**SA WG2 Meeting #164 S2-24xxxxx**

**August 19 – 23, 2024, Maastricht, The Netherlands**

**Source: BT, China Mobile? China Telecom? China Unicom? Ericsson, Apple, Qualcomm?, Huawei, HiSilicon, Interdigital, Intel, Samsung, LGE?**

**Title: KI 2.2: Conclusion update**

**Document for: Approval**

**Agenda Item: 19.13**

**Work Item / Release: FS\_MASSS / Rel-19**

*Abstract of the contribution: This contribution proposes update of the interim conclusion.*

# 1. Introduction

At the last SA2 meeting, and interim conclusion was reached that there is no normative work for KI#2.2 in Release 19, due to no consensus on removing N3IWF/TNGF over non-3GPP access for the UE.

However, considering the problem still exists that the ATSSS cannot be deployed for the UE due to no much mobile terminals supporting N3IWF/TNGF so far, and there are interests on ATSSS from some operators and the market, it is proposed to update the interim conclusion and conclude on support of simplified ATSSS for Rel-19.

# 2. Proposal

Conclude KI#2.2 by

- Supporting the possibility to use MPQUIC directly between UE and UPF by establishing the MA PDU Session via 3GPP access (Sol 2.7/2.8).

- Enabling implementation options with ePDG collocated with UPF, by providing ePDG IP address to the UE in SM NAS signalling at MA PDU Session establishment (Sol 2.2).

- In addition, the use of IPSec directly between UE and UPF by establishing the MA PDU Session via 3GPP access can also be supported pending SA3 discussions (i.e. SA3 could define optimizations that allows a more efficient IPSec setup between UE and UPF).

It is proposed to introduce the following changes in TR 23.700-54:

\*\*\*\* First Change \*\*\*\*

### 8.2.2 Conclusions for Key Issue #2.2

It is concluded to proceed with normative work for KI#2.2 in Release 19 according to the following principles:

- The Non-3GPP access can be directly connected with the UPF (i.e., Non-Integrated Non-3GPP Access (NIN3A)) without requiring an N3IWF.

- In the case of NIN3A, no NAS signalling is exchanged over non-3GPP access. Session establishment and maintenance are done over the 3GPP access.

- Communication via NIN3A can be established if both NIN3A and NAS signaling over 3GPP access are available. If 3GPP access NAS signaling becomes unavailable (e.g., due to the UE going out of 3GPP access coverage) and the NIN3A communication was previously established, then the NIN3A communication shall be terminated (after a certain timer value expires). Details are to be defined during the normative phase.- To support the MPQUIC steering functionalities without IPSec, the following is concluded:

- The MPQUIC steering functionalities defined in TS 23.501 [3] clause 5.32.6.2.2 are re-used.

- No IPSec security is required between UE and UPF over non-3GPP access; the confidentiality and the integrity of the UP data exchanged between UE and UPF over NIN3A is protected at Transport Layer Security (TLS) of MPQUIC.

- To support the MA PDU Session using IPSec between UE and UPF via non-3GPP access, the following is concluded:

- The ePDG can as an implementation option be collocated with UPF. To enable such implementation option, the ePDG IP address is provided to the UE via SM NAS signaling when the MA PDU Session is established over 3GPP access.

- In addition, optimizations that allow a more efficient IPSec setup between UE and UPF without using a collocated ePDG, can be defined, pending SA3 discussions.

Editor’s note: Potential normative SA2 work related to the previous bullet is dependent on SA3 outcome.

- PCC rules and ATSSS/N4 rules extended to cover also 3GPPA plus NIN3A combinations. Details are to be defined during the normative phase. Whether URSP rules need to be extended can be discussed during normative phase.

- The details of ATSSS-Lite capable SMF selection are to be sorted out during normative phase.

\*\*\*\* End of Changes \*\*\*\*