3GPP TS 32.256: "Telecommunication management; Charging management; 5G connection and mobility domain charging; stage 2".

[11] 3GPP TS 23.502: "Procedures for the 5G System; Stage 2".

[12] 3GPP TS 23.288: "Architecture enhancements for 5G System (5GS) to support network data analytics services".

[13] 3GPP TS 28.532: "Management and orchestration; Generic management services".

[14] 3GPP TS 28.554: "Management and orchestration; 5G end to end Key Performance Indicators (KPI) Generic management services".

[15] 3GPP TS 28.552: "Management and orchestration; 5G performance measurements".

[16] 3GPP TS 32.240: "Telecommunication management; Charging management; Charging architecture and principles".

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| **Next change** |

## 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

5GJA 5G Joint Activity (Initiative of NG)

AMF Access and Mobility Management Function

CEF Charging Enablement Function

CHF Charging Function

CSC Communication Service Customer

CSP Communication Service Provider

EPS Evolved Packet System

GSM Global System for Mobile Communications

GSMA GSM Association

GST Generic Network Slice Template

MnS Management Service

NEST Network Slice Types

NG Networks Group (GSMA WG)

NOP Network Operator

NS Network Slice

NSC Network Slice Customer

NSI Network Slice Instance

NSP Network Slice Provider

NSSAA Network Slice-specific Authentication and Authorization

NSSAAF Network Slice-Specific Authentication and Authorization Function

NWDAF Network Data Analytics Function

PDU Protocol Data Unit

SMF Session Management Function

S-NSSAI Single Network Slice Selection Assistance Information

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| **Next change** |

### 6.6.x Solution#6.x NWDAF based Network slice charging

#### 6.6.x.1 General description

This solution addresses the Key Issue#6 for REQ-NSCH-01, and REQ-NSCH-11 potential requirements and is similar as solution#6.1, where the NWDAF is used instead of Mns Producer for NS-Tenant Charging information.

#### 6.6.x.2 Architecture description



Figure 6.6.x.2-1: NWDAF based Network slice charging

NOTE: The architecture part representing CEF/NWDAF can be part of architecture in 3GPP TS 32.240 [16] figure 4.2.4.1: Logical ubiquitous charging architecture for management domain.

#### 6.6.x.3 Flow description

The flows are the same as:

* Figure 6.6.2.3-1: UE PDU session converged Charging influenced by Network slice converged charging
* Figure 6.6.2.3-2: UE Registration converged Charging influenced by Network slice converged charging

With the difference the NWDAF/CEF is used for steps 1ch and 2ch, instead of MnS Producer/CEF for the purpose of NS charging collection of S-NSSAI charging information (KPIs...). Analytics which could be obtained from NWDAF are those of Table 6.2.1.3-1 in 3GPP TS 28.201[4] and "max Nb of UEs" is assumed as known by the NS Tenant CCS.

Editor's Note: List of Analytics provided by NWDAF (in Table 7.1-2 of 3GPP TS 23.288 [12]) relevant for this key issue is ffs.

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| **End of changes** |