**3GPP TSG-RAN WG2 Meeting #118-e R2-2206785**

**E-meeting, 9– 20 May 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **38.306** | **CR** | **0750** | **rev** |  | **Current version:** | **17.0.0** |  |
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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 |  |

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| ***Title:*** | Introduction of uplink RRC Segmentation capability | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | RACS-RAN-Core | | | | |  | ***Date:*** | | | 2022-05-20 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **C** |  | | | | | ***Release:*** | | | *Rel-17* |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
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| ***Reason for change:*** | | The network doesn't know whether the UE supports UL RRC segmentation or not before capability enquiry and thus it would be difficult for the network to decide whether to use multiple UE capability enquiry procedures for different RAT to avoid potential size problem. Therefore, indication of UL RRC message segmentation capability in msg5 and UE capability report is useful for network to retrieve UE capability. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add UL RRC message segmentation capability in UE capability    **Impact analysis**  Impacted 5G architecture options: NR SA  Impacted functionality  UE capability report  Inter-operability:  There is no inter-operability issue. | | | | | | | | |
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| ***Consequences if not approved:*** | | The network doesn't know whether the UE supports UL RRC segmentation or not before capability enquiry and thus it would be difficult for the network to decide whether to use multiple UE capability enquiry procedures for different RAT to avoid potential size problem. | | | | | | | | |
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| ***Clauses affected:*** | | 4.2.2, 5.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS/TR 38.331 CR 3193 | | |
| ***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

