**3GPP TSG-RAN WG2 Meeting #118-e *R2-220nnnn***

**E-meeting, 09 May – 20 May 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **36.306** | **CR** | 1850 | **rev** | 1 | **Current version:** | **17.0.0** |  |
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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:*** | Introduction of gNB ID length reporting in the NR CGI report [gNB\_ID\_Length] | | | | | | | | | |
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| ***Source to WG:*** | |  | | --- | | Ericsson, Verizon, China Telecom, Bell Mobility, Samsung, Rogers, TELUS, Telecom Italia, T-Mobile USA, US Cellular | | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI17 | | | | |  | ***Date:*** | | | 2022-05-17 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | B |  | | | | | ***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:*** | | In case of NR cells, a gNB ID represents the (22..32) MSBs of the (36bits long) NR Cell IDs. In the current specifications there is no indication of the size of the gNB id in NR CGI or NR Cell Identity (NCI). At the same time NR CGI is assumed to be unique. If an operator wants to make use of different gNB ID lengths in its network it is not obvious how the operator can ensure that all resulting NR CGIs are unique. This has a major effect on the capability of an operator to exploit flexible NG-RAN Node ID lengths for a network with different levels of node densification and for future deployment densification.  Thus, the feature of broadcasting gNB ID lengths by the NR cells is introduced. To ensure that this gNB ID length is reported as part of the CGI reporting procedure, one needs to include this newly added field in the NR CGI measurement report sent by the UE to an EUTRA node.  The network benefits from knowing whether a UE supports the reporting of the neighbor cell’s gNB identity length. The network can then pick such UEs for CGI reporing procedure to ensure that all the information required for establishing Xn is available. | | | | | | | | |
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| ***Summary of change:*** | | Addition of the capability bit for indicating the capability of reporting the gNB identity length as part of the CGI reporting procedure | | | | | | | | |
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| ***Consequences if not approved:*** | | The network node that fetches the CGI report from the UE does not know how many bits out of the 36 bits of NR cell ID represents the length of the gNB ID. Hence for an NG based HO source RAN node may not be able to find the target RAN node and this leads to a RLF. | | | | | | | | |
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| ***Clauses affected:*** | | 4.3.11.X (New), 4.3.11.Y (New) | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | |  | | --- | | TS 38.331 CR 3181  TS 36.331 CR 4821  TS 38.306 CR 0747  TS 38.300 CR 0474  TS 36.300 CR 1225  TS 38.413 CR 0571 | | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR … CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR … CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Revision 0 implementation of the agreement from RAN2 118 meeting before come back session | | | | | | | | |

/\*Start of the changes\*/

4.3.11 Neighbour cell SI acquisition parameters

4.3.11.1 *intraFreqSI-AcquisitionForHO*

This parameter defines whether the UE supports, upon configuration of *si-RequestForHO* by the network, acquisition of relevant information from a neighbouring intra-frequency cell by reading the SI of the neighbouring cell using autonomous gaps and reporting the acquired information to the network as specified in TS 36.331 [5].

4.3.11.2 *interFreqSI-AcquisitionForHO*

This parameter defines whether the UE supports, upon configuration of *si-RequestForHO* by the network, acquisition of relevant information from a neighbouring inter-frequency cell by reading the SI of the neighbouring cell using autonomous gaps and reporting the acquired information to the network as specified in TS 36.331 [5].

4.3.11.3 *utran-SI-AcquisitionForHO*

This parameter defines whether the UE supports, upon configuration of *si-RequestForHO* by the network, acquisition of relevant information from a neighbouring UMTS cell by reading the SI of the neighbouring cell using autonomous gaps and reporting the acquired information to the network as specified in TS 36.331 [5].

4.3.11.4 *reportCGI-NR-EN-DC-r15*

This parameter defines whether the UE supports acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 36.331 [5] when the (NG)EN-DC is configured.

4.3.11.5 *reportCGI-NR-NoEN-DC-r15*

This parameter defines whether the UE supports acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 36.331 [5] when the (NG)EN-DC is not configured.

4.3.11.6 *eutra-CGI-Reporting-ENDC*

This parameter defines whether the UE supports acquisition of relevant information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 36.331 [5] when the (NG)EN-DC is configured wherein either MN and SN have different DRX cycles, or on-duration configured by MN does not contain on-duration configured by SN if their DRX cycles are same.

4.3.11.7 *utra-GERAN-CGI-Reporting-ENDC*

This parameter defines whether the UE supports acquisition of relevant information from a neighbouring GERAN/UTRA cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 36.331 [5] when the (NG)EN-DC is configured wherein either MN and SN have different DRX cycles, or on-duration configured by MN does not contain on-duration configured by SN if their DRX cycles are same.

4.3.11.8 *eutra-SI-AcquisitionForHO-ENDC-r16*

This parameter defines whether the UE supports, upon configuration of *si-RequestForHO* by the network, acquisition of relevant information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell using autonomous gaps and reporting the acquired information to the network as specified in TS 36.331 [5] when the (NG)EN-DC is configured.

4.3.11.9 *nr-AutonomousGaps-ENDC-FR1-r16*

This parameter defines whether the UE supports, upon configuration of *useAutonomousGapsNR* by the network, acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell on FR1 using autonomous gaps and reporting the acquired information to the network as specified in TS 36.331 [5] when it is configured with (NG)EN-DC.

4.3.11.10 *nr-AutonomousGaps-ENDC-FR2-r16*

This parameter defines whether the UE supports, upon configuration of *useAutonomousGapsNR* by the network, acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell on FR2 using autonomous gaps and reporting the acquired information to the network as specified in TS 36.331 [5] when it is configured with (NG)EN-DC.

4.3.11.11 *nr-AutonomousGaps-FR1-r16*

This parameter defines whether the UE supports, upon configuration of *useAutonomousGapsNR* by the network, acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell on FR1 using autonomous gaps and reporting the acquired information to the network as specified in TS 36.331 [5] when it is not configured with (NG)EN-DC.

4.3.11.12 *nr-AutonomousGaps-FR2-r16*

This parameter defines whether the UE supports, upon configuration of *useAutonomousGapsNR* by the network, acquisition of relevant information from a neighbouring NR cell by reading the SI of the neighbouring cell on FR2 using autonomous gaps and reporting the acquired information to the network as specified in TS 36.331 [5] when it is not configured with (NG)EN-DC.

4.3.11.13 *eutra-CGI-Reporting-NEDC-r15*

This parameter defines whether the UE supports acquisition of relevant information from a neighbouring E-UTRA cell by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 36.331 [5] when the NE-DC is configured.

4.3.11.X *gNB-ID-Length-Reporting-NR-EN-DC-r17*

This parameter defines whether the UE supports the acquisition of length of the gNB identity from a neighbouring NR cell when it is configured with (NG)EN-DC by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 36.331 [5]. If the UE supports Inter-RAT CGI reporting when it is configured with (NG)EN-DC, the UE shall support the Inter-RAT gNB ID length reporting towards NR cell.

4.3.11.Y *gNB-ID-Length-Reporting-NR-NoEN-DC-r17*

This parameter defines whether the UE supports the acquisition of length of the gNB identity from a neighbouring NR cell when it is not configured with (NG)EN-DC by reading the SI of the neighbouring cell and reporting the acquired information to the network as specified in TS 36.331 [5]. If the UE supports Inter-RAT CGI reporting when it is not configured with (NG)EN-DC, the UE shall support the Inter-RAT gNB ID length reporting towards NR cell.

/\*End of the changes\*/