**3GPP TSG-SA5 Meeting #132e *S5-204276rev2***

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

**Source: Huawei**

**Title: Management of stand-alone non-public networks**

**Document for: Approval**

**Agenda Item: 6.5.4**

# 1 Decision/action requested

***Discuss and approve on 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 v16.0.0

# 3 Rationale

It is proposed to add concept of management of stand-alone non-public networks in draft TS 28.557 [1] based on the corresponding content in TR 28.807 [2].

# 4 Detailed proposal

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

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| **1st 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".

[U] 3GPP TS 23.501: "System architecture for the 5G System (5GS)".

[V] 5G-ACIA White paper: "5G Non-Public Networks for Industrial Scenarios", July 31, 2019.

[W] 3GPP TS 23.003: "Numbering, addressing and identification".

[X] 3GPP TS 28.530: "Concepts, use cases and requirements".

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| **Next Change** |

# 4 Concepts and overview

## 4.X Management of stand-alone non-public networks

An SNPN is deployed as an isolated network from PLMN. An optional connection to the public network services via the firewall, can be employed to enable NPN customers to access to public network services, such as voice, while within NPN coverage, see figure 1 in clause 5.2 of [V].

To manage a SNPN which is a 5GS (i.e. NG-RAN and 5GC) that can be optionally complemented with other access networks based on non-3GPP technologies (i.e. IEEE WiFi), the standalone SNPN management system needs a dedicated NPN identifier. The combination of a PLMN ID and Network identifier (NID) is used to identify an SNPN. The NID supports two assignment models, see clause 5.30.2 of TS 23.501 [U]:

- Locally managed NIDs are assumed to be self-managed by SNPNs (i.e. chosen individually by SNPNs) at deployment time (and may therefore not be unique) but use a different numbering space than the universally managed NIDs as defined in TS 23.003 [W].

- Universally managed NIDs are assumed to be globally unique.

An SNPN, which includes 3GPP and non-3GPP segments, may be created for use of an NPN CSC (e.g. a private company). From management viewpoint, this means that the 3GPP and non-3GPP segments of this NPN are completely independent and separated from PLMN provided network functions. The NPN operator has full management control over the exclusive SNPN network functions, i.e., 3GPP segment which includes non-public 5GC and/or non-public NG-RAN, and non-3GPP segment.

An SNPN, which includes 3GPP segments only, may be created for use of an NPN CSC (e.g. a private company). From management viewpoint, this means that the 3GPP segments of this NPN are completely independent and separated from PLMN provided network functions. The NPN operator has full management control over the exclusive SNPN network functions, i.e., 3GPP segments which includes non-public 5GC and non-public NG-RAN.

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