**3GPP TSG-RAN WG2 Meeting #121bisR2-2304342**

**Electronic April 2023**

**Title:** **DRAFT** LS on 2TA for multi-DCI multi-TRP

**Response to: -**

**Release:** Rel-18

**Work Item:** NR\_MIMO\_evo\_DL\_UL-Core

**Source:** Ericsson (to be replaced with 3GPP TSG-RAN WG2)

**To:** 3GPP TSG-RAN WG1

**Contact Person:**

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**Attachments:** None

RAN2 has discussed the 2TA aspects including per TRP UE initiated RACH procedure(CBRA), configuring more than one TAG per serving cell based on RAN1 input and RAN2 contributions.

Whether CBRA is to be supported for Initial TA acquisition per TAG/TRP, RAN2 agreed the following:

* From RAN2 perspective, per TRP UE-initiated RACH procedure is not supported.

As for configuring more than one TAG per serving cell aspects related to grouping and related operation for 2TAs, RAN2 has some questions need to check with RAN1.

1. **TAG groups**

There is general understanding in RAN2 that the functionality RAN1 is designing involves two time-alignment timers associated per one serving cell. One timer is associated to UL towards one TRP and the other towards the other TRP. Out of the below options, RAN1 concluded to support two TAGs within serving cell:

**Agreement**

For multi-DCI based multi-TRP operation, down-select one of the two alternatives:

* Alt 1: configure two TAGs within a serving cell
* Alt 2: consider two TAs within one TAG within a serving cell

RAN2 discussed how the cells/TRPs configured for the UE, are to be grouped if UE is configured with two TA groups per serving cell.

**Question 1 on grouping**

**Q1a:** If one TA group contains a serving cell(first TRP) which has second TA group configured(second TRP), should the other serving cells which belong to the same TA group and which also have second TA group configured, belong to the same second TA group?

**Q1b:** Is it possible that one TA group contains some serving cells which are associated to only one TA group, and some cells/TRPs which are associated to two TA groups?

**Q1c:** Does RAN1 see a need to increase the number of TAGs?

**Question 2 on operation**

**Q2:** When the timer associated with one of the TRPs of a serving cell expires, is it according to RAN1 view that UL towards that TRP (e.g. SRS resources sets associated to that TRP) are impacted but UL towards the another TRP (e.g. SRS resources sets associated to that TRP) can remain in operation?

**3. Actions:**

**To RAN1 group:**

**ACTION:** RAN2 respectfully asks RAN1 to take the agreements into consideration in the future work and provide responses to above questions.

**4. Date of Next TSG-RAN WG2 Meetings:**

TSG-RAN WG2 Meeting #122 May 2023 Incheon

TSG-RAN WG2 Meeting #123 August 2023 Toulouse