**3GPP TSG-SA4 Meeting #133-e *S4-251357***

**Online, , 18th Jul 2025 - 25th Jul 2025 in revision of S4-251068**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **26.522** | **CR** | **0010** | **rev** | **5** | **Current version:** | **19.1.0** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **x** | Radio Access Network | **x** | Core Network | **x** |

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| ***Title:*** | Definition and clarification on time to next burst accuracy | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, Hisilicon | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5G\_RTP\_Ph2 | | | | |  | ***Date:*** | | | 2025-07-15 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
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| ***Reason for change:*** | | RAN-2 send the liaison that the desired accuracy of TTNB is in eighth of milliseconds and that inaccurate TTNB is acceptable to RAN | | | | | | | | |
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| ***Summary of change:*** | | Establish the definition using SA2 definition and required accuracy from RAN 2. Update the semantics of TTNB to use eigth of milliseconds as time base | | | | | | | | |
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| ***Consequences if not approved:*** | | No accurate definition of time to next data burst | | | | | | | | |
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| ***Clauses affected:*** | |  | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **x** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **x** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
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| ***This CR's revision history:*** | | Several cycles upon the response from RAN 2 to help with the definition | | | | | | | | |

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| *\*\*CHANGE 1\*\** |

## 3.1 Terms

For the purposes of the present document, the terms given in TR 21.905 [1] and the following apply. A term defined in the present document takes precedence over the definition of the same term, if any, in TR 21.905 [1].

**Age of content:** The time duration between the moment the content is created and the time it is presented.

**Estimated-at-time:** Time when the pose was estimated.

**Data Burst:** A set of multiple PDUs generated and sent by the application in a short period of time.

NOTE 1: A data burst can be composed of one or multiple PDU Sets.

NOTE 2: The sender application determines the meaning of "a short period of time" based on its implementation.

**Multimedia Session:** An association among a group of participants engaged in the communication via one or more RTP sessions, as defined in section 2.2.4 of IETF RFC 7656 [18].

**Orientation quaternion:** Quaternion used to represent the orientation of an object.

**PDU Set:** One or more PDUs carrying the payload of one unit of information generated at the application level (e.g. frame(s), video slice(s), metadata, etc.).

**PDU Set marking:** Marking the PDUs carrying a payload with the PDU Set Information.

**Rendered pose:** An XR pose sent from a server to a client that was used for rendering at the server.

**Roundtrip interaction delay:** The sum of the *age of content* and the *user interaction delay*.

**Scene Update Time:** Time when the scene manager starts processing.

**Split-render-output-time:** Time of completing a rendering.

**Split rendering server:** Server to perform remote rendering.

**Start-to-render-at-time:** Time of starting a rendering.

**Time to next data burst (TTNB)**: The time interval between the transmission of the last PDU in the current data burst and the first PDU of the next data burst.

**User interaction delay:** The time duration between the moment at which a user action is initiated and the time such an action is taken into account by the content creation engine.

**XR Pose:** A position and orientation in space relative to an XR Space.

**XR Service:** A service supporting XR use case as defined in clause 5 of [7].

**XR Space:** A frame of reference in which an application chooses to track the real world, and that provides a relationship between the user’s physical environment and other tracked entities.

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| \*\*CHANGE 2\*\* |

### 4.5.4 Semantics

The semantics of the fields of the RTP Header Extension for marking dynamically changing traffic characteristics are as follows:

- **Reserved [R] 8 bits):** This field is reserved for future usage. It shall be set to 0 by the RTP sender and shall be ignored by the RTP receiver.

- **Burst Size [BSSize] (24 bits):** An unsigned integer indicating the total size (in bytes) of the burst to be transmitted, including the overhead of the RTP Header. If the burst size is not known this field shall be set to 0.

NOTE 1: If a packager generates all packets of the burst at once, no additional delay is introduced when setting the burst size, as the packets can be marked with the complete burst size. If this is not the case (e.g. multiple frames combined in one burst) a delay as large as the burst duration could be introduced by marking the entire burst. Therefore, this approach may not be suitable for all types of packagers/encoders, especially those that gradually produce packets additional latency may be introduced if the size is not known in advance.

- **Time To Next Burst [TTNB] (16 bits):** An unsigned integer indicating the approximate time to the next burst, expressed in units of one-eighth of a millisecond. If the time to next burst is not known, it shall be set the reserved value 65535. The value indicated should be as accurate as possible, but it is still only an estimated value.

NOTE 2: The required accuracy may be difficult for an implementation to achieve in practice. However, a lower accuracy can still be beneficial to the 5G system.