**3GPP TSG-RAN WG3 Meeting #115-e *R3-222590***

**Online, 21st February 3rd March 2022**

**Title: [DRAFT]** LS on further outstanding issues in TS 23.247

**Response to:**

**Release:** Release 17

**Work Item:** 5MBS, NR\_MBS-Core

**Source:** Ericsson (will be RAN3)

**To:** SA2, RAN2

**Cc:**

**Contact Person:**

#### Name:

**Tel. Number:**

E-mail Address:

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

**Attachments:** <tbd>

# 1. Overall Description:

RAN3 would like to provide further feedback on issues contained in the latest version of TS 23.247 concerning NG-RAN.

## 1.1 first feedback

#### *7.2.1.3 Multicast session join and session establishment procedure*

*NOTE 4: A PDU Session UP activation is not triggered by the N2 SM information if it only includes information related to the multicast MBS session and associated QoS flows and is received by an MBS capable NG RAN node.*

*...*

Editor's Note: The implication of not triggering PDU Session UP activation in NG-RAN when SMF informs the NG-RAN of UE join requires RAN collaboration.

**RAN3 feedback**

The implication of not triggering UP activation for the associated PDU Session at joining is that the associated PDU Session Resource Context is not established in the gNB and therefore at least the joining information needs to be provided to the UE Context in the gNB by means different than PDU Session Resource signalling on NG. RAN3 decided to use NGAP UE Context signalling for that purpose and would like to ask SA2 to confirm that approach.

**Additional RAN3 feedback on associated PDU Sessions w/o activated UP**

While NG-RAN supports MRB-only configurations, inter-NG-RAN node mobility with MRB-only configuration is not supported by current protocols RAN3 does not intend to change this principle but rather agreed to define an NG-RAN node triggered procedure to establish the UP for the PDU Session associated with the TMGI of the activated session. We ask SA2 to foresee this approach in their specifications, if necessary.

## 1.2 second feedback

RAN3 would like to inform SA2 that RAN3 has agreed on two schemes to enable neighbouring gNBs allocating the same PDCP SN to MBS user data packets

a. a scheme to enable NG-RAN nodes sharing a common (SDAP)/PDCP entity - RAN3 denotes such entity a “shared NG-U termination” - which guarantees a synchronised PDCP Sequence Number allocation for NR MBS user plane data among cells of different gNBs, and by that enable UEs to track duplicated/lost packets also at inter-gNB mobility.

The scheme would foresee that the MB-SMF is able to communicate with the gNB on the availability of such “shared NG-U termination”:

- if the gNB is able to “offer” such function, this is communicated with MBS Session signalling to the MB-SMF. The “shared NG-U termination” is either MBS Session specific or, for location dependent MBS Sessions, MBS Areas Session ID specific.

- in turn, the MB-SMF would provide such information to the gNB whenever appropriate.

RAN3 believes that such scheme is able to work for both, unicast and multicast transport on NG-U but would require the gNB to provide [DL tunnel info] which could serve as transport reference for both, unicast and multicast NG-U/N3mb transport options.

b. another scheme by which the MB-UPF provides the same sequence number information on NG-U/N3mb to the respective gNBs, from which the gNBs can deduce the same PDCP SNs to be allocated.

c. RAN3 agreed that it is possible to combined both schemes and apply it for both, broadcast and multicast.

## 1.3 third feedback

RAN3 has reviewed all the Editor’s Notes in the latest version of TS 23.247 §7.2.3 concerning mobility between gNBs supporting NR MBS:

*7.2.3.2 Xn based handover from MBS supporting NG-RAN node*

*7.2.3.3 N2 based handover from MBS supporting NG-RAN node*

*Editor's note: Details on data forwarding, if applicable, needs to wait for RAN WGs.*

**RAN3 feedback**

RAN3 agreed to support synchronisation of PDCP SN allocation and NG-RAN in Rel-17 will support re-transmission of packets for NR MBS. Data forwarding between gNBs supporting NR MBS is supported and will be specified.

**2. Actions:**

**To SA2 group.**

**ACTION: RAN3 asks SA2 to endorse the agreed scheme from their point of view and perform respective stage 2 work and organise stage 3 work.**

# 2. Actions:

**To SA2 group.**

**ACTION: RAN3 asks SA2 to take the feedback provided into account**

**To RAN2 group.**

**ACTION: RAN3 ask RAN2 to take the above information into count, where applicable for RAN2 work on NR MBS**

**3. Date of Next TSG-RAN WG3 Meetings:**

TSG-RAN WG3 Meeting#116-e 16th - 27th May 2022

TSG-RAN WG3 Meeting#117 22nd - 26th August 2022