3GPP TSG-RAN WG2 Meeting #131 R2-250xxxx

Bengaluru, India, Aug 25th – 29th, 2025

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **38.331** | **CR** | **5436** | **rev** | **1** | **Current version:** | **18.6.0** |  |
|  | | | | | | | | |
| *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 |  |

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| ***Title:*** | Clarification on RRC procedure delay for BWP switching | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Samsung | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_newRAT-Core | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
|  | | There is a misalignment in 38.331 w.r.t. RAN4 spec 38.133 about the description of RRC procedure delay, as 38.331 considers the RRC procedure delay as the sum of specified length (fixed processing delay) and BWP switching delay, whereas 38.133 considers RRC processing delay already included in the BWP switching delay.  [38.331] In case the RRC procedure triggers BWP switching, the RRC procedure delay is the value defined in the following table plus the BWP switching delay defined in TS 38.133 [14], clause 8.6.3.  [38.133] The BWP switching delay is calculated as:  Clause 8.6.3  (For RRC based BWP switch delay on single CC)  BWP switching delay = TRRCprocessingDelay + TBWPswitchDelayRRC  Clause 8.6.3A  (For Simultaneous RRC based BWP switch delay on multiple CCs)  BWP switching delay = TRRCprocessingDelay + TBWPswitchDelayRRC +DRRC\*(N-1)  (For Non-Simultaneous RRC based BWP switch delay on multiple CCs)  BWP switching delay = TRRCprocessingDelay + TBWPswitchDelayRRC +DRRC\*(M-1)  As a consequence, present description in 38.331 is incorrectly accounting the RRC procedure delay (i.e. TRRCprocessingDelay is added up twice).  Therefore, to avoid discrepancy with RAN4 spec, RRC spec should remove the RRC procedure delay description in case of BWP switching. | | | | | | | | |
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| ***Summary of change:*** | | In clause 12, in order to avoid discrepancy with RAN4 spec, the RRC procedure delay description in case of BWP switching is removed.  **Impact analysis**  Impacted functionality:  RRC procedure delay for BWP switching  Impacted 5G architecture options:  (NG)EN-DC, NR SA, NR DC  Inter-operability:  If a UE implements according to the CR and the network does not, or if the network implements according to the CR and the UE does not, the UE and network may have different understanding of the RRC procedure delay for the BWP switching | | | | | | | | |
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| ***Consequences if not approved:*** | | The RRC procedure delay for the BWP switching remains ambiguous in specification. | | | | | | | | |
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| ***Clauses affected:*** | | 12 | | | | | | | | |
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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:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

#### **<Start of Change>**

# 12 Processing delay requirements for RRC procedures

The UE performance requirements for RRC procedures are specified in the following tables. The performance requirement is expressed as the time in [ms] from the end of reception of the network -> UE message on the UE physical layer up to when the UE shall be ready for the reception of uplink grant for the UE -> network response message with no access delay other than the TTI-alignment (e.g. excluding delays caused by scheduling, the random access procedure or physical layer synchronisation).



Figure 12.1-1: Illustration of RRC procedure delay

Table 12.1-1: UE performance requirements for RRC procedures for UEs

| Procedure title: | Network -> UE | UE -> Network | Value [ms] | Notes |
| --- | --- | --- | --- | --- |
| **RRC Connection Control Procedures** | | | | |
| RRC reconfiguration | *RRCReconfiguration* | *RRCReconfigurationComplete* | 10 |  |
| RRC reconfiguration (scell addition/release) | *RRCReconfiguration* | *RRCReconfigurationComplete* | 16 |  |
| RRC reconfiguration (LTE/NR SCG establishment/ modification/ release) | *RRCReconfiguration* | *RRCReconfigurationComplete* | 16 |  |
| RRC reconfiguration (Intra-NR mobility with LTE/NR SCG establishment/ modification/ release) | *RRCReconfiguration* | *RRCReconfigurationComplete* | 16 |  |
| RRC reconfiguration | *DLDedicatedMessageSegment* | *RRCReconfigurationComplete* | 16+( Nseg  -1)\*10 | Nseg  is number of RRC segments |
| RRC setup | *RRCSetup* | *RRCSetupComplete* | 10 |  |
| RRC Release | *RRCRelease* |  | NA |  |
| RRC re-establishment | *RRCReestablishment* | *RRCReestablishmentComplete* | 10 |  |
| RRC resume | *RRCResume* | *RRCResumeComplete* | 6 or 10 | Value=6 applies for a UE supporting reduced CP latency for the case of RRCResume message only including MAC and PHY configuration, reestablishPDCP and reestablishRLC for SRB2, multicast MRB(s) and DRB(s), and no DRX, SPS, configured grant, CA or MIMO re-configuration will be triggered by this message. Further, the UL grant for transmission of *RRCResumeComplete* and the data is transmitted over common search space with DCI format 0\_0.  In this scenario, the RRC procedure delay [ms] can extend beyond the reception of the UL grant, up to 7 ms.  For other cases, Value = 10 applies. |
| RRC resume (MCG SCell addition/restoration/release) | *RRCResume* | *RRCResumeComplete* | 16 |  |
| RRC resume (SCG establishment/ restoration/release) | *RRCResume* | *RRCResumeComplete* | 16 |  |
| RRC resume | *DLDedicatedMessageSegment* | *RRCResumeComplete* | 16+( Nseg  -1)\*10 | Nseg  is number of RRC segments |
| Initial AS security activation | *SecurityModeCommand* | *SecurityModeComplete/SecurityModeFailure* | 5 |  |
| **Inter RAT mobility** | | | | |
| Handover to NR | *RRCReconfiguration (sent by other RAT)* | *RRCReconfigurationComplete* | NA | The performance of this procedure is specified in TS 36.133 [40] clauses 5.3.4.2, 5.3.4A.2 and 5.3.5.2 in case of handover from E-UTRA to NR. |
| Handover from NR | *MobilityFromNRCommand* |  | NA | The performance of this procedure is specified in TS 38.133 [14], clauses 6.1.2.1.2 and 6.1.2.2.2. |
| **Other procedures** | | | | |
| UE assistance information |  | *UEAssistanceInformation* | NA |  |
| UE capability transfer | *UECapabilityEnquiry* | *UECapabilityInformation* | 80 |  |
| UE capability transfer | *UECapabilityEnquiry* | *ULDedicatedMessageSegment* | 80 | Applicable when UL RRC segmentation is enabled by the field *rrc-SegAllowed*. |
| UE capability transfer | *UECapabilityEnquiry* | *ULDedicatedMessageSegment* | 560+max (0, Nseg-7)\*80 | Applicable when UL RRC segmentation is enabled by the field *rrc-MaxCapaSegAllowed*.  Nseg is the value indicated by *rrc-MaxCapaSegAllowed*. |
| Counter check | *CounterCheck* | *CounterCheckResponse* | 5 |  |
| UE information | *UEInformationRequest* | *UEInformationResponse* | 15 |  |
| DL Information transfer MR-DC | *DLInformationTransferMRDC* |  | NA | The UE shall apply the performance requirements of the RRC message included within the DLInformationTransferMRDC message. |
| IAB other information |  | *IABOtherInformation* | NA |  |
| Sidelink UE information |  | *SidelinkUEInformationNR* | NA |  |
| UE Positioning assistance information |  | *UEPositioningAssistanceInfo* | NA |  |

#### **<End of Change>**