**3GPP TSG-RAN WG2 Meeting #116bis Electronic DRAFT R2-220xxxx**

**Online, 17 – 25 January 2022**

**Title: [DRAFT]** LS on PDC for Time Synchronization

**Response to:**

**Release:** Release 17

**Work Item:** NR\_IIOT\_URLLC\_enh-Core

**Source:** ZTE Corporation [TSG RAN WG2]

**To:** RAN3

**Cc:** RAN1

**Contact Person:**

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**Attachments:** -

**1. Overall Description:**

In RAN2#116bis e-meeting, based on the latest RAN1 progress as indicated in [R2-2200080], RAN2 has discussed the open issues for Time Synchronization and focus on the specification impacts of RTT-based PDC and legacy TA-based PDC procedures. Some agreements are achieved as below:

1. Both RTT-based PDC and legacy TA-based PDC are supported.
2. Both RTT-based UE side PDC and RTT-based gNB side PDC are supported. RRT-based gNB side PDC has to be a simple solution and converge by February meeting.
3. A single pair of TRS/PRS and SRS is configured via RRC signaling for RTT-based PDC.
4. For RTT-based UE side PDC, gNB Rx-Tx time difference, e.g., gNBRx-Tx, shall be provided to UE via DLInformationTransfer signaling.
5. For RTT-based gNB side PDC, RRC measurement framework can be reused as baseline to provide UE Rx-Tx time difference report.
6. For RTT-based gNB side PDC, besides UE Rx-Tx time difference, no additional information needs to be reported to NW.
7. The signaling flow(s) of RTT-based PDC can be captured in stage-2 specification (taking the examples in [R2-2200991] or [R2-2201016] as baseline). The details can be further fine-tuned based on RAN2 agreements during stage-2 running CR review.
8. FFS an explicit indication to only activate UE side TA-based PDC is introduced in SIB or in unicast signalling and what is indicated
9. Network configuration should guarantee that RTT-based PDC and TA-based PDC are not activated simultaneously for a UE.
10. RAN2 confirms to introduce separate R17 UE capabilities for RTT-based PDC and legacy TA-based PDC, as defined by RAN1 feature list.

RAN2 understands that the above agreements may have impacts on RAN3 specifications, e.g., F1 application protocol. Therefore RAN2 respectfully ask RAN3 to take the above information into account and to see whether changes to specification are needed.

**2. Actions:**

**To 3GPP RAN3**

**ACTION:** RAN2 respectfully asks RAN3 to take the above information into account in their future work.

**3. Date of Next TSG-RAN WG2 Meeting:**

3GPP RAN2#117-e from 2022-02-21 to 2022-03-03 Electronic Meeting