**3GPP TSG-RAN WG2 Meeting #****121bis R2-230xxxx**

**Online, Apr 17 – Apr 26, 2023**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **38.331** | **CR** | **3970** | **rev** | **1** | **Current version:** | **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:***  | Correction on Need code of IE RLC-Config |
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| ***Source to WG:*** | Intel Corporation |
| ***Source to TSG:*** | R2 |
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| ***Work item code:*** | NR\_IIOT-Core, NR\_NTN\_solutions-Core |  | ***Date:*** | 2023-04-05 |
|  |  |  |  |  |
| ***Category:*** | F |  | ***Release:*** | 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 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)* |
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| ***Reason for change:*** | 1. RIL I653 (which proposed to change Need code of *t-StatusProhibit-v1610* to M/R.) was discussed in offline discussion [AT109bis-e][071] with the report in R2-2004278, and the corresponding RAN2 agreement was as below:**(B002, I654, I653): Agree on B002 and I653 (change need code to “need R”). The changes shall be captured in the IIOT RRC CR.** But this change has not been captured yet.2. Similarly, the Need code of NTN timer *t-ReassemblyExt-r17* is Need N as well. Based on the same reason, i.e., this is a configuration that a UE shall store (e.g., in NTN GEO satellite case, the reassembly timer without extended timer length can’t work as the RTT (at most 542ms) in this GEO case is larger than the legacy timer length (at most 200ms)), the Need code of NTN timer *t-ReassemblyExt-r17* should also be Need R. These issues were already discussed during R17 ASN.1 review (X606, X607) and agreed in RAN2#118-e as below:

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| X606, X607 | change Need N to Need R | t-ReassemblyExt is not a one-shot configuration, it will be used by UE all the time when configured. Thus, the need code should at least be Need R. As the size of t-ReassemblyExt is only 3 bits, no need to support delta configuration. Thus, we suggest to change Need N to Need R |

*Proposal 11a: RAN2 confirms RIL status of the following: H021, V309, H022, V312, S602, H033, O352, M409, O353, H034, Q303, X606, X607, V316, B008, X608, X609, V317, H020. (consensus)** **Agreed**

But these changes have not been captured yet as well. |
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| ***Summary of change:*** | 1. Change the Need code of *t-StatusProhibit-v1610* to Need R.2. Change the Need code of *t-ReassemblyExt-r17* to Need R.**Impact analysis:**Impacted functionality: RLC ReconfigurationInter-operability:If the network is implemented according to this CR while the UE is not, the UE may apply this value for *t-StatusProhibit-v1610* or *t-ReassemblyExt-r17* even after network expected the UE to release it. If the UE is implemented according to this CR while the network is not, the network may expect the UE to maintain the value for *t-StatusProhibit-v1610* or *t-ReassemblyExt-r17* while UE has released it.This CR is considered mandatory to support the impacted functionality. |
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| ***Consequences if not approved:*** | According to current specification, a UE doesn’t store the timer length of *t-StatusProhibit-v1610* or *t-ReassemblyExt-r17* if it’s Need N, but it’s not aligned with real intention or UE implementation, as the configuration of timer length needs to be stored at UE side. |
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| ***Clauses affected:*** | 6.3.2 |
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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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

# 6 Protocol data units, formats and parameters (ASN.1)

*First change*

### 6.3.2 Radio resource control information elements

**< *unmodified Subclauses removed*>**

– *RLC-Config*

The IE *RLC-Config* is used to specify the RLC configuration of SRBs, multicast MRBs and DRBs.

***RLC-Config* information element**

-- ASN1START

-- TAG-RLC-CONFIG-START

RLC-Config ::= CHOICE {

 am SEQUENCE {

 ul-AM-RLC UL-AM-RLC,

 dl-AM-RLC DL-AM-RLC

 },

 um-Bi-Directional SEQUENCE {

 ul-UM-RLC UL-UM-RLC,

 dl-UM-RLC DL-UM-RLC

 },

 um-Uni-Directional-UL SEQUENCE {

 ul-UM-RLC UL-UM-RLC

 },

 um-Uni-Directional-DL SEQUENCE {

 dl-UM-RLC DL-UM-RLC

 },

 ...

