**3GPP TSG-SA5 Meeting #141-e *S5-211377rev1***

**e-meeting, 17 - 26 January 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** | **0357** | **rev** |  | **Current version:** | **17.5.0** |  |
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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 |  | Radio Access Network | **X** | Core Network |  |

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| ***Title:*** | Conditional handover measurements | | | | | | | | | |
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| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | E\_HOO | | | | |  | ***Date:*** | | | 2022-01-07 |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *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:*** | | Lack of observability of conditional handover. | | | | | | | | |
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| ***Summary of change:*** | | Adding measurements for counting the number of UEs prepared for conditional handover. For inter-gNB preparations, there are counters for requested, successful and failed preparations. For intra-gNB preparations, there are counters for requested and successful preparations. | | | | | | | | |
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| ***Consequences if not approved:*** | |  | | | | | | | | |
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| ***Clauses affected:*** | | 5.1.1.6.6.x (new), 5.1.1.6.6.y (new), 5.1.1.6.6.z (new), 5.1.3.7.1.w (new), 5.1.3.7.1.u (new) | | | | | | | | |
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|  | | **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:*** | |  | | | | | | | | |

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| **First change** |

###### 5.1.1.6.6.x Number of UEs for which conditional handover preparations are requested

a) This measurement provides the number of UEs for which conditional handover preparations were requested by the source gNB.

b) CC.

c) On transmission of HANDOVER REQUEST message (see TS 38.423 [13] clause 8.2.1) where the message denotes a conditional handover preparation, by the source NR cell CU to target NR cell CU, for requesting the preparation of resources at the target NR cell CU. The counter is incremented by 1 for each UE, even if HANDOVER REQUEST messages were sent to several cells.

d) A single integer value.

e) MM.ChoPrepInterReqUes.

f) NRCellCU.

g) Valid for packet switched traffic.

h) 5GS.

i) One usage of this performance measurements is for performance assurance.

###### 5.1.1.6.6.y Number of UEs for which conditional handover preparations were successful

a) This measurement provides the number of UEs for which successful conditional handover preparations were received by the source NR cell CU.

b) CC.

c) On receipt of HANDOVER REQUEST ACKNOWLEDGE message (see TS 38.423 [13] clause 8.2.1) where the message corresponds to a previously sent conditional handover HANDOVER REQUEST message, by the source NR cell CU from the target NR cell CU, for informing that the resources for the conditional handover have been prepared at the target NR cell CU. The counter is incremented by 1 for each UE, even if HANDOVER REQUEST ACKNOWLEDGE messages were received from several cells.

d) A single integer value.

e) MM.ChoPrepInterSuccUes.

f) NRCellCU.

g) Valid for packet switched traffic.

h) 5GS.

i) One usage of this performance measurements is for performance assurance.

###### 5.1.1.6.6.z Number of UEs for which conditional handover preparations failed

a) This measurement provides the number of UEs for which conditional handover preparations failed, as received by the source NR cell CU. This measurement is split into subcounters per failure cause.

b) CC.

c) On receipt of HANDOVER PREPARATION FAILURE message (see TS 38.423 [13] clause 8.2.1.3) where the message corresponds to a previously sent conditional handover HANDOVER REQUEST message, by the source NR cell CU from the target NR cell CU, for informing that the preparation of resources at the target NR cell CU has failed. Each received HANDOVER PREPARATION FAILURE message increments the relevant subcounter per failure cause by 1. The counter is incremented by 1 for each UE, even if HANDOVER PREPARATION FAILURE messages were received from several cells.

d) Each subcounter is an integer value.

e) MM.ChoPrepInterFailUes.*cause*.

where *cause* identifies the failure cause of the conditional handover preparations.

f) NRCellCU.

g) Valid for packet switched traffic.

h) 5GS.

i) One usage of this performance measurements is for performance assurance

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| **Next change** |

###### 5.1.3.7.1.w Number of UEs for which conditional handover preparations are requested

a) This measurement provides the number of UEs for which outgoing intra-gNB conditional handover preparations are requested by the source NRCellCU for a split gNB deployment.

b) CC.

c) For split gNB deployment the measurement is triggered and stepped by 1 when gNB-CUCP is sending a UE CONTEXT MODIFICATION REQUEST message (see TS 38.473 [6] clause 8.3.4) to gNB-DU to request resources for an intra-gNB conditional handover. The counter is incremented by 1 for each UE, even if UE CONTEXT MODIFICATION REQUEST messages were sent for several cells.

d) A single integer value.

e) MM.ChoPrepIntraReqUes

f) NRCellCU

g) Valid for packet switched traffic.

h) 5GS

i) One usage of this performance measurement is for performance assurance.

###### 5.1.3.7.1.u Number of UEs for which conditional handover preparations are successful

a) This measurement provides the number of UEs for which intra-gNB conditional handover preparations received by the source NRCellCU are successful, for a split gNB deployment.

b) CC

c) For split gNB deployment the measurement is triggered and stepped by 1 when gNB-CUCP receives a UE CONTEXT MODIFICATION RESPONSE message (see TS 38.473 [6] clause 8.3.4) from gNB-DU to initiate a successful intra-gNB conditional handover. The counter is incremented by 1 for each UE, even if UE CONTEXT MODIFICATION RESPONSE messages were received for several cells.

d) A single integer value.

e) MM.ChoPrepIntraSuccUes

f) NRCellCU

g) Valid for packet switched traffic.

h) 5GS

i) One usage of this performance measurement is for performance assurance.

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| **End of changes** |