**3GPP TSG-RAN WG3 Meeting #119bis**

**Online, 17th – 26th April 2023**

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| --- |
| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** | **1049** | **rev** |  | **Current version:** |  |  |
|  |
| *For* [***HELP***](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 |  | Radio Access Network | **X** | Core Network |  |

|  |
| --- |
|  |
| ***Title:***  | Support NR Timing Resiliency and URLLC enhancements |
|  |  |
| ***Source to WG:*** | Ericsson, Huawei, Nokia, Nokia Shanghai Bell, Samsung, ZTE |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** | TRS\_URLLC-NR-Core |  | ***Date:*** | 2023-04-04 |
|  |  |  |  |  |
| ***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 canbe 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:*** | NG-RAN needs to support the Rel-18 WID |
|  |  |
| ***Summary of change:*** | Include the New IEs |
|  |  |
| ***Consequences if not approved:*** | No support of the feature |
|  |  |
| ***Clauses affected:*** | 9.2.3.115, 9.2.3.153 9.2.3.x1 9.2.3.x2 9.2.3.x3 9.2.3.z1 9.2.3.z2 9.2.3.z3 |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  |  Other core specifications  | TS 38.413 CR 0972TS 38.473 CR 1168 |
| ***affected:*** |  | **X** |  Test specifications |  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications |  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

#### 9.2.3.115 TSC Assistance Information

Editor’s Note: Encoding of IEs may be further refined.

This IE provides the TSC assistance information for a TSC QoS flow in the uplink or downlink (see TS 23.501 [7]).

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Periodicity | M |  | 9.2.3.116 | Periodicity as specified in TS 23.501 [7]. | – |  |
| Burst Arrival Time | O |  | 9.2.3.117 | Burst Arrival Time as specified in TS 23.501 [7]. | – |  |
| Survival Time | O |  | 9.2.3.152 |  | YES | Ignore |
| CHOICE *RAN feedback type* |  | *0..1* |  |  | YES | ignore |
| >*proactive* |  |  |  |  |  |  |
| >>Burst Arrival Time Window | M |  | 9.2.3.z1 |  | - |  |
| >>Periodicity Range | O |  | 9.2.3.z2 |  | - |  |
| >*reactive* |  |  |  |  |  |  |
| >>Capability for BAT Adaptation | M |  | 9.2.3.z3 |  | - |  |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Skip to Next Change \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

#### 9.2.3.153 Time Synchronisation Assistance Information

This IE indicates the 5G access stratum time distribution parameters as specified in TS 23.501 [7].

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description | Criticality | Assigned Criticality |
| Time Distribution indication | M |  | ENUMERATED(enabled, disabled, …) |  | - | - |
| Uu Time Synchronization Error Budget | C-ifEnabled |  | INTEGER (0..1000000, …) | Expressed in units of 1 ns. | - | - |
| Clock Quality Reporting Control Information | O |  | 9.2.3.x1 |  | YES | ignore |

|  |  |
| --- | --- |
| Condition | Explanation |
| ifEnabled | This IE shall be present if the *Time Distribution Indication* IE is set to “enabled”. |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Skip to Next Change \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

#### 9.2.3.x1 Clock Quality Reporting Control Information

This IE indicates the clock quality reporting control information as defined in TS 23.501 [7].

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IE/Group Name | Presence | Range | IE type and reference | Semantics description |
| CHOICE *Clock Quality Detail Level* | M |  |  |  |
| >*clock quality metrics* |  |  |  |  |
| >>[FFS] |  |  |  |  |
| >*acceptance indication* |  |  |  |  |
| >>Clock Quality Acceptance Criteria | M |  | 9.3.1.x2 |  |

#### 9.2.3.x2 Clock Quality Acceptance Criteria

This IE indicates the clock quality acceptance criteria as defined in TS 23.501 [7].

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

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*Skip to Next Change \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

#### 9.2.3.z1 Burst Arrival Time Window

This IE indicates the burst arrival time window of the TSC QoS flow as defined in TS 23.501 [7].

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

#### 9.2.3.z2 Periodicity Range

This IE indicates the periodicity range for the TSC QoS flow as defined in TS 23.501 [7].

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

#### 9.2.3.z3 Capability for BAT Adaptation

This IE indicates the capability for BAT adaptation for the TSC QoS flow as defined in TS 23.501 [7].

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