3GPP TSG SA WG5 Meeting 137-e S5-213084rev1

electronic meeting, online, 10 - 19 May 2021

**Source: Huawei**

**Title: Add requirements for management of NPN-SC**

**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 v0.4.1

# 3 Rationale

It is proposed to add NPN-SC 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** |

### 4.3.x NPN-SC management aspects

A Non-Public Network (NPN) is a 5GS deployed for non-public use. Generally an NPN-SP can provide communication services for multiple NPN-SCs. That leads to one or more NPN to be deployed to fulfil different SLS requirements of multiple NPN-SCs, such as:

* in PNI-NPN scenarios, multiple NPN-SCs may require different performance and/or functionalities, so the NPN-SP should deploy multiple PNI-NPNs for the various SLS from multiple NPN-SCs.
* in SNPN scenarios, multiple NPN-SCs may share the NPN service for their own non-public use. For example, some small enterprises do not have sufficient income and resources for their own NPN independently, so an NPN-SP may build a NPN for these enterprises.

In above NPN scenarios, the NPN-SP should have the capability to manage NPN-SC and corresponding management data, e.g. identifiers for multiple NPN-SCs and management capabilities exposed to NPN-SC. As an example, an NPN-SC apply to an NPN-SP for a communication service for non-public use. Firstly, the NPN-SC should register to NPN-SP with corresponding information based on business agreement between NPN-SC and NPN-SP. The NPN-SP makes an authentication and maintains the information of registered NPN-SC. Then the NPN-SP deploys an NPN for the NPN-SC (e.g. reuse an existing NPN or create a new NPN) and may expose some management capabilities to the NPN-SC according to the registration information. When the business agreement is terminated, de-registration of NPN-SC is executed.

Based on the above analysis, 3GPP management system may need to provide management capabilities for NPN-SC and corresponding management data. This includes:

* Registration/de-registration of NPN-SC to an NPN-SP according to business agreement between the two parties.
* Management of NPN-SC related management data, such as identifiers of NPN-SCs and exposure permission of management capabilities (e.g. management capabilities to be exposed, and performance data which can be exposed to NPN-SC).

Editor’s NOTE: it is FFS to define more requirements of NPN-SC management.

Editor’s NOTE: The use case and solutions in access control related study item may be considered, FFS.

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| **2nd Change** |

### 5.2.1 Generic requirements for management of NPN

**REQ-NPN-FUN-01** The 3GPP management system shall have the capability to monitor the performance measurements and KPIs associated with an NPN.

**REQ-NPN-FUN-02** The 3GPP management system shall have the capability to provide the performance measurements and KPIs associated with an NPN to authorized NPN service provider or NPN service consumer.

**REQ-NPN-FUN-03** The 3GPP management system shall have the capability to receive SLA requirements from authorized NPN service consumer and then translating the SLA requirements into service and network resources related requirements.

**REQ-NPN-FUN-04** The 3GPP management system shall have the capability to evaluate SLS assurance related to an NPN.

**REQ-NPN-FUN-0x** The 3GPP management system shall have the capability to manage NPN-SC and related management data.

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| **End of change** |