**3GPP TSG-RAN WG3 Meeting #123R3-240893**

**Athens, Greece, 26th Feb – 1st Mar 2024**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **0041** | **rev** | **1** | **Current version:** |  |  |
|  | | | | | | | | |
| *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:*** | Support for transfer PDU Set Information container during data forwarding | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell, ZTE, Ericsson, Qualcomm Inc., Samsung, Xiaomi, China Telecom, CATT | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_XR\_enh-Core | | | | |  | ***Date:*** | | | 2024-01-10 |
|  |  | | | |  | |  | | |  |
| ***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)* ***S*** *(adding to the sourcing companies’ CR statistics)*  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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The XR related PDU Session Information container is not forwardeding during data forwarding in Xn HO. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Add the support of forwarding the XR related PDU Set Information Container during data forwarding. | | | | | | | | |
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| ***Consequences if not approved:*** | | Target NG-RAN node may not be able to correctly perform PDU Set based handling for the DL data received from source NG-RAN node during data forwarding in Xn HO. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.2, 8.7 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS 38.300 CR 00xx | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | Rev 1: updated to add the changes to Section 8.7 | | | | | | | | |

***-----------------Start of the Changes-------------------***

## 7.2 Xn User Plane

The Xn user plane (Xn-U) interface is defined between two NG-RAN nodes. The Xn-U interface provides non-guaranteed delivery of user plane PDUs between two NG-RAN nodes.

The protocol stack for Xn-U is shown in Figure 7.2-1.



Figure 7.2-1: Xn-U protocol structure

The user plane packets conveyed by GTP-U may be PDCP PDUs (e.g. in case of dual connectivity), PDCP SDUs (e.g. in case of DRB level data forwarding), or SDAP SDUs (e.g. in PDU Session level data forwarding).

User plane protocol messages (as defined in TS 38.425 [7] and TS 38.415 [10]) are carried by container fields in the GTP-U extension header as specified in TS 29.281 [11]. A single GTP-