**3GPP TSG-RAN WG3 Meeting #119 R3-230811**

**Athens, Greece, 27 Feb – 03 Mar 2023**

**Title: [DRAFT]** Reply LS on proposed method for time synchronization status reporting to UE(s)

**Response to:** R3-230037 / S2-2301463

**Release:** Release 18

**Work Item:** FS\_TRS\_URLLC

**Source:** RAN3

**To:** SA2, RAN2

**Cc:** -

**Contact Person:**

#### Name: Sean Kelley

E-mail Address: sean.kelley@nokia.com

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

**Attachments:** -

**1. Overall Description:**

RAN3 would like to thank SA2 for the LS on proposed method for time synchronization status reporting to UE(s). RAN3 has evaluated the questions asked by SA2, and would like to provide the following answers:

**For the question**: “*SA2 would like to kindly request RAN2 and RAN3 to provide feedback whether both scopes (group of cells per gNB, group of cells across gNBs) can be beneficial and supported.*”

**RAN3 answer**:

- The “group of cells within a single gNB” is beneficial for typical deployment scenarios where clock quality information is the same for some or all cells of a gNB, but the specification impacts (if any) are primarily in RAN2 scope. RAN3 would like to note that the clock quality information can be different for different gNB-DUs of the same gNB.

- RAN3 does not see a need to support “group of cells across gNBs” in Release 18, considering its limited applicability and the likely specification effort (e.g. coordination of the reference report ID over the Xn interface).

**For the question**: “*SA2 would like to kindly request RAN3 to provide feedback whether the following attributes are available in RAN: time source, traceability to UTC or GNSS, synchronization state, clock accuracy, clock frequency stability, PTP clockClass.*”

**RAN3 answer**:

- The listed clock attributes are available at the gNB-DU, which already monitors clock quality to comply with existing gNB synchronization requirements. RAN3 assumes that a gNB may report all, some, or none of the attributes based on the gNB implementation. Details of the attributes, such as their encoding, require further RAN3 discussion during the work item phase.

- To support providing RAN’s latest clock quality information to UE in RRC\_CONNECTED state, F1AP enhancements to enable signalling of the clock quality metrics from gNB-DU to gNB-CU are needed and can be supported in Rel-18.

**2. Actions:**

**To SA2, RAN2.**

**ACTION:** RAN3 respectfully asks SA2 and RAN2 to consider the above feedback.

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

RAN3#119-bis-e from 2023-04-17 to 2023-04-26 Online

RAN3#120 from 2023-05-22 to 2023-05-26 Incheon