### 4.2.2 General parameters

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| Definitions for parameters | Per | M | FDD-TDD DIFF | **FR1-FR2**  DIFF |
| ***accessStratumRelease***  Indicates the access stratum release the UE supports as specified in TS 38.331 [9]. | UE | Yes | No | No |
| ***delayBudgetReporting***  Indicates whether the UE supports delay budget reporting as specified in TS 38.331 [9]. | UE | No | No | No |
| ***dl-DedicatedMessageSegmentation-r16***  Indicates whether the UE supports reception of segmented DL RRC messages. | UE | No | No | No |
| ***drx-Preference-r16***  Indicates whether the UE supports providing its preference of a cell group on DRX parameters for power saving in RRC\_CONNECTED, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***gNB-SideRTT-BasedPDC-r17***  Indicates whether the UE supports gNB-side RTT-based PDC, as specified in TS 38.300 [28]. A UE supporting this feature shall also support the corresponding RAN1 feature.  Editor's note: The RAN1 feature in the pre-requisite refers to FG25-19/25-19a in R1 feature list that are not concluded yet in RAN1. | UE | No | No | No |
| ***inactiveState***  Indicates whether the UE supports RRC\_INACTIVE as specified in TS 38.331 [9]. | UE | Yes | No | No |
| ***inactiveStatePO-Determination-r17***  Indicates whether the UE supports to use the same i\_s to determine PO in RRC\_INACTIVE state as in RRC\_IDLE state. | UE | No | No | No |
| ***inDeviceCoexInd-r16***  Indicates whether the UE supports IDC (In-Device Coexistence) assistance information as specified in TS 38.331 [9]. | UE | No | No | No |
| ***maxBW-Preference-r16, maxBW-Preference-r17***  Indicates whether the UE supports providing its preference of a cell group on the maximum aggregated bandwidth for power saving in RRC\_CONNECTED, as specified in TS 38.331 [9]. | UE | No | No | Yes  (Incl FR2-2 DIFF) |
| ***maxCC-Preference-r16***  Indicates whether the UE supports providing its preference of a cell group on the maximum number of secondary component carriers for power saving in RRC\_CONNECTED, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***maxMIMO-LayerPreference-r16, maxMIMO-LayerPreference-r17***  Indicates whether the UE supports providing its preference of a cell group on the maximum number of MIMO layers for power saving in RRC\_CONNECTED, as specified in TS 38.331 [9]. | UE | No | No | Yes  (Incl FR2-2 DIFF) |
| ***maxMRB-Add-r17***  Indicates the additional maximum number of MRBs that the UE supports for MBS multicast reception as specified in TS 38.331 [9]. | UE | No | No | No |
| ***mcgRLF-RecoveryViaSCG-r16***  Indicates whether the UE supports recovery from MCG RLF via split SRB1 (if supported) and via SRB3 (if supported) as specified in TS 38.331[9]. | UE | No | No | No |
| ***minSchedulingOffsetPreference-r16***  Indicates whether the UE supports providing its preference on the minimum scheduling offset for cross-slot scheduling of the cell group for power saving in RRC\_CONNECTED, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***mpsPriorityIndication-r16***  Indicates whether the UE supports *mpsPriorityIndication* on RRC release with redirect as defined in TS 38.331 [9]. | UE | No | No | No |
| ***musimGapPreference-r17***  Indicates whether the UE supports providing MUSIM assistance information with MUSIM gap preference as defined in TS 38.331 [9]. | UE | No | No | No |
| ***musimLeaveConnected-r17***  Indicates whether the UE supports providing MUSIM assistance information with indication of leaving RRC\_CONNECTED state as defined in TS 38.331 [9]. | UE | No | No | No |
| ***nonTerrestrialNetwork-r17***  Indicates whether the UE supports NR NTN access. If the UE indicates this capability the UE shall support the following NTN essential features, i.e., timer extension in MAC/RLC/PDCP layers and RACH adaptation to handle long RTT, acquiring NTN specific SIB and more than one TAC per PLMN broadcast in one cell. | UE | No | No | No |
| ***ntn-ScenarioSupport-r17***  Indicates whether the UE supports the NTN essential features in GSO scenario or NGSO scenario. If a UE does not include this field but includes *nonTerrestrialNetwork-r17*, the UE supports the NTN essential features for both GSO and NGSO scenarios, and also supports mobility between GSO and NGSO scenarios.  Editor's Note: FFS on if ntn-ScenarioSupport-r17 also indicates all NTN optional features UE indicates have been supported in the corresponding scenario(s) | UE | No | No | No |
| ***onDemandSIB-Connected-r16***  Indicates whether the UE supports the on-demand request procedure of SIB(s) or posSIB(s) while in RRC\_CONNECTED, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***overheatingInd***  Indicates whether the UE supports overheating assistance information. | UE | No | No | No |
| ***partialFR2-FallbackRX-Req***  Indicates whether the UE meets only a partial set of the UE minimum receiver requirements for the eligible FR2 fallback band combinations as defined in Clause 4.2 of TS 38.101-2 [3] and Clause 4.2 of TS 38.101-3 [4]. If not indicated, the UE shall meet all the UE minimum receiver requirements for all the FR2 fallback combinations in TS 38.101-2 [3] and TS 38.101-3 [4]. The UE shall support configuration of any of the FR2 fallback band combinations regardless of the presence or the absence of this field. | UE | No | No | No |
| ***ra-SDT-r17***  Indicates whether the UE supports transmission of data and/or signalling over allowed radio bearers in RRC\_INACTIVE state via Random Access procedure (i.e., RA-SDT) with 4-step RA type and if UE supports *twoStepRACH-r16,* with 2-step RA type, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***redirectAtResumeByNAS-r16***  Indicates whether the UE supports reception of *redirectedCarrierInfo* in an *RRCRelease* message in response to an *RRCResumeRequest* or *RRCResumeRequest1* which is triggered by the NAS layer, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***reducedCP-Latency***  Indicates whether the UE supports reduced control plane latency as defined in TS 38.331 [9] | UE | No | No | No |
| ***referenceTimeProvision-r16***  Indicates whether the UE supports provision of referenceTimeInfo in *DLInformationTransfer* message and in SIB9 and reference time information preference indication via assistance information, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***releasePreference-r16***  Indicates whether the UE supports providing its preference assistance information to transition out of RRC\_CONNECTED for power saving, as specified in TS 38.331 [9]. | UE | No | No | No |
| ***resumeWithStoredMCG-SCells-r16***  Indicates whether the UE supports not deleting the stored MCG SCell configuration when initiating the resume procedure. | UE | No | No | No |
| ***resumeWithStoredSCG-r16***  Indicates whether the UE supports not deleting the stored SCG configuration when initiating resume. The UE which indicates support for *resumeWithStoredSCG-r16* shall also indicate support for *resumeWithSCG-Config-r16*. | UE | No | No | No |
| ***resumeWithSCG-Config-r16***  Indicates whether the UE supports (re-)configuration of an SCG during the resume procedure. | UE | No | No | No |
| ***sliceInfoforCellReselection-r17***  Indicates whether the UE supports slice Information on RRC release for slice based cell reselection in RRC \_IDLE and RRC INACTIVE as defined in TS 38.304 [21].  Editor's Note: FFS#1 on the need of an optional without capability signalling for UE using only slice info in the SIB for slice based cell reselection in idle and inactive mode (i.e. there is no need for gNB to know such UE).  Editor's Note: FFS#2 if there is a need to know such UE as in FFS#1 (i.e. it is not optional without capability signalling), whether same capability signalling as with UE indicating the support of slice info in RRC Release or a separate one is needed for UE indicating the support of slice info in SIB)? | UE | No | No | No |
| ***splitSRB-WithOneUL-Path***  Indicates whether the UE supports UL transmission via MCG path and DL reception via either MCG path or SCG path, as specified for the split SRB in TS 37.340 [7]. The UE shall not set the FDD/TDD specific fields for this capability (i.e. it shall not include this field in *UE-MRDC-CapabilityAddXDD-Mode*). | UE | No | No | No |
| ***splitDRB-withUL-Both-MCG-SCG***  Indicates whether the UE supports UL transmission via both MCG path and SCG path for the split DRB as specified in TS 37.340 [7]. The UE shall not set the FDD/TDD specific fields for this capability (i.e. it shall not include this field in *UE-MRDC-CapabilityAddXDD-Mode*). | UE | Yes | No | No |
| ***srb3***  Indicates whether the UE supports direct SRB between the SN and the UE as specified in TS 37.340 [7]. The UE shall not set the FDD/TDD specific fields for this capability (i.e. it shall not include this field in *UE-MRDC-CapabilityAddXDD-Mode*). This field is not applied to NE-DC. | UE | Yes | No | No |
| ***srb-SDT-r17***  Indicates whether the UE supports the usage of signaling radio bearer SRB2 over RA-SDT or CG-SDT, as specified in TS 38.331 [9].  A UE supporting this feature shall also indicate support of *ra-SDT-r17 or cg-SDT-r17*. | UE | No | No | No |
| ***ul-RRC-Segmentation-r16***  Indicates whether the UE supports uplink RRC segmentation of *UECapabilityInformation* as specified in TS 38.331 [9]. | UE | No | No | No |

