**3GPP TSG-SA5 Meeting #132e *S5-204156rev1***

**e-meeting 17th 28th August 2020**

**Source: Telefónica S.A.**

**Title: Structuring content on concepts and overview of NPN management**

**Document for: Approval**

**Agenda Item: 6.5.4**

# 1 Decision/action requested

***The group is asked to approve the proposal.***

# 2 References

[1] TS 28.557 Management of non-public networks; Stage 1 and stage 2 v0.0.0

[2] TR 28.807 Study on management aspects of non-public networks

# 3 Rationale

Management of non-public networks (NPNs) brings enhancements/extensions on the operation of the entire 5GS, from the UE to the external data network. These enhancements/extensions shall be analyzed on individual 5GS segments, including UE, NG-RAN, and 5GC, as the management aspects considered on each of these segments are completely different. By means of example, in NPN environments:

* *UE related management aspects* involve issues related to UE identitity management, UE provisioning and on-boarding, UE connectivity management, UE group management, etc.
* *NG-RAN related management* *aspects* involve issues related to NPN IDs management, configuration of NG-RAN sharing, coordination between enterprise RAN (indoor) and macro public RAN (outdoor), etc.
* *5GC related management aspects* involve issues related to the traffic processing configuration (UPF), service and session management (AMF, SMF, etc.) and subscription management (UDM, UDR), taking into account security and privacy considerations.

The above management aspects are common to all NPNs, regardless of their category, i.e. SNPN or PNI-NPN. For this reason, these management aspects shall be specified from the very beginning, before delving into differences between SNPNs and PNI-NPNs.

Based on these aspects, further differentiation between SNPN and PNI-NPN management can be presented. Differences on NPN management between SNPNs and PNI-NPNs go well beyond the particularization of some of management aspects presented earlier, e.g. NID management in SNPN vs CAG (cell) ID management in PNI-NPNs, as part of the NPN IDs management in NG-RAN. Indeed, these differences also bring discussion on single-site (the SNPN/PNI-NPN is deployed within a single enterprise site) vs multi-site (a connection of individual locally deployed SNPNs, or a PNI-NPN deployed across multiple private enterprise site) layouts, as well as roles involved therein. All these differences also deserve to be highlighted.

According to this rationale, in the present document (TS 28.557 [1]) it is proposed to:

* Include a section related to NPN management aspects on individual 5GS segments (Section 4.x). The management aspects specified in this section are deployment agnostic. This means that they are applicable to every NPN, no matter if it is a SNPN or PNI-NPN.
* Include a section related to SNPN management (Section 4.y). This section might particularize some of the aspects presented in Section 4.x, extending the discussion to single-site vs multi-site layouts.
* Include a section related to PNI-NPN management (Section 4.z). This section might particularize some of the aspects presented in Section 4.x, extending the discussion to single-site vs multi-site layouts.

Section 4.y and 4.z should have the same structure, to better illustrate the differences between SNPN and PNI-NPN management. Additionally, Section 4.x shall go before Sections 4.y and 4.z. This allows going for a top-down approach, setting forth the NPN management concepts and principles (Section 4.x) before delving into NPN category related particularizations (Sections 4.y and 4.z).

It is proposed in the present pCR to organize Clause 4 “Concepts and overview”, considering Sections 4.x, 4.y and 4.z as discussed above, and other necessary sections inherited from TR 28.807 [2], including “General” and “Roles related to NPN management”. In the proposed Clause 4, Sections 4.x, 4.y and 4.z will appear as Sections 4.3, 4.4 and 4.5.

# 4 Detailed proposal

This document proposes the following changes in TS 28.557 [1].

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| **1st Change** |

## 4 Concepts and overview

## 4.1 General

## 4.2 Roles related to NPN management

## 4.3 NPN management aspects

### 4.3.1 UE related management aspects

### 4.3.2 NG-RAN related management aspects

### 4.3.3 5GC related management aspects

## 4.4 Management of SNPNs

## 4.5 Management of PNI-NPNs

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| **End of change** |