**3GPP TSG-WG SA2 Meeting #152E e-meeting *S2-2205744r01***

**Elbonia, August 17 – 26, 2022 (revision of S2-2205744)**

**Source: Huawei, HiSilicon**

**Title: Conclusion on the solutions of KI#4**

**Document for: Approval**

**Agenda Item: 9.16**

**Work Item / Release: FS\_PIN/ Rel-18**

# 1. Discussion

In SA2#151e, several solutions has been proposed to address KI#4 for communication of PIN. This document is proposed to capture the conclusion for key issue 4. The details of relevant solutions in KI #4 can be referred to the proposed evaluation document.

It is proposed to use the following principles for normative work on communication of PIN.

1. Solution #16 for QoS differentiation for different PINEs
2. The mapping between a Uu QoS parameters (including 5QI, GFBR/MFBR, ARP) value and N3GPP QoS parameters is performed by PEGC.
3. The N3GPP QoS parameters and mapping procedure performed by PEGC are not specified by 3GPP.
4. How to enforce QoS based on the Non-3GPP QoS assistance information in the non-3GPP network is not specified by 3GPP.
5. PDU session modifications can be performed either by the PEGC or by the AF.
6. When the PEGC detects new traffic from a device in the PIN, it may decide to map the traffic to an existing QoS flow or to ask for a new QoS to transfer the traffic within the PDU session. The criteria for taking the decision can be based on URSP matching, if available, or UE specific. Note that this procedure is the same used when the application generating the traffic resides directly on the UE.
7. The AF may ask, via NEF, for a modification of the QoS. The mechanism and criteria used by the AF to determine the need for a QoS modification are not defined by 3GPP,

NOTE: The AF may rely on PIN signalling between the PINE/PEGC/PEMC and the AF which transferred via UP transparently to the 5G system to determine the need for a QoS modification.

1. The simultaneous presence of multiple PEGCs in a PIN is not supported in this release

# 2. Text proposal

It is proposed to capture the following changes vs. TR 23.700-88:

\* \* \* \* First change \* \* \* \*

merge conclusion part of [**S2-2205744**](Docs/S2-2205744.zip), [**S2-2206249**](Docs/S2-2206249.zip), [**S2-2206484**](Docs/S2-2206484.zip), [**S2-2206016**](file:///C%3A%5CWork%5C3GPP%5CSA2%20Meeting%5C152E%5CDocs%5CS2-2206016.zip), at the start of the meeting

## 8.x Conclusion for Key Issue #4: Communication of PIN

The normative work is based on the following principles

1) Solution #16 is the baseline for normative work for QoS differentiation for different PINEs

2) The mapping between a Uu QoS parameters (including 5QI, GFBR/MFBR, ARP) value and N3GPP QoS parameters is performed by PEGC.

a) The N3GPP QoS parameters and mapping procedure performed by PEGC are not specified by 3GPP.

b) How to enforce QoS based on the Non-3GPP QoS assistance information in the non-3GPP network is not specified by 3GPP.

3) PDU session modifications can be initiated either by the PEGC or by the SMF based on request received from the AF via the NEF.

a) When the PEGC detects new traffic from a device in the PIN, it may decide to map the traffic to an existing QoS flow or to ask for a new QoS to transfer the traffic within the PDU session. The criteria for taking the decision can be based on URSP matching, if available, or UE specific. Note that this procedure is the same used when the application generating the traffic resides directly on the UE.

b) The AF may ask, via NEF, for a modification of the QoS. The mechanism and criteria used by the AF to determine the need for a QoS modification are not defined by 3GPP,

NOTE: The AF may rely on PIN signalling between the PINE/PEGC/PEMC and the AF which is transferred via UP transparently to the 5G system to determine the need for a QoS modification.

4) Support of multiple active PEGCs in the same PIN is implementation specific.

NOTE: Since the association between the PINE and PEGC is managed over UP by interaction with AF, whether one or more PEGCs are active in a PIN and how the PINEs are associated to a specific PEGC and moved between PEGCs is not specified by 3GPP.

5) PIN communication without relay path to 5GC is not specified by SA2.

6) Single or multiple PDU Sessions may be established by a PEGC for PIN communication. One PEGC may serve more than one PIN and in this case, there is at least one PDU session per PIN.

7) IPv6 Prefix Delegation may be applied for IP address allocation of PINEs connected to PEGC.

8) - AF may provide necessary parameters (e.g. PIN ID, PINE ID, IP address/prefix, port number, default QoS associated with a PINE) to 5GC for traffic differentiation and QoS control for specific PINE traffic.

9) - AF may provide necessary parameters (e.g. PIN ID, PINE ID, IP address/prefix, port number associated with a PINE) in URSP guidance for PDU Session selection by the PEGC.

10)- UDR is enhanced to support the storage and retrieval of PIN related policy and QoS parameters.

11)5GC may provide Non-3GPP QoS assistance information to PEGC

12) 5GC shall take into count the delay budget between PINE and PEGC to guarantee end to end QoS for PINE traffic. Solution #18 can be adopted as baseline of normative work for the delay budget between PINE and PEGC.

13) The 5G system support 5G-LAN for anchoring PDU Sessions of PEGCs and PEMCs at same SMF based on a combination of DNN, S-NSSAI, and optional LAN ID, as well as based on the procedure described in clause 4.3.6.2, 4.3.6.3, and 4.3.6.4 of TS 23.502 [3] and clause 5.6.7 of TS 23,501 [2].

14) The 5G-LAN is related to the trust member group instead of a specific PIN.

15) To notify the PINMF when IP address of the PDU Session is changed, the SMF indicates the event of IP changed to the PINMF directly or via NEF based on the procedure described in steps 4a, 4b, and 4c of clause 4.3.6.3 in TS 23.502 [3].

16) The PEGC may support multiple PDU Sessions for PIN feature depends on subscribed service types of a trust member group.

\* \* \* \* End of changes \* \* \* \*