**3GPP TSG-RAN4 Meeting #94-e *R4-2002240***

Online, 24th February – 6th March 2020

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **38.133** | **CR** | **0551** | **rev** | **1** | **Current version:** | **16.2.0** |  |
|  |
| *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:***  | Correction on handover requirements for SRVCC |
|  |  |
| ***Source to WG:*** | Huawei, HiSilicon |
| ***Source to TSG:*** | R4 |
|  |  |
| ***Work item code:*** | SRVCC\_NR\_to\_UMTS-Core |  | ***Date:*** | 2020-03-04 |
|  |  |  |  |  |
| ***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 e?planations 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-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
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| ***Reason for change:*** | Replace the message name TBD to *MobilityfromNRCommand* . |
|  |  |
| ***Summary of change:*** | Replace the message name TBD to *MobilityfromNRCommand* . |
| ***pd*** |  |
| ***Consequences if not approved:*** | The specification is not completed. |
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| ***Clauses affected:*** | 6.1.2.2 |
|  |  |
|  | **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:*** |  |

#### <Start of Change 1>

#### 6.1.2.2 NR – UTRAN Handover

#### 6.1.2.2.1 Introduction

The purpose of inter-RAT handover from NR to UTRAN is to change the radio access mode from NR to UTRAN. The handover procedure is initiated from NR with a RRC message that implies a hard handover as described in TS 38.331 [29].

##### 6.1.2.2.2 Handover delay

When the UE receives a RRC message implying handover to UTRAN the UE shall be ready to start the transmission of the new UTRA uplink DPCCH within Dhandover seconds from the end of the last NR TTI containing the RRC *MobilityfromNRCommand* command.

where:

- Dhandover equals the RRC procedure delay, which is 50 ms plus the interruption time stated in clause 6.1.2.2.3.

##### 6.1.2.2.3 Interruption time

The interruption time is the time between the end of the last TTI containing the RRC command on the NR PDSCH and the time the UE starts transmission on the uplink DPCCH in UTRAN, excluding the RRC procedure delay. The interruption time depends on whether the target cell is known to the UE or not.

The target cell is known if it has been measured by the UE during the last 5 seconds otherwise it is unknown. The UE shall always perform a UTRA synchronisation procedure as part of the handover procedure.

If the target cell is known the interruption time shall be less than Tinterrupt1

 Tinterrupt1 = TIU+Tsync+50+ 10\*Fmax + TMC ms

If the target cell is unknown the interruption time shall be less than Tinterrupt2

 Tinterrupt2 = TIU+Tsync+150 + 10\*Fmax + TMC ms

This requirement shall be met, provided that there is one target cell in the *MobilityfromNRCommand* command. Performance requirements for E-UTRA to UTRA soft handover are not specified. When UE is connected to an NR cell, UTRA SFN timing measurements are not reported. This implies that the timing of the DPCH of the UTRA target cells in the active set cannot be configured by UTRAN to guarantee that all target cells fall within the UE reception window of T0 +/- 148 chips.

Where:

- TIU is the interruption uncertainty when changing the timing from the NR to the new UTRAN cell. TIU can be up to one UTRA frame (10 ms).

- Fmax denotes the maximum number of radio frames within the transmission time intervals of all transport channels that are multiplexed into the same CCTrCH on the UTRA target cell. If HS-PDSCH is configured in the UTRA target cell, Fmax is 4 radio frames.

- Tsync is the time required for measuring the downlink DPCCH channel as stated in TS 25.214 [20], clause 4.3.1.2. In case higher layers indicate the usage of a post-verification period Tsync=0 ms. Otherwise Tsync=40 ms.

- TMC is 0ms if a single UTRA cell is configured as the handover target, otherwise 20ms if handover to UTRA with 1, 2 or 3 UTRA carriers with secondary HS-PDSCH is configured.

The phase reference is the primary CPICH.

The requirements in this clause assume that N312 has the smallest possible value i.e. only one insync is required.

#### <End of Change 1>