**3GPP TSG-RAN3 Meeting #111-e draft-R3-211108**

**Online, 25th January - 5th February 2021**

Title: [DRAFT] Remove the user message size limitation over DTLS/SCTP

Response to:

Release: 3GPP Rel-15

Work Item: NR\_newRAT-Core

Source: Ericsson (To be RAN3)

To: IETF TSVWG

Cc: 3GPP SA3, SA2, CT1, CT4

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Attachments:

**1. Overall Description:**

From the first version of the 5G specification, 3GPP has specified to use DTLS over SCTP.

RAN3 has found an issue related to RFC 6083 DTLS user message size limitation over SCTP that impacts several of 3GPP RAN application protocols. The RFC specifies a user message limit of 16k Bytes. This should be compared to the unlimited user message size that exists when SCTP is used without DTLS.

There are several RAN application messages that can exceed the limit of 16k Bytes. The same issue may exist for the other 3GPP groups using the DTLS over SCTP.

A general solution to this issue is desirable rather changing multiple different protocols. We understand the limitation in RFC 6083 is due to a lack of a secure fragmentation mechanism of user messages into multiple DTLS records. The DTLS over SCTP specification appear to be the right layer to resolve this issue and achieve feature parity between DTLS over SCTP and unsecured SCTP.

RFC 8261 specifies that SCTP can be used on top of the DTLS. SCTP is unaware of the protocols being used below DTLS; hence, explicit IP addresses cannot be used in the SCTP control chunks. As a consequence, the SCTP associations carried over DTLS can only be single-homed. The supporting of multi-homing is needed in the 3GPP. Using RFC 8261 is not an option as it cannot fulfil the 3GPP requirements.

RAN3 would like to ask the IETF TSVWG to investigate and would greatly appreciate a solution to the issue related to the size limitation over DTLS/SCTP.

**2. Actions:**

**To IETF TSVWG group.**

**ACTION:** RAN3 kindly asks IETF TSVWG to investigate the possibility to remove the size limitation issue in DTLS/SCTP and provide feedback to RAN3.

**3. Date of Next RAN3 Meetings:**

RAN3#112-e 17th – 28th May 2021 Online