}

UL-AM-RLC ::= SEQUENCE {

 sn-FieldLength SN-FieldLengthAM OPTIONAL, -- Cond Reestab

 t-PollRetransmit T-PollRetransmit,

 pollPDU PollPDU,

 pollByte PollByte,

 maxRetxThreshold ENUMERATED { t1, t2, t3, t4, t6, t8, t16, t32 }

}

DL-AM-RLC ::= SEQUENCE {

 sn-FieldLength SN-FieldLengthAM OPTIONAL, -- Cond Reestab

 t-Reassembly T-Reassembly,

 t-StatusProhibit T-StatusProhibit

}

UL-UM-RLC ::= SEQUENCE {

 sn-FieldLength SN-FieldLengthUM OPTIONAL -- Cond Reestab

}

DL-UM-RLC ::= SEQUENCE {

 sn-FieldLength SN-FieldLengthUM OPTIONAL, -- Cond Reestab

 t-Reassembly T-Reassembly

}

T-PollRetransmit ::= ENUMERATED {

 ms5, ms10, ms15, ms20, ms25, ms30, ms35,

 ms40, ms45, ms50, ms55, ms60, ms65, ms70,

 ms75, ms80, ms85, ms90, ms95, ms100, ms105,

 ms110, ms115, ms120, ms125, ms130, ms135,

 ms140, ms145, ms150, ms155, ms160, ms165,

 ms170, ms175, ms180, ms185, ms190, ms195,

 ms200, ms205, ms210, ms215, ms220, ms225,

 ms230, ms235, ms240, ms245, ms250, ms300,

 ms350, ms400, ms450, ms500, ms800, ms1000,

 ms2000, ms4000, ms1-v1610, ms2-v1610, ms3-v1610,

 ms4-v1610, spare1}

PollPDU ::= ENUMERATED {

 p4, p8, p16, p32, p64, p128, p256, p512, p1024, p2048, p4096, p6144, p8192, p12288, p16384,p20480,

 p24576, p28672, p32768, p40960, p49152, p57344, p65536, infinity, spare8, spare7, spare6, spare5, spare4,