NEXT CHANGE

## 5.4 Other features

| Definitions for feature |
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|  |
| **eCall over IMS**  It is optional for UE to support eCall over IMS as specified in TS 38.331 [9]. |
| **Access Category 1 selection assistance information enhancement**  It is optional for UE that is configured for delay tolerant service to support Access Category 1 selection assistance information enhancement, according to *uac-AC1-SelectAssistInfo-r16* as specified in TS 38.331 [9]. |
| **Random access prioritization for MPS and MCS**  It is optional for UE that is configured for MPS or MCS to support random access prioritization for Access Identity 1 or 2 as specified in TS 38.321 [8]. |
| **HSDN cell reselection**  It is optional for UE to support HSDN cell reselection priority handling in RRC\_IDLE/RRC\_INACTIVE as specified in TS 38.304 [21] and TS 38.331 [9]. |
| **TRS occasions for idle mode and RRC\_INACTIVE UEs**  It is optional for UE to support reading TRS configuration from SIB and receiving L1 indication for TRS availability |
| **Minimization of service interruption**  It is optional for UE to support minimization of service interruption including reporting to NAS of disaster roaming information for available PLMNs and Access Barring check for Access Identity 3, as specified in TS 38.331 [9]. |
| **Random access prioritisation for Slicing**  It is optional for UE to support slice based prioritisation for random access as specified in TS 38.321 [8]. |
| **Random access partitioning for Slicing**  It is optional for UE to support slice based RACH partitioning as specified in TS 38.321 [8]. |