**SA WG2 Meeting #S2-138E S2-2002789**

**Online, 20 - 24 April, 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **23.502** | **CR** | **2195** | **rev** | **-** | **Current version:** | **16.4.0** |  |
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| *For* ***HE******LP*** *on using this form: comprehensive instructions can be found at 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:***  | Removing NID from Xn based inter NG-RAN HO procedure |
|  |  |
| ***Source to WG:*** | China Telecom, Ericsson, Huawei, Hisilicon |
| ***Source to TSG:*** | SA2 |
|  |  |
| ***Work item code:*** | Vertical\_LAN |  | ***Date:*** | 2020-03-27 |
|  |  |  |  |  |
| ***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 explanations of the above categories canbe found in 3GPP TR 21.900. | *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:*** | Clause 4.9.1.2.1 (Xn based inter NG-RAN handover) in TS 23.502 states that if the serving PLMN changes during Xn-based handover, the source NG-RAN node shall indicate to the target NG-RAN the selected PLMN ID (or PLMN and NID) to be used in the target network. However, in current specifications, the serving network cannot change when the UE is registered in an SNPN.However, there is a need to be able to select PLMN or SNPN when doing HO to a shared network. |
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| ***Summary of change:*** | Remove signaling NID from Xn based inter NG-RAN handover when the serving PLMN changes.Adding that source NG-RAN determines PLMN or SNPN to be used in target network. |
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| ***Consequences if not approved:*** | Misleading that the serving network can change when the UE is registered in an SNPN. |
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| ***Clauses affected:*** | 4.9.1.2.1 |
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|  | **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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

**\* \* \* \* Start of Changes \* \* \* \***

#### 4.9.1.2 Xn based inter NG-RAN handover

##### 4.9.1.2.1 General

Clause 4.9.1.2 includes details regarding the Xn based inter NG-RAN handover with and without UPF re-allocation.

Xn handovers are only supported for intra-AMF mobility.

The handover preparation and execution phases are performed as specified in TS 38.300 [9], in the case of handover to a shared network, source NG-RAN determines a PLMN or an SNPN to be used in the target network as specified by TS 23.501 [2]. If the serving PLMN changes during Xn-based handover, the source NG-RAN node shall indicate to the target NG-RAN node (in the Mobility Restriction List) the selected PLMN ID to be used in the target network. During Xn based handover into a shared NG-RAN node the source NG RAN node shall include the serving NID (if available) in the Mobility Restriction List to be used by the target NG-RAN node.

If the AMF generates the N2 downlink signalling during the ongoing handover and receives a rejection to a N2 interface procedure (e.g. Location Reporting Control; DL NAS message transfer; etc.) from the NG-RAN with an indication that a Xn based handover procedure is in progress, the AMF may reattempt the same N2 interface procedure either when the handover is complete or the handover is deemed to have failed, when possible. The failure is known by expiry of the timer guarding the N2 interface procedure.

Upon reception for an SMF initiated N1 and/or N2 request(s) with an indication that the request has been temporarily rejected due to handover procedure in progress, the SMF starts a locally configured guard timer. Any NF (e.g. the SMF) should hold any signalling messages targeted towards AMF for a given UE during the handover preparation phase unless it detects that the handover execution is completed or handover has failed/cancelled. The NF (e.g. the SMF) may re-attempt, up to a pre-configured number of times, when either it detects that the handover is completed or has failed using message reception or at expiry of the guard timer.

**\* \* \* \* End of Changes \* \* \* \***