**3GPP TSG-RAN WG2 Meeting #111-e *R2-2007706***

**Electronic Meeting, 17th – 28th Aug 2020**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR--Form--v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **36.331** | **CR** | **4404** | **rev** | **-** | **Current version:** | **16.1.1** |  |
|  | | | | | | | | |
| *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>.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network | **X** | Core Network |  |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Timer handling upon initiation of RRC re-establishment | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE Corporation, Sanechips | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | LTE\_feMob-Core | | | | |  | ***Date:*** | | | 2020-07-31 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | F |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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-12 (Release 12) Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | According to the text in 5.3.7.2 and 5.3.7.3, the UE shall not release configuration related to other configuration and not stop timers associated with other configuration (e.g. t340, t341, t342, t345) if UE is configured with *conditionalReconfiguration* and the selected cell during re-establishment is a CHO candidate cell. However, in 7.3.1, the stop condition of timers above is captured as “upon initiating the connection re-establishment procedure”, which is not properly reflect the UE behavior on timer handling specified in 5.3.7.2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Update the stop condition of timers associated with other configuration (e.g. t340, t341, t342, t345) in 7.3.1 to “upon releasing the related other configuration during the connection re-establishment procedure”.  **Impact analysis**  Impacted architecture options:  LTE, NG(EN)-DC  Impacted functionality:  timers associated with other configuration (e.g. t340, t341, t342, t345)  Inter-operability:   1. If the network is implemented according to the CR and the UE is not, there is no inter-operability problem. 2. If the UE is implemented according to the CR and the network is not, there is no inter-operability problem. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The timer information captured in 7.3.1 does not correctly reflect the UE behaviour on timer handling specified in 5.3.7.2 and 5.3.7.3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.3.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

