**3GPP SA WG2 Meeting #126 R2-240xxxx**

**Fukuoka, Japan, 20-24 May 2024**

Title: Reply LS on Application-Layer FEC Awareness at RAN

Response to: LS S2-2405625 on Application-Layer FEC Awareness at RAN

Release: Release 19

Work Item: NR\_XR\_Ph3-Core

Source: Qualcomm Incorporated (to be RAN2)

To: SA2

Cc: SA4, RAN3

**Contact Person:**

Name: Linhai He

E-mail Address: linhaihe AT qti DOT qualcomm DOT com

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

Attachments: -

**1. Overall Description:**

RAN2 thank SA2 for the questions on application-layer FEC awareness at RAN. The following are answers from RAN2.

Questions for RAN2:

* Can NG-RAN determine whether a PDU was successfully delivered over an unacknowledged mode data bearer? If so, does NG-RAN get this information sufficiently early to decide whether or not to drop subsequent AL-FEC packets?

**Answer**: RAN2 do not believe it is possible for NG-RAN to determine with 100% reliability whether a PDU has been successfully delivered over an unacknowledged-mode data bearer.

* Provide feedback on the impact on NG-RAN to support dynamic redundancy ratios, i.e., a different ratio of PDUs that need to be successfully transferred to the UE for different PDU Sets within the same QoS flow?

**Answer**: RAN2 do not believe it is in a position to answer this specific question, which is beyond the scope of RAN2.

Questions for RAN2 and SA4:

* One solution (solution #3 in TR 23.700-70) proposed that an application may signal the required content ratio for a PDU Set (i.e., the required ratio of PDUs of a PDU Set needed by the receiver to reconstruct the original content) by first providing a mapping between content ratio levels and PDU Set Importance (PSI) values in the control plane to 5GS and by then using the PSI in the GTP-U header and the mapping received to determine the content ratio per PDU Set at NG-RAN. Does SA4 consider this a feasible option?

**Answer**: RAN2 believe this specific question is in the scope of SA4.

Kindly provide feedback on the questions above and provide additional feedback on the solutions, if any.

**Answer**: In general, RAN2 see benefits in avoiding unnecessary transmissions of out-of-dated data or data no longer needed by application. That helps improve system capacity and enable more UE power savings (e.g. UE can finish a data burst sooner and go to sleep earlier).

**2. Actions:**

**To SA2:**

**ACTION:** RAN2 kindly asks SA2 to take the above answers into consideration in their studies.

**3. Date of Next RAN2 Meetings:**

RAN2#127 19th Aug – 23th Aug 2024 Maastricht, Netherland

RAN2#127-bis 14th Oct – 18th Oct 2024 China (TBC)