**3GPP TSG-RAN2 Meeting # 115-e electronic R2-21xxxxx**

**Online, 16 – 27 August 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **36.331** | **CR** | **-** | **rev** | **-** | **Current version:** | **16.5.0** |  |
|  | | | | | | | | |
| *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:*** | CR to 36.331 on correcting Rel-15 failure type definition | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI16, NR\_newRAT-Core | | | | |  | ***Date:*** | | | 2021-08-25 |
|  |  | | | |  | |  | | |  |
| ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | For a R16 UE, it may report “failureType-r15=other-r16 AND failureType-v1610” to R15 eNB (R15 eNB+R16 gNB for EN-DC), because the UE may trigger the R16 failureType. For R15 eNB, it will cause a transfer syntax error if receiving an SCGFailureInformationNR message with a “failureType-r15 = other-r16”. The transfer syntax error will lead to a big challenge for the network and it will lead to lots of problems, e.g. user experience, network capacity, problem identification.  In addition, for R16 eNB, if the eNB receives both failureType-r15 and failureType-v1610, the eNB may not know which of failure types should be used. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The following changes are made:  1. In the field failureType-r15, the value other-r16 is dummified  2. In the field description of failureType, add a clarification that when the field failureType-v1610 is included, the network ignores the field failureType-r15  **Impact Analysis**  Impacted 5G architecutre options: (NG)EN-DC  Impacted functionality:  SCG failure information  Inter-operability:  If the network is implemented according to the CR and the UE is not, the R15 eNB will detect a transfer syntax error and then discard the SCGFailureInformation message.  If the UE is implemented according to the CR and the network is not, R16 eNB may not know which of failure types should be used if the eNB receives both failureType-r15 and failureType-v1610.  **The CR is considered mandatory to support the impacted functionality.** | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The value other-r16 will lead to a transfer syntax error at R15 eNB, and if R16 eNB receives both failureType-r15 and failureType-v1610, it may not know which of failure types should be used. | | | | | | | | |
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| ***Clauses affected:*** | | 6.2.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

### 6.2.2 Message definitions

*<Partially omitted>*

#### – *SCGFailureInformationNR*

The *SCGFailureInformationNR* message is used to provide information regarding NR SCG failures detected by the UE.

Signalling radio bearer: SRB1

RLC-SAP: AM

Logical channel: DCCH

Direction: UE to E‑UTRAN

*SCGFailureInformationNR message*

-- ASN1START

SCGFailureInformationNR-r15 ::= SEQUENCE {

criticalExtensions CHOICE {

c1 CHOICE {

scgFailureInformationNR-r15 SCGFailureInformationNR-r15-IEs,

spare3 NULL, spare2 NULL, spare1 NULL

},

criticalExtensionsFuture SEQUENCE {}

}

}

SCGFailureInformationNR-r15-IEs ::= SEQUENCE {

failureReportSCG-NR-r15 FailureReportSCG-NR-r15 OPTIONAL,

nonCriticalExtension SCGFailureInformationNR-v1590-IEs OPTIONAL

}

SCGFailureInformationNR-v1590-IEs ::= SEQUENCE {

lateNonCriticalExtension OCTET STRING OPTIONAL,

nonCriticalExtension SEQUENCE {} OPTIONAL

}

FailureReportSCG-NR-r15 ::= SEQUENCE {

failureType-r15 ENUMERATED {

t310-Expiry, randomAccessProblem,

rlc-MaxNumRetx,

synchReconfigFailureSCG, scg-reconfigFailure,

srb3-IntegrityFailure, dummy},

measResultFreqListNR-r15 MeasResultFreqListFailNR-r15 OPTIONAL,

measResultSCG-r15 OCTET STRING OPTIONAL,

...,

[[ locationInfo-r16 LocationInfo-r10 OPTIONAL,

logMeasResultListBT-r16 LogMeasResultListBT-r15 OPTIONAL,

logMeasResultListWLAN-r16 LogMeasResultListWLAN-r15 OPTIONAL,

failureType-v1610 ENUMERATED {t312-Expiry, scg-lbtFailure,

beamFailureRecoveryFailure, bh-RLF-r16, spare4,

spare3, spare2, spare1} OPTIONAL

]]

}

MeasResultFreqListFailNR-r15 ::= SEQUENCE (SIZE (1..maxFreqNR-r15)) OF MeasResultFreqFailNR-r15

MeasResultFreqFailNR-r15 ::= SEQUENCE {

carrierFreq-r15 ARFCN-ValueNR-r15,

measResultCellList-r15 MeasResultCellListNR-r15 OPTIONAL,

...

}

-- ASN1STOP

| *SCGFailureInformationNR* field descriptions |
| --- |
| ***failureType***  Indicates the cause of the SCG failure. When the field *failureType-v1610* is included, the network ignores the field *failureType-r15*. |
| ***measResultFreqListNR***  The field contains available results of measurements on NR frequencies the UE is configured to measure by *measConfig*. |
| ***measResultSCG***  Includes the NR *MeasResultSCG-Failure* IE as specified in TS 38.331 [82]. The field contains available results of measurements on NR frequencies the UE is configured to measure by the NR RRCConfiguration message. |