 spare3, spare2, spare1}

PollByte ::= ENUMERATED {

 kB1, kB2, kB5, kB8, kB10, kB15, kB25, kB50, kB75,

 kB100, kB125, kB250, kB375, kB500, kB750, kB1000,

 kB1250, kB1500, kB2000, kB3000, kB4000, kB4500,

 kB5000, kB5500, kB6000, kB6500, kB7000, kB7500,

 mB8, mB9, mB10, mB11, mB12, mB13, mB14, mB15,

 mB16, mB17, mB18, mB20, mB25, mB30, mB40, infinity,

 spare20, spare19, spare18, spare17, spare16,

 spare15, spare14, spare13, spare12, spare11,

 spare10, spare9, spare8, spare7, spare6, spare5,

 spare4, spare3, spare2, spare1}

T-Reassembly ::= ENUMERATED {

 ms0, ms5, ms10, ms15, ms20, ms25, ms30, ms35,

 ms40, ms45, ms50, ms55, ms60, ms65, ms70,

 ms75, ms80, ms85, ms90, ms95, ms100, ms110,

 ms120, ms130, ms140, ms150, ms160, ms170,

 ms180, ms190, ms200, spare1}

T-StatusProhibit ::= ENUMERATED {

 ms0, ms5, ms10, ms15, ms20, ms25, ms30, ms35,

 ms40, ms45, ms50, ms55, ms60, ms65, ms70,

 ms75, ms80, ms85, ms90, ms95, ms100, ms105,

 ms110, ms115, ms120, ms125, ms130, ms135,

 ms140, ms145, ms150, ms155, ms160, ms165,

 ms170, ms175, ms180, ms185, ms190, ms195,

 ms200, ms205, ms210, ms215, ms220, ms225,

 ms230, ms235, ms240, ms245, ms250, ms300,

 ms350, ms400, ms450, ms500, ms800, ms1000,

 ms1200, ms1600, ms2000, ms2400, spare2, spare1}

SN-FieldLengthUM ::= ENUMERATED {size6, size12}

SN-FieldLengthAM ::= ENUMERATED {size12, size18}

RLC-Config-v1610 ::= SEQUENCE {

 dl-AM-RLC-v1610 DL-AM-RLC-v1610

}

RLC-Config-v1700 ::= SEQUENCE {

 dl-AM-RLC-v1700 DL-AM-RLC-v1700,

 dl-UM-RLC-v1700 DL-UM-RLC-v1700

}

DL-AM-RLC-v1610 ::= SEQUENCE {

 t-StatusProhibit-v1610 T-StatusProhibit-v1610 OPTIONAL, -- Need R

 ...

}

DL-AM-RLC-v1700 ::= SEQUENCE {

 t-ReassemblyExt-r17 T-ReassemblyExt-r17 OPTIONAL -- Need R

}

DL-UM-RLC-v1700 ::= SEQUENCE {

 t-ReassemblyExt-r17 T-ReassemblyExt-r17 OPTIONAL -- Need R

}

T-StatusProhibit-v1610 ::= ENUMERATED { ms1, ms2, ms3, ms4, spare4, spare3, spare2, spare1}

T-ReassemblyExt-r17 ::= ENUMERATED {ms210, ms220, ms340, ms350, ms550, ms1100, ms1650, ms2200}

-- TAG-RLC-CONFIG-STOP

-- ASN1STOP

| ***RLC-Config* field descriptions** |
| --- |
| ***maxRetxThreshold***Parameter for RLC AM in TS 38.322 [4]. Value *t1* corresponds to 1 retransmission, value *t2* corresponds to 2 retransmissions and so on. |
| ***pollByte***Parameter for RLC AM in TS 38.322 [4]. Value *kB25* corresponds to 25 kBytes, value *kB50* corresponds to 50 kBytes and so on. *infinity* corresponds to an infinite amount of kBytes. |
| ***pollPDU***Parameter for RLC AM in TS 38.322 [4]. Value *p4* corresponds to 4 PDUs, value *p8* corresponds to 8 PDUs and so on. *infinity* corresponds to an infinite number of PDUs. |
| ***sn-FieldLength***Indicates the RLC SN field size, see TS 38.322 [4], in bits. Value *size6* means 6 bits, value *size12* means 12 bits, value *size18* means 18 bits. The value of *sn-FieldLength* of an RLC entity for the DRB/multicast MRB shall be changed only using reconfiguration with sync. The network configures only value *size12* in *SN-FieldLengthAM* for SRB. |
| ***t-PollRetransmit***Timer for RLC AM in TS 38.322 [4], in milliseconds. Value *ms5* means 5 ms, value *ms10* means 10 ms and so on. |
| ***t-Reassembly, t-ReassemblyExt***Timer for reassembly in TS 38.322 [4], in milliseconds. Value *ms0* means 0 ms, value *ms5* means 5 ms and so on. If *t-ReassemblyExt-r17* is configured, the UE shall ignore *t-Reassembly* (without suffix). |
| ***t-StatusProhibit***Timer for status reporting in TS 38.322 [4], in milliseconds. Value *ms0* means 0 ms, value *ms5* means 5 ms and so on. If *t-StatusProhibit-v1610* is present, the UE shall ignore *t-StatusProhibit* (without suffix). |

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| **Conditional Presence** | **Explanation** |
| *Reestab* | The field is mandatory present at RLC bearer setup. It is optionally present, need M, at RLC re-establishment. Otherwise it is absent. Need M. |

*End of change*