|  |
| --- |
| CHANGE START |

### 7.3.1 Timers (Informative)

| Timer | Start | Stop | At expiry |
| --- | --- | --- | --- |
| T300  NOTE1 | Transmission of *RRCConnectionRequest* or *RRCConnectionResumeRequest* or *RRCEarlyDataRequest* | Reception of *RRCConnectionSetup*, *RRCConnectionReject* or *RRCConnectionResume* or *RRCEarlyDataComplete* or *RRCConnectionRelease* for UP-EDT, cell re-selection and upon abortion of connection establishment by upper layers | Perform the actions as specified in 5.3.3.6 |
| T301  NOTE1 | Transmission of *RRCConnectionReestabilshmentRequest* | Reception of *RRCConnectionReestablishment* or *RRCConnectionReestablishmentReject* message as well as when the selected cell becomes unsuitable | Go to RRC\_IDLE |
| T302 | Reception of *RRCConnectionReject* while performing RRC connection establishment or reception of *RRCConnectionRelease* including *waitTime* | Upon entering RRC\_CONNECTED and upon cell re-selection, or upon reception of *RRCEarlyDataComplete* or *RRCConnectionRelease* for UP-EDT or upon reception of *RRCConnectionReject* message for E-UTRA/5GC. | Inform upper layers about barring alleviation as specified in 5.3.3.7 |
| T303 | Access barred while performing RRC connection establishment for mobile originating calls | Upon entering RRC\_CONNECTED and upon cell re-selection, or upon reception of *RRCEarlyDataComplete* or *RRCConnectionRelease* for UP-EDT | Inform upper layers about barring alleviation as specified in 5.3.3.7 |
| T304 | Reception of *RRCConnectionReconfiguration* message including the *MobilityControl Info* or  reception of *MobilityFromEUTRACommand* message including *CellChangeOrder* | Criterion for successful completion of handover within E-UTRA, handover to E-UTRA or cell change order is met (the criterion is specified in the target RAT in case of inter-RAT) | In case of cell change order from E-UTRA or intra E-UTRA handover, initiate the RRC connection re-establishment procedure; In case of handover to E-UTRA, perform the actions defined in the specifications applicable for the source RAT; If any DAPS bearer is configured and if there is no RLF in source PCell, initiate the failure information procedure. |
| T305 | Access barred while performing RRC connection establishment for mobile originating signalling | Upon entering RRC\_CONNECTED and upon cell re-selection, or upon reception of *RRCEarlyDataComplete* or *RRCConnectionRelease* for UP-EDT | Inform upper layers about barring alleviation as specified in 5.3.3.7 |
| T306 | Access barred while performing RRC connection establishment for mobile originating CS fallback. | Upon entering RRC\_CONNECTED and upon cell re-selection, or upon reception of *RRCEarlyDataComplete* or *RRCConnectionRelease* for UP-EDT | Inform upper layers about barring alleviation as specified in 5.3.3.7 |
| T307 | Reception of *RRCConnectionReconfiguration* message including *MobilityControlInfoSCG* | Successful completion of random access on the PSCell, upon initiating re-establishment and upon SCG release | Initiate the SCG failure information procedure as specified in 5.6.13. |
| T308 | Access barred due to ACDC while performing RRC connection establishment subject to ACDC | Upon entering RRC\_CONNECTED and upon cell re-selection, or upon reception of *RRCEarlyDataComplete* or *RRCConnectionRelease* for UP-EDT | Inform upper layers about barring alleviation for ACDC as specified in 5.3.3.7 |
| T309  NOTE1 | When access attempt is barred at access barring check for an Access Category. The UE shall maintain one instance of this timer per Access Category. | Upon entering RRC\_CONNECTED, upon cell (re)selection, upon reception of *RRCConnectionRelease,* upon change of PCell while in RRC\_CONNECTED, or upon reception of *MobilityFromEUTRACommand*. | Perform the actions as specified in 5.3.16.4. |
| T310  NOTE1  NOTE2 | Upon detecting physical layer problems for the PCell i.e. upon receiving N310 consecutive out-of-sync indications from lower layers | Upon receiving N311 consecutive in-sync indications from lower layers for the PCell, upon triggering the handover procedure, upon initiating the connection re-establishment procedure, and upon initiating the MCG failure information procedure. | If security is not activated and the UE is not a NB-IoT UE that supports RRC connection re-establishment for the Control Plane CIoT EPS/5GS optimisation: go to RRC\_IDLE else: initiate the MCG failure information procedure as specified in 5.6.26 or the connection re-establishment procedure as specified in 5.3.7. |
| T311  NOTE1 | Upon initiating the RRC connection re-establishment procedure | Selection of a suitable E-UTRA cell or a cell using another RAT. | Enter RRC\_IDLE |
| T312  NOTE2 | Upon triggering a measurement report for a measurement identity for which T312 has been configured, while T310 is running | Upon receiving N311 consecutive in-sync indications from lower layers, upon triggering the handover procedure, upon initiating the connection re-establishment procedure, upon initiating the MCG failure information procedure, and upon the expiry of T310 | If security is not activated: go to RRC\_IDLE else: initiate the MCG failure information procedure as specified in 5.6.26 or the connection re-establishment procedure as specified in 5.3.7. |
| T313  NOTE2 | Upon detecting physical layer problems for the PSCell i.e. upon receiving N313 consecutive out-of-sync indications from lower layers | Upon receiving N314 consecutive in-sync indications from lower layers for the PSCell, upon initiating the connection re-establishment procedure, upon SCG release and upon receiving *RRCConnectionReconfiguration* including *MobilityControlInfoSCG* | Inform E-UTRAN about the SCG radio link failure by initiating the SCG failure information procedure as specified in 5.6.13. |
| T316 | Upon transmission of the *MCGFailureInformation* message | Upon receiving *RRCConnectionRelease*, *RRCConnectionReconfiguration* with *mobilityControlInfo, MobilityFromEUTRACommand*, or upon initiaitng the re-establishment procedure, | Perform the actions as specified in 5.6.26.5. |
| T320 | Upon receiving *t320* or upon cell (re)selection to E-UTRA from another RAT with validity time configured for dedicated priorities (in which case the remaining validity time is applied). | Upon entering RRC\_CONNECTED, when PLMN selection is performed on request by NAS, when the UE enters RRC\_IDLE from RRC\_INACTIVE, or upon cell (re)selection to another RAT (in which case the timer is carried on to the other RAT) , or upon reception of *RRCEarlyDataComplete* or *RRCConnectionRelease* for UP-EDT | Discard the cell reselection priority information provided by dedicated signalling. |
| T321 | Upon receiving *measConfig* including a *reportConfig* with the *purpose* set to *reportCGI* | Upon acquiring the information needed to set all fields of *cellGlobalId* for the requested cell, upon receiving *measConfig* that includes removal of the *reportConfig* with the *purpose* set to *reportCGI* and upon detecting that a cell is not broadcasting SIB1. | Initiate the measurement reporting procedure, stop performing the related measurements and remove the corresponding *measId* |
| T322  NOTE1 | Upon receiving *redirectedCarrierOffsetDedicated* included in *RedirectedCarrierInfo* | Upon entering RRC\_CONNECTED, when PLMN selection is performed on request by NAS, or upon cell (re)selection to another frequency or RAT, or upon reception of *RRCEarlyDataComplete* or *RRCConnectionRelease* for UP-EDT | Release *redirectedCarrierOffsetDedicated*. |
| T323 | Upon receiving *t323*. | Upon entering RRC\_CONNECTED, when PLMN selection is performed on request by NAS, when the UE enters RRC\_IDLE from RRC\_INACTIVE, or upon cell (re)selection to another RAT, or upon reception of *RRCEarlyDataComplete* or *RRCConnectionRelease* for UP-EDT | Discard the *altFreqPriorities* provided by dedicated signalling. UE shall apply the cell reselection priority information broadcast in the system information via *cellReselectionPriority* and *cellReselectionSubPriority*. |
| T325 | Timer (re)started upon receiving *RRCConnectionReject* message with *deprioritisationTimer*. |  | Stop deprioritisation of all frequencies or E-UTRA signalled by *RRCConnectionReject.* |
| T330 | Upon receiving *LoggedMeasurementConfiguration* message | Upon log volume exceeding the suitable UE memory, upon initiating the release of *LoggedMeasurementConfiguration* procedure | Perform the actions specified in 5.6.6.4 |
| T331 | Upon receiving *RRCConnectionRelease* message including *measIdleConfig.* | Upon receiving *RRCConnectionSetup, RRCConnectionResume, RRCConnectionRelease* with an idle/inactive measurement configuration or indication to release the configuration, if *validityArea* is configured, upon cell selection/reselection to a cell that does not belong to the *validityArea* (if configured)*,* or upon reselecting to an inter-RAT cell.. | Perform the actions specified in 5.6.20.3. |
| T340  NOTE2 | Upon transmitting *UEAssistanceInformation* message with *powerPrefIndication* set to *normal* | Upon releasing *powerPrefIndication* during the connection re-establishment procedure | No action. |
| T341  NOTE2 | Upon transmitting *UEAssistanceInformation* message with *bw-Preference.* | Upon resuming an RRC connection or upon releasing *bw-Preference* during the connection re-establishment procedure | No action. |
| T342  NOTE2 | Upon transmitting *DelayBudgetReport* message. | Upon releasing *DelayBudgetReport* during the connection re-establishment and connection resume procedures | No action. |
| T350 | Upon entering RRC\_IDLE if *t350* has been received in wlan-OffloadInfo. | Upon entering RRC\_CONNECTED, or upon cell reselection. | Perform the actions specified in 5.6.12.4. |
| T351 | Reception of *RRCConnectionReconfiguration* message including the association*Timer* in *WLAN-MobilityConfig*. | Upon successful connection to WLAN, upon WLAN connection failure, upon leaving RRC\_CONNECTED, upon triggering the handover procedure, or upon initiating the connection re-establishment procedure. | Perform WLAN Connection Status Reporting specified in 5.6.15.2. |
| T360 | Upon performing the redistribution target selection as specified in TS 36.304 [4]. | Upon entering RRC\_CONNECTED, upon receiving a Paging message including *redistributionIndication*; upon reselecting a cell not belonging to the redistribution target. | Stop considering a frequency or cell to be redistribution target, and perform the redistribution target selection if the condition specified in TS 36.304 [4] is met. |
| T370 | Upon receiving *SL-DiscConfig* including a *discSysInfoToReportConfig* set to *setup.* | Upon initiating the transmission of *SidelinkUEInformation* including *discSysInfoReportFreqList*, upon receiving *SL-DiscConfig* including *discSysInfoToReportConfig* set to *release*, upon handover and re-establishment*.* | Release *discSysInfoToReportConfig*. |
| T314  NOTE2 | Upon early detecting physical layer problems for the PCell i.e. upon receiving N310 consecutive "early-out-of-sync" indications from lower layers. | Upon receiving N311 consecutive in-sync indications from lower layers for the PCell, upon triggering the handover procedure and upon initiating the connection re-establishment procedure | Initiate the UE Assistance Information procedure to report early detection of physical layer problems in accordance with 5.6.10. |
| T315  NOTE2 | Upon detecting physical layer improvements of the PCell i.e. upon receiving N311 consecutive "early-in-sync" indications from lower layers. | Upon receiving N310 consecutive "early-out-of-sync" indications from lower layers for the PCell. | Initiate the UE Assistance Information procedure to report detection of physical layer improvements in accordance with 5.6.10. |
| T343  NOTE2 | Upon transmitting *UEAssistanceInformation* message with *RLM-Report* including *earlyOutOfSync*. | Upon initiating the connection re-establishment procedure | No action. |
| T344  NOTE2 | Upon transmitting *UEAssistanceInformation* message with *RLM-Report* including *earlyInSync*. | Upon initiating the connection re-establishment procedure | No action. |
| T345 | Upon transmitting *UEAssistanceInformation* message with *overheatingAssistance* | Upon releasing *overheatingAssistance* during the connection re-establishment procedure | No action. |
| T380 | Upon reception of *periodic-RNAU-timer* in RRCConnectionRelease. | Upon reception of *RRCConnectionResume*, *RRCConnectionRelease* or *RRCConnectionSetup*. | Initiate the RAN notification area update procedure |
| NOTE1: Only the timers marked with "NOTE1" are applicable to NB-IoT.  NOTE2: The behaviour as specified in 7.3.2 applies. | | | |

|  |
| --- |
| CHANGE END |