**3GPP SA3LI#94 *s3i240477***

**9-12 July 2024, Amsterdam (The Netherlands)**

**Title: Reply LS on FS\_5GSAT\_Ph3\_ARCH conclusions**

**Response to: s3i240408**

**Release: Rel-19**

**Work Item: FS\_5GSAT\_Ph3\_ARCH**

**Source: SA3-LI**

**To: SA2**

**Cc: SA3, RAN2**

**Contact person: Mark Canterbury**

 **markc@tencastle.com**

**Send any reply LS to: 3GPP Liaisons Coordinator,** **mailto:3GPPLiaison@etsi.org**

**Attachments:**

# Overall description

SA3-LI kindly thanks SA2 for their LS and provides the following answers to the questions from SA2:

**Question 1:** considering the most generic option whereby the UPF and AGW allocated to the target UE may change during the course of the call, is this architecture meeting the LI requirements? If not, is it feasible to enhance the specifications to support LI?

SA3-LI specifications do not currently support AGW reallocation during the course of a call.

SA3-LI considers it feasible to extend the LI specifications to support this if necessary.

**Question 2:** Is it feasible to support LI for Voice over 5GS if the AGW is not in the media path? (i.e. tapping the media flows directly in the UPF, same as N9 HR tracing). SA2 is also considering the option of inserting the AGW on the ground in the media path when lawful interception must start. If this functionality is not yet supported, is there any plan to enhance the specifications to do so

SA3-LI would like to clarify that the N9HR approach referred to in SA2’s LS relies on traffic being forwarded from the UPF to a dedicated IMS LI function (the LMISF). In SA3-LI’s understanding, adopting the same approach here would necessitate either placing the LMISF onboard the satellite (which is likely to be a significant burden on satellite resources) or backhauling all IMS signalling back from the UPF on the satellite to an LIMSF on the ground (which is likely to place a significant burden on the downlink).

If this understanding is correct, then SA3-LI regards the alternative of placing a terrestrial AGW in the media path as being a better solution. However, SA3-LI would like to clarify that in order to meet undetectability requirements from TS 33.126, this would need to be done for all served users, not just for LI targets. If SA2 decides to adopt this approach, SA3-LI is prepared to draft the necessary enhancements to the LI specifications.

Furthermore, SA3-LI currently assumes persistent secure connectivity between LI functions (see TS 33.127 for more details). If SA2’s chosen architecture results in some LI functions being onboard the satellite and others remaining on the ground, then there will be impacts to LI-specific interfaces (such as LI\_X2,LI\_X3 and LI\_T2/LI\_T3); at present SA3-LI does not have sufficient information on the nature of the transport link between the satellite and terrestrial network to be able to determine the precise impacts or whether they can be mitigated.

# Actions

**To SA2:**

**ACTION:** SA3-LI kindly asks SA2 to take the above response into account when discussing candidate solutions to Key Issue #1.

# 3 Dates of next SA3-LI meetings

SA3#95-LI 29 October – 1 November 2024 Las Vegas, NV (US)

SA3#96-LI 28 – 31 January 2025 Sophia Antipolis, France