**3GPP TSG-RAN WG3 Meeting #119bis-e** ***R3-232109***

**Online, 17th – 26th April 2023**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.473** | **CR** | **1168** | **rev** |  | **Current version:** | **17.4.1** |  |
|  | | | | | | | | |
| *For* ***[HELP](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)*** *on using this form: comprehensive instructions can be found at  <http://www.3gpp.org/Change-Requests>.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | Support 5G Timing Resiliency and URLLC enhancements | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE, Huawei, Ericsson, Nokia, Nokia Shanghai Bell, Samsung | | | | | | | | | |
| ***Source to TSG:*** | R3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TRS\_URLLC-NR-Core | | | | |  | ***Date:*** | | | 2023-04-23 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***Release:*** | | | *Rel-18* |
|  | *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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The Rel-18 new Work Item on NG-RAN support for 5G Timing Resiliency and URLLC has been approved in RP-230754. This CR is for introduction of support for 5G Timing Resiliency and URLLC in F1AP. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | * Introduce a new RAN Timing Synchronisation Status Information IE. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Cannot support the feature of 5G Timing Resiliency and URLLC enhancements. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 9.3.1.x1(new) 9.3.1.x2(new) 9.3.1.x3(new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 38.413 CR 0972  TS 38.423 CR 1049 | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev0: creation of the CR. | | | | | | | | |

<<<<<<<<<<<<<<<<<<<< START OF CHANGES >>>>>>>>>>>>>>>>>>>>

#### 9.3.1.x1 RAN Timing Synchronisation Status Information

This IE indicates the RAN timing synchronisation status information provided from the gNB-DU to the gNB-CU.

Editor’s Note: The non-UE associated F1AP procedure(s) used to convey this IE towards the gNB-CU is FFS.

Editor’s Note: This IE may be further refined based on SA2 and RAN3 progress.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| Synchronisation State | O |  | ENUMERATED (locked, holdover, freeRun, …) |  |
| Traceable to UTC | O |  | ENUMERATED (true, false, …) |  |
| Traceable to GNSS | O |  | ENUMERATED (true, false, …) |  |
| Clock Frequency Stability | O |  | 9.3.1.x2 |  |
| Clock Accuracy | O |  | 9.3.1.x3 |  |
| Parent Time Source | O |  | ENUMERATED (syncE, pTP, gNSS, atomicClock, terrestrialRadio, serialTimeCode, nTP, handSet, other, …) |  |

#### 9.3.1.x2 Clock Frequency Stability

This IE indicates the clock frequency stability as defined in TS 23.501 [21].

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| [FFS] |  |  |  |  |

#### 9.3.1.x3 Clock Accuracy

This IE indicates the clock accuracy as defined in TS 23.501 [21].

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| CHOICE *Clock Accuracy* | M |  |  |  |
| >*choice1* |  |  |  |  |
| >>[FFS] |  |  |  |  |

Editor’s Note: Encoding of the *Clock Accuracy* IE is to be decided by RAN3 and should allow for different RAN implementations (e.g., CHOICE structure). Details FFS.

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ASN.1

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