**3GPP TSG-RAN WG2 Meeting #128 *R2-240xxxx***

**Orlando, USA, Nov 18th – 22nd, 2024**

|  |
| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **38.331** | **CR** | **5105** | **rev** | **1**  | **Current version:** | **18.3.0** |  |
|  |
| *For* ***[HE](http://www.3gpp.org/3G_Specs/CRs.htm%22%20%5Cl%20%22_blank)******[LP](http://www.3gpp.org/3G_Specs/CRs.htm%22%20%5Cl%20%22_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:***  | Correction on logging PSCell identity |
|  |  |
| ***Source to WG:*** | CATT |
| ***Source to TSG:*** | R2 |
|  |  |
| ***Work item code:*** | NR\_ENDC\_SON\_MDT\_enh2-Core |  | ***Date:*** | 2024-11-19 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-18 |
|  | *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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
|  |  |
| ***Reason for change:*** | 1. In RAN2#124 meeting, RAN2 received an LS [R2-2311729] from RAN3 about fast MCG failure recovery as follows.

|  |
| --- |
| RAN3 discussed the successful Fast MCG Recovery case. RAN3 understands that the reporting from a Fast MCG Recovery failure case includes the PSCell in the SN where recovery was initiated. RAN3 considers that it would be beneficial if the UE can report this PSCell identity also in the successful Fast MCG Recovery case. RAN3 therefore kindly ask RAN2 whether it is possible to add this information also for the successful Fast MCG Recovery case? |

Based on the highlighted information above, it can be seen that the PSCell should be recorded for fast MCG recovery failure case. This is also reflected in the field description of *pSCellId* in RAN2 spec.

|  |
| --- |
| ***pSCellId***This field is used to indicate the PSCell in which the UE failed to perform fast MCG recovery procedure or the UE successfully performed fast MCG recovery procedure. |

In current spec, PSCell identity is recorded in RLF report in case of fast MCG recovery failure due to SCG failure and T316 expiry, but for deactivated SCG which also causes fast MCG recovery failure, the UE behaviour to log the PSCell identity in RLF report is missing. |
|  |  |
| ***Summary of change:*** | 1. Add the procedure description for logging the PSCell identity in case of MCG recovery failure due to SCG deactivation.

**Impact analysis**Architecture optionsNR-DCImpacted functionality:Rel-18 SONMDT(fast MCG failure recovery)Inter-operability:If only the network is implemented according to the CR and the UE is not, no interoperability problems are foreseen. If only the UE is implemented according to the CR and the network is not, no interoperability problems are foreseen. |
|  |  |
| ***Consequences if not approved:*** | 1. The procedure description for the PSCell identity logging is missing in case of MCG recovery failure due to SCG deactivation.
 |
|  |  |
| ***Clauses affected:*** | 5.3.10.3 |
|  |  |
|  | **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 |

#### 5.3.10.3 Detection of radio link failure

The UE shall:

1> if any DAPS bearer is configured and T304 is running:

2> upon T310 expiry in source SpCell; or

2> upon random access problem indication from source MCG MAC; or

2> upon indication from source MCG RLC that the maximum number of retransmissions has been reached; or

2> upon consistent uplink LBT failure indication from source MCG MAC:

3> consider radio link failure to be detected for the source MCG i.e. source RLF;

3> suspend the transmission and reception of all DRBs and multicast MRBs in the source MCG;

3> reset MAC for the source MCG;

3> release the source connection.

1> else:

2> during a DAPS handover: the following only applies for the target PCell;

2> upon T310 expiry in PCell; or

2> upon T312 expiry in PCell; or

2> upon random access problem indication from MCG MAC while neither T300, T301, T304, T311 nor T319 are running and SDT procedure is not ongoing; or

2> upon indication from MCG RLC that the maximum number of retransmissions has been reached while SDT procedure is not ongoing; or

2> if connected as an IAB-node, upon BH RLF indication received on BAP entity from the MCG; or

2> upon consistent uplink LBT failure indication from MCG MAC while T304 is not running:

3> if the indication is from MCG RLC and CA duplication is configured and activated for MCG, and for the corresponding logical channel *allowedServingCells* only includes SCell(s):

4> initiate the failure information procedure as specified in 5.7.5 to report RLC failure.

3> else:

4> consider radio link failure to be detected for the MCG, i.e. MCG RLF;

4> discard any segments of segmented RRC messages stored according to 5.7.6.3;

NOTE 1: Void.

