**3GPP TSG-SA3 Meeting #107-e *draft\_S3-220966-r1***

e-meeting, 16-20 May 2022 **Merger of S3-220966 and S3-221005**

**Source: Ericsson, CATT**

**Title: Reference point name**

**Document for: Approval**

**Agenda Item: 4.7**

# 1 Decision/action requested

***The reference point between the UDM and 5G PKMF is defined.***

# 2 References

[1] 3GPP TS 33.503 "Security Aspects of Proximity based Services (ProSe) in the 5G System (5GS)"

# 3 Rationale

SA3 has received the LS in S3-220679/S2-2203018 from SA2, where SA2 informs SA3 that SA2 has defined the reference point Npc10 between the 5G PKMF and the UDM.

The following corrections are proposed in this pCR:

* The reference point between the UDM and 5G PKMF is defined as Npc10.
* It has been clarified that Authentication Vector (AV) refers to a GBA AV.

# 4 Detailed proposal

**\*\*\*\*** FIRST CHANGE **\*\*\*\***

## 4.2 Reference points and functional entities

### 4.2.1 Functional entities

#### 4.2.1.1 General

Architectural reference model is specified in clause 4.2.1, 4.2.2, 4.2.3, and 4.2.7 of TS 23.304 [2].

#### 4.2.1.2 5G ProSe Key Management Function

In addition to the architectural reference model specified in TS 23.304 [2], the architectural reference model shall support the functional entity 5G ProSe Key Management Function (5G PKMF) which is the logical function handling network related actions required for the key management and the security material for discovery of a 5G ProSe UE-to-Network Relay by a 5G ProSe Remote UE; and for establishing a secure PC5 communication link between a 5G ProSe Remote UE and 5G ProSe UE-to-Network Relay.

The 5G ProSe Remote UE and the 5G ProSe UE-to-Network Relay knows from which 5G ProSe Key Management Function(s) to get the needed PRUK(s) for establishing a secure PC5 link between the 5G ProSe Remote UE and the UE-to-Network Relay as the address of the 5G PKMF(s) are either pre-provisioned or provided by the 5G DDNMF (or the PCF) in the HPLMN of the 5G ProSe Remote UE to the 5G ProSe Remote UE, and by the 5G DDNMF (or the PCF) in the HPLMN of the 5G ProSe UE-to-Network Relay to the 5G ProSe UE-to-Network Relay.

The 5G PKMF interacts with the 5G ProSe-enabled UE using procedures over PC8 reference point defined in clause 5.2.5. The protection for the key request/response messages are described in subclause 5.2.5.

The 5G PKMF of the 5G ProSe Remote UE shall request the discovery security materials to the 5G PKMFs of the potential 5G ProSe UE-to-Network Relays from which the 5G ProSe Remote UE gets the relay services.

The 5G PKMF of the 5G ProSe UE-to-Network Relay shall request the security materials (e.g. PRUK key) for PC5 communication with the 5G ProSe Remote UE from the 5G PKMF of the 5G ProSe Remote UE.

### 4.2.2 Reference points

In addition to the reference points are specified in clause 4.2.5 of TS 23.304 [2], the 5G Prose architectural reference model shall support the following reference points:

**PC8**: The reference point between the UE and the 5G ProSe Key Management Function (5G PKMF). PC8 relies on 5GC user plane for transport (i.e. an "over IP" reference point). It is used to transport security material to UEs for 5G ProSe UE-to-Network Relay communication.

**Npc9**: The reference point between the 5G PKMF of the 5G ProSe Layer-3 Remote UE and the 5G PKMF of the 5G ProSe Layer-3 UE-to-Network Relay. It is used to transport security material between two 5G PKMFs.

**Npc10**: The reference point between the UDM and 5G PKMF. It is used to de-conceal SUCI to gain SUPI, obtain an GBA Authentication Vector (AV) for a UE, or request relay service authorization information from the UDM.

**\*\*\*\***  END OF CHANGE **\*\*\*\***