**3GPP TSG-SA5 Meeting #143-e *S5-223236rev1***

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

**Source: Huawei**

**Title: Potential solution for management of the related information for NPN service customer**

**Document for: Approval**

**Agenda Item: 6.5.17.2**

# 1 Decision/action requested

***Discuss and approve on the proposal.***

# 2 References

[1] TR 28.907 Study on enhancement of management of non-public networks v0.1.0

# 3 Rationale

It is proposed to add a potential solution for key issue #1 in draft TR 28.907 [1].

# 4 Detailed proposal

This document proposes the following changes in TR 28.907 [1].

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| **1st Change** |

### 5.2.x Potential solutions

#### 5.x.2.a Potential solution #<a>: Management of the related information for NPN service customer

##### 5.x.2.a.1 Introduction

This clause describes briefly the potential solution for management of the related information for NPN service customer.

##### 5.x.2.a.2 Description

An NPN is provided to a vertical (playing the role of NPN-SC) for private use. Before an NPN is created, an MNO (playing the role of NPN-SP/NPN-OP) needs to authenticate the vertical. If the authentication is passed, the MNO management system should manage the related information for NPN service customer, for example, allocating a new identity of the vertical which can be used in MNO management system and creating the context of the vertical to keep the new identity, authorized available management capabilities, required coverage area and so on.

The procedure of management of the related information for NPN service customer is following. The pre-condition of the procedure is the business agreements between MNO and NPN-SC is reached.

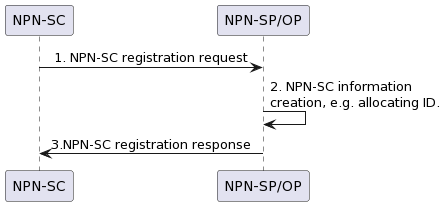


Figure 5.2.x-1: Procedure of management of the related information for NPN service customer

1. NPN-SC provides the vertical information (e.g. human readable name of vertical, subscribed management capabilities exposed to vertical, etc.) to register a vertical to NPN-SP/NPN-OP through an NPN-SC registration request message. This message may be interacted with BSS layer. But the BSS layer should forward the subscription data to OSS layer to authorize the exposure of management capabilities and corresponding managed resources to NPN-SC.
2. NPN-SP/NPN-OP receives the vertical information from NPN-SC and executes the authentication and authorization for a vertical. The NPN-SP/NPN-OP allocates a new identity which is associated with the vertical identity and creates the context information of the vertical in local. The context information can be managed in form of NRM IOCs. The NPN-SP/NPN-OP uses the allocated new identity in MNO management system to identify the corresponding vertical.

Editor's note: The details of the context information of the vertical in NPN management system is FFS.

1. The NPN-SP/NPN-OP sends NPN-SC registration response message to the NPN-SC including the authentication result (e.g. success or failure), the new identity, authorized available management capabilities information and other attributes which are part of the context information of the vertical.

Editor's note: The outcome of management capability exposure governance in FS\_NSCE study item will be taken into consideration for identifying the authorized available management capabilities information in step 3).

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| **2nd Change** |

Annex A (informative):  
Plant UML source code

## A.1 Procedure for management of the related information for NPN service customer

@startuml

"NPN-SC" -> "NPN-SP/OP": 1. NPN-SC registration request

"NPN-SP/OP" -> "NPN-SP/OP":2. NPN-SC information\ncreation, e.g. allocating ID.

skinparam responseMessageUpArrow true

"NPN-SP/OP" -> "NPN-SC":3.NPN-SC registration response

skinparam sequenceMessageAlign center

@enduml

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| **End of change** |