**3GPP TSG-RAN WG2 Meeting #126 *R2-2405825***

**Fukuoka, Japan, May 20th – 24th 2024**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  | **38.306** | **CR** | **1127** | **rev** |  | **Current version:** | **17.8.0** |  |
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| *For* [***HELP***](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:***  | UE capability for misclassification of RLF reports as Too Early HO failure |
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| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | R2 |
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| ***Work item code:*** | NR\_ENDC\_SON\_MDT\_enh-Core |  | ***Date:*** | 2024-05-21 |
|  |  |  |  |  |
| ***Category:*** | F |  | ***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 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:*** | This CR is to add a capability without signalling for the UE when the UE is not to log some of the fields in the RLF report upon radio link failure after successful fast MCG recovery.In Rel-17 RRC TS, the procedural text for logging RLF report leads to wrong classification of the HO failure and hence leads to wrong tuning of mobility control parameters. An excerpt from the RRC TS 38.331 (version 17.7.0) is shown in the following.2> if an *RRCReconfiguration* message including the *reconfigurationWithSync* was received before the connection failure:3> if the last successfully executed *RRCReconfiguration* message including the *reconfigurationWithSync* concerned an intra NR handover and it was received while connected to the previous PCell to which the UE was connected before connecting to the PCell where radio link failure is detected; and3> if T311 was not running before entering the PCell in which the radio link failure was detected:4> include the *nrPreviousCell* in *previousPCellId* and set it to the global cell identity and the tracking area code of the PCell where the last executed *RRCReconfiguration* message including *reconfigurationWithSync* was received;4> if the last executed *RRCReconfiguration* message including *reconfigurationWithSync* was concerning a DAPS handover:5> set *lastHO-Type* to *daps*;4> else if the last executed *RRCReconfiguration* message including *reconfigurationWithSync* was concerning a conditional handover:5> set *lastHO-Type* to *cho*;4> set the *timeConnFailure* to the elapsed time since the execution of the last *RRCReconfiguration* message including the *reconfigurationWithSync*;As shown above, the procedural text for the radio link failure is written to avoid logging the *previousPCellId* and *timeConnFailure* for the cases that RLF is detected shortly after the following scenarios:* RLF after a successful re-establishment
* RLF after a successful CHO recovery
* RLF after RRC connection (transition from IDLE mode to connected mode)

However, there is still one scenario missing in the current procedural text that is RLF shortly after fast MCG recovery. According to the current procedural text the UE logs *previousPCellId* and *timeConnFailure* when RLF occurs shortly after a fast MCG recovery procedure. This creates problem at the network side when analysing the RLF-report as the above information is logged to detect the Too Early HO failure. In other words, the above information creates confusion for the network in adjusting the HO parameters, which should be avoided. Therefore, similar to the other scenarios mentioned above the procedural text is corrected to avoid logging *previousPCellId* and *timeConnFailure* in the mentioned scenario. This has been considered as an optional feature in Rel-17 while the feature is mandatory for release 18 RLF report. |
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| ***Summary of change:*** | A capability without signaling is considered for the feature of avoiding to log the previous PCell ID and timeConnFailure in case the RLF occurred after a successful fast MCG recovery.**Impact analysis****Impacted functionality:**RLF-report**Inter-operability analysis:**If the change is implemented by the UE, and not by the network, there is no inter-operability issue.If the change is implemented by the NW, and not by the UE, there is no inter-operability issue. |
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| ***Consequences if not approved:*** | The feature of UE avoiding to log the previousPcellId and timeConnFailure in the RLF report will remain mandatory for Rel-17 UEs. |
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| ***Clauses affected:*** | 5.7 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  |  Other core specifications  | TS/TR 38.331 CR 4813  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
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| ***This CR's revision history:*** |  |

*Start of the change*

# 5 Optional features without UE radio access capability parameters

<text omited>

## 5.7 MDT and SON features

| Definitions for feature |
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| **Mobility history information storage**It is optional for UE to support the storage of PCell mobility history information and the reporting in *UEInformationResponse* message as specified in TS 38.331 [9]. |
| **Cross RAT RLF Report**It is optional for UE to support the delivery of EUTRA RLF report to an NR node upon request from the network. |
| **Radio Link Failure Report for inter-RAT MRO EUTRA**It is optional for UE to support:- Inclusion of EUTRA CGI and associated TAC, if available, and otherwise to include the physical cell identity and carrier frequency of the target PCell of the failed handover as *failedPCellId* in *RLF-Report* upon request from the network as specified in TS 38.331 [9].- Inclusion of EUTRA CGI and associated TAC as *previousPCellId* in *RLF-Report* as specified in TS 38.331 [9].- Inclusion of *eutraReconnectCellId* in *reconnectCellId* in the *RLF-Report* as specified in TS 38.331 [9] upon UE has radio link failure or handover failure and successfully re-connected to an E-UTRA cell. |
| **SCG Failure Report for MRO**It is optional for UE to support the delivery of the SCG failure related parameters for MRO in *SCGFailureInformation* message to the network. |
| **SpCell ID indication**It is optional for UE to support the delivery of the *spCellID-r17* in the RA-Report, if the RA procedure is performed in a SCell of the MCG/SCG. |
| **RLF report after successful fast MCG recovery**It is optional for UE to support logging*previousPCellId, lastHO-Type,* and *timeConnFailure* when T316 was not running before entering the PCell in which the radio link failure was detected. |

<text omitted>

*End of the change*