**3GPP TSG-WG SA2 Meeting #163 *S2-2407165***

**Jeju, KR, May 27th – 31st, 2024 (revision of S2-2406903)**

**Source: Huawei, HiSilicon**

**Title: KI#3 Conclusion: For UE-SAT-UE communication**

**Document for: Approval**

**Agenda Item: 19.1**

**Work Item / Release: FS\_5GSAT\_Ph3\_ARCH / Rel-19**

*Abstract: To reuse existing LI architecture, AGW should be onboard. In this release, only when two UEs are under the same satellite, the UE-SAT-UE communication will be enabled.*

# 1. Introduction/Discussion

Based on SA3-LI LS on LI considerations for UE-Satellite-UE communications, it is clear the requirement that LI functions need to be present along with their associated network functions on board a satellite.

Based on clause of 7.4.1 IMS High Level LI Architecture in TS 33.127, if only UL CL/L-PSA UPF deployed on satellite, some SA3-LI work needed to support the IMS LI as media traffic will not go through to AGW on ground. SA2 can start normative work with both UL CL/L-PSA UPF and AGW deployed on satellite. Whether SA2 can start normative work with only UL CL/L-PSA UPF on board depends on SA3-LI feedback.



Figure 7.4-1: EPS/5GS-Anchored IMS High Level LI Architecture

Considering the time limitation, we propose to only consider two UEs are under the same satellite case in this release. We also propose to assume the same SMF and P-CSCF will be used in this release.

# 2. Text Proposal

It is proposed to capture the following changes vs. TR 23.700-29.

\* \* \* \* First change (all new) \* \* \* \*

# 8 Conclusions

## 8.3 Conclusion for KI#3 UE-Satellite-UE Communication

### 8.3.x Ground Fallback Option

When, e.g. due to the change of the satellite serving one of the two UEs involved in a UE-Satellite-UE Communication, the IMS PDU Session and IMS call needs to be reconfigured, as an option:

* the UE-SAT-UE communication is disabled and ground-based PSA UPF and AGW are used.
* the P-CSCF is notified to reselect the AGW on the ground . The P-CSCF also notifies the SMF to remove the UL CL/BP/local PSA UPF onboard for the IMS PDU Session.

NOTE: How to coordinate the change of serving satellite and AGW relocation (e.g., how to trigger a re-invite message between UE and P-CSCF) will be decided during the normative phase.

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