**3GPP TSG-SA3 Meeting #111 *S3-23xxxx***

**Berlin, Germany, 22 -26 May 2023** (revision of S3-yyxxxx)

**Source: Ericsson**

**Title: Update to conclusion for KI#2**

**Document for: Approval**

**Agenda Item: 5.3**

# 1 Decision/action requested

***This paper proposes an update to conclusion for KI#2.***

# 2 References

[1] 3GPP TR 23.700-33

[2] 3GPP TR 33.740

# 3 Rationale

This paper proposes an update to conclusion for KI#2.

It is proposed to clarify that the conclusions apply as well to PC5 link establishment for Direct Communication with integrated discovery.

# 4 Detailed proposal

**\*\*\*\*** START OF CHANGE **\*\*\*\***

# 7 Conclusions

## 7.2 Key Issue #2: Security of UE-to-UE Relay

For Key Issue #2, the following statements are agreed:

NOTE 1: The choice and co-existence of the security mechanisms in different use cases (i.e., U2U Relay in and out of coverage) will be decided in normative phase.

Regarding End-to-End security:

* For L2 relay, the End UEs (Source UE and/or Target UE) reuse the unicast mode security mechanism defined in clause 5.3.3.1 of TS 33.536 [6] to establish a secure connection via the Relay UE.
* For L3 relay, End-to-End security can be supported in the application layer which is out of 3GPP scope.

Regarding hop-by-hop security during PC5 link establishment in Layer 3/Layer 2 UE-to-UE Relay Communication:

* When the Layer 3/Layer 2 UE-to-UE Relay is in 3GPP coverage, the End UE and the UE-to-UE Relay can establish a secure PC5 link with network assistance. The similar security procedure as PC5 security for 5G ProSe Communication via 5G ProSe Layer-3 UE to-Network Relay as defined in clause 6.3 in TS 33.503 [6] can be reused.
* The solutions for UE-to-UE Relay authorisation and security can be classified as user-plane (UP) or controlled-plane (CP) based solutions. It is concluded that both control plane and user plane solutions are supported for 5G ProSe Layer 2 UE-to-UE Relay and 5G ProSe Layer 3 UE-to-UE relay.
* When the Layer 3/Layer 2 UE-to-UE Relay is out of 3GPP coverage, the End UE and the UE-to-UE Relay can establish a secure PC5 link without network assistance. The similar security procedure as PC5 security for unicast mode 5G ProSe Direct Communication as defined in clause 6.2.3 in TS 33.503 [6] can be reused.

The conclusions above apply as well to PC5 link establishment for Direct Communication with integrated discovery.

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