4> if AS security has not been activated:

5> perform the actions upon going to RRC\_IDLE as specified in 5.3.11, with release cause 'other';-

4> else if AS security has been activated but SRB2 and at least one DRB or multicast MRB or, for IAB and NCR, SRB2, have not been setup:

5> store the radio link failure information in the *VarRLF-Report* as described in clause 5.3.10.5;

5> perform the actions upon going to RRC\_IDLE as specified in 5.3.11, with release cause 'RRC connection failure';

4> else:

5> store the radio link failure information in the *VarRLF-Report* as described in clause 5.3.10.5;

5> if MP is configured:

6> if T316 is configured, and MP indirect path transmission is not suspended; and

6> if neither MP indirect path change nor MP indirect path addition is ongoing:

7> initiate the MCG failure information procedure as specified in 5.7.3b to report MCG radio link failure.

6> else:

7> initiate the connection re-establishment procedure as specified in 5.3.7.

5> else:

6> if the UE supports RLF-Report for fast MCG recovery procedure and if T316 is configured:

7> if the SCG is deactivated at the moment of detecting RLF in the MCG:

8> set the mcgRecoveryFailureCause in the VarRLF-Report to *scg-Deactivated*;

8> set the *pSCellId* in the *VarRLF-Report* to the global cell identity of the PSCell, if available, otherwise to the physical cell identity and carrier frequency of the PSCell;

7> else if SCG transmission is suspended at the moment of detecting RLF in the MCG:

8> set the *pSCellId* in the *VarRLF-Report* to the global cell identity of the PSCell, if available, otherwise to the physical cell identity and carrier frequency of the PSCell;

8> set the *scg-FailureCause* value in the *VarRLF-Report* according to 5.7.3.5;

8> set the *elapsedTimeSCG-Failure* in the *VarRLF-Report* to the time elapsed between SCG failure and the MCG failure;

6> if T316 is configured; and

Editor´s note: The use of scg-Deactivated cause.

6> if SCG transmission is not suspended; and

6> if the SCG is not deactivated; and

6> if neither PSCell change nor PSCell addition is ongoing (i.e. timer T304 for the NR PSCell is not running in case of NR-DC or timer T307 of the E-UTRA PSCell is not running as specified in TS 36.331 [10], clause 5.3.10.10, in NE-DC):

7> initiate the MCG failure information procedure as specified in 5.7.3b to report MCG radio link failure.

6> else:

7> initiate the connection re-establishment procedure as specified in 5.3.7.

A L2/L3 U2N Relay UE shall:

1> upon detecting radio link failure:

2> either indicate to upper layers (to trigger PC5 unicast link release) or send *NotificationMessageSidelink* to the connected L2/L3 U2N Remote UE(s) in accordance with 5.8.9.10.

A N3C Relay UE shall:

1> upon detecting radio link failure:

2> indicates to the associated N3C remote UE via the Non-3GPP Connection.

NOTE 2: How the N3C Relay UE indicates Uu RLF on the Non-3GPP Connection is left to implementation.

The UE shall:

1> upon T310 expiry in PSCell; or

1> upon T312 expiry in PSCell; or

1> upon random access problem indication from SCG MAC; or

1> upon indication from SCG RLC that the maximum number of retransmissions has been reached; or

1> if connected as an IAB-node, upon BH RLF indication received on BAP entity from the SCG; or

1> upon consistent uplink LBT failure indication from SCG MAC:

2> if the indication is from SCG RLC and CA duplication is configured and activated for SCG, and for the corresponding logical channel *allowedServingCells* only includes SCell(s):

3> initiate the failure information procedure as specified in 5.7.5 to report RLC failure.

2> else:

3> consider radio link failure to be detected for the SCG, i.e. SCG RLF;

3> if the SCG is deactivated:

4> stop radio link monitoring on the SCG;

4> indicate to lower layers to stop beam failure detection on the PSCell;

3> if MCG transmission is not suspended:

4> initiate the SCG failure information procedure as specified in 5.7.3 to report SCG radio link failure.

3> else:

4> if the UE is in NR-DC:

5> if the UE supports RLF-Report for fast MCG recovery procedure and if the UE detected SCG failure while the timer T316 was running:

6> set the *pSCellId* in the *VarRLF-Report* to the global cell identity of the PSCell, if available, otherwise to the physical cell identity and carrier frequency of the PSCell;

6> set the *scg-FailureCause* in the *VarRLF-Report* value according to 5.7.3.5;

6> set the *elapsedTimeSCG-Failure* in the *VarRLF-Report* to the time elapsed between MCG failure and the SCG failure;

6> include *scg-FailedAfterMCG*;

5> initiate the connection re-establishment procedure as specified in 5.3.7;

4> else (the UE is in (NG)EN-DC):

5> initiate the connection re-establishment procedure as specified in TS 36.331 [10], clause 5.3.7;

|  |
| --- |
| CHANGE END |