

3GPP TSG-SA WG 2  
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New Jersey, USA

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**To:** 3GPP RAN WG3,  
**CC:** CN WG1, 3GPP RAN WG2  
**Source:** 3GPP SA WG2  
**Title:** Clarification of RAB Sub Flows concept and associated definitions

TSG SA WG2 thanks RAN WG3 for the LS on RAB sub flows concept and associated definitions. S2 discussed the LS but felt that a clarification was needed before S2 can comment on the impacts of the introduction of the RAB sub flows concept and its associated definitions into the UMTS overall architecture and QoS UMTS model.

Given that the RAB sub flows concept was introduced to satisfy the UEP requirements for voice, S2 would like to know if could it be assumed that the various RAB sub flows could differ only in their reliability class attribute?

Further, S2 would like to know if the RAB sub flows concept is being considered for the support of applications other than voice (for instance multimedia) within RAN WG 3.

**To:** 3GPP SA WG2, CN WG1, 3GPP RAN WG2  
**Source:** 3GPP RAN WG3  
**Title:** Liaison Statement on RAB Sub Flows concept and associated definitions  
**Document for:** Decision

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At the last RAN WG3 meeting in Warwick, the RAB sub flows concept [1] was proposed. The primary goal of this proposal was to match the requirements of services requiring Unequal Error Protection (UEP).

The following definition and characteristics were taken as working assumption by RAN WG3 to be introduced into the Overall UTRAN Description 25.401:

**RAB sub-flows definition:** A RAB as defined in the UTRAN vocabulary can be realised by UTRAN through several sub-flows. These sub-flows correspond to the NAS service data streams that have QoS characteristics that differ in a predefined manner within a RAB e.g. different reliability classes.

**RAB sub-flows characteristics:**

1. The sub-flows of a RAB are established and released together at the RAB establishment and release, respectively
2. The sub-flows of a RAB are submitted and delivered together at the RAB SAP
3. The sub-flows of a RAB are carried over the same lu transmission connection
4. The sub-flows of a RAB are organised in a predefined manner at the SAP and over the lu interface. The organisation is imposed by the NAS as part of its co-ordination responsibility.

For the purpose of the lu UP protocol, the RAN WG3 lu SWG also needed additional concept and definitions for the combination and identification of these RAB Sub flows over lu. The following definitions were therefore agreed:

**RAB sub-Flow Combination (RFC):**

A RAB sub-flow combination is defined as an authorised combination of the RAB sub-flows variable attributes (e.g. SDU sizes) of currently valid RAB sub-flows that can be submitted simultaneously to the lu UP for transmission over lu interface. Each combination is given by the CN and cannot be altered by the SRNC.

**RAB sub-Flow Combination Indicator (RFCI)**

This indicator uniquely identifies a RAB sub-flow combination for the duration of the Iu UP peer protocol instances i.e. it is valid until the termination of the call or until a new initialisation is performed.

RAN WG3 is asking SA WG2 to consider the impacts of the introduction of the RAB Sub flows concept and its associated definitions into the UMTS overall architecture and QoS UMTS model. RAN WG3 would also like to know if such definitions should be inserted into UMTS 23.10 specification.

RAN WG3 is also asking CN WG1 to consider the impacts, if any, of the introduction of the RAB Sub flows concept into the NAS Call Control procedures.