3GPP TSG SA WG5 Meeting 135-e TDoc S5-211139rev2

electronic meeting, online, 25 January - 3 February 2021

**Source: Huawei**

**Title: Update on NID for SNPN management**

**Document for: Approval**

**Agenda Item: 6.4.1**

# 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 v0.2.0

# 3 Rationale

It is proposed to update the NID description to align with the latest content of TS 23.501 and TS 23.003 for SNPN management in draft TS 28.557 [1].

# 4 Detailed proposal

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

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| **1st Change** |

## 4.4 Management of SNPNs

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 [5].

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 Wi-Fi), 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 shall consist of an assignment mode and an NID value, see figure 4.4-X.



Figure 4.4-X: Network Identifier (NID)

The NID can be assigned using the following assignment models, see clause 5.30.2.1 of TS 23.501 [3] and clause 12.7.1 of TS 23.003 [6]:

- Self-assignment: NIDs are chosen individually by NPN-OP for SNPNs at deployment time (and may therefore not be unique) but use a different numbering space than the coordinated assignment NIDs as defined in TS 23.003 [6]. This assignment model is encoded by setting the assignment mode to value 1.

- Coordinated assignment: NIDs are assigned using one of the following two options:

1. Option 1: The NID is assigned such that it is globally unique independent of the PLMN ID used. Option 1 of this assignment model is encoded by setting the assignment mode to value 0;

2. Option 2: The NID is assigned such that the combination of the NID and the PLMN ID is globally unique. Option 2 of this assignment model is encoded by setting the assignment mode to value 2.

NOTE: The details of NID are defined in clause 12.7 of TS 23.003 [6].

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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| **End of change** |