**3GPP TSG- Meeting #**

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  |
| *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 |  | Radio Access Network | **X** | Core Network | **X** |

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| ***Title:***  | Clarification on non-homogeneous deployment  |
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| ***Source to WG:*** |  |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** | NR\_XR\_enh-Core  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***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 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)* |
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| ***Reason for change:*** | The non-homogeneous scenario is about gNBs have different capabilities on the PDU set based handling. Current Stage-2 only describe the handover scenario, but not cover the RRC\_INACTIVE UE and Re-establishment. For example, * during the network triggered transition from RRC\_INACTIVE to RRC\_CONNECTED, the UE may connect with a serving gNB that is different to last serving gNB. The serving gNB and last serving gNB may have different capability regarding the support of PDU Set handling.
* during the re-establishment procedure, the serving gNB and last serving gNB may have different capability regarding the support of PDU Set handling.

It is necessary to add the missing scenario for non-homogeneous deployment.  |
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| ***Summary of change:*** | Clarify the transition from RRC\_INACTIVE to RRC\_CONNECTED, and re-establishment are also part of the non-homogeneous deployment.**Impact analysis**Impact assessment towards the previous version of the specification (same release): This CR has isolated impact with the previous version of the specification (same release).This CR has impact on the functional point of view, the impact can be considered isolated because it only add the missing scenario for Non-Homogeneous support. |
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| ***Consequences if not approved:*** | It is unclear how the serving gNB handles the PDU Set Handling during the transition from RRC\_INACTIVE to RRC\_CONNECTED, or during the re-establishment. |
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| ***Clauses affected:*** | 16.15.5 |
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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 the Changes-------------------***

### 16.15.5 Non-Homogeneous support of PDU set based handling in NG-RAN

During a handover from a gNB supporting PDU Set based handling to another gNB, the source gNB signals the PDU Set Information over Xn-U if the target node has signalled the support of PDU Set based handling in the Xn Handover Request Acknowledge message.

During a handover or a transition from RRC\_INACTIVE to RRC\_CONNECTED or a re-establishmen from a gNB not supporting PDU Set based handling to a gNB supporting PDU Set based handling, the target gNB may indicate the support of PDU Set based handling to the SMF during the Path Switch Request procedure (in case of Xn handover) or Handover Resource Allocation procedure (in case of NG handover), the SMF will act as specified in TS 23.501[3]. If the indication is absent, the SMF infers that PDU Set based handling is not supported by the target NG-RAN node, then the SMF will act as specified in TS 23.501[3].

During a handover from a NG-RAN node not supporting PDU Set based handling to a NG-RAN node supporting PDU Set based handling, the target NG-RAN node may receive unmarked PDU(s) (i.e. PDU(s) without PDU Set Information Container) forwarded from the source NG-RAN node or last serving gNB, and marked PDU(s) (i.e. PDU(s) with PDU Set Information Container) from UPF, how the target NG-RAN node handles the marked and unmarked PDUs for the same QoS flow is up to implementation.

During a transition from RRC\_INACTIVE to RRC\_CONNECTED or a re-establishment with a serving gNB supporting PDU Set based handling, the serving gNB may indicate the support of PDU Set based handling to the SMF during the Path Switch Request procedure, the SMF will act as specified in TS 23.501[3]. If the indication is absent, the SMF infers that PDU Set based handling is not supported by the serving gNB, then the SMF will act as specified in TS 23.501[3]. In case the last serving gNB does not support PDU Set based handling, the serving gNB may receive unmarked PDU(s) (i.e. PDU(s) without PDU Set Information Container) forwarded from the last serving gNB and marked PDU(s) (i.e. PDU(s) with PDU Set Information Container) from UPF, how the serving gNB node handles the marked and unmarked PDUs for the same QoS flow is up to implementation.J

***-----------------End of the Change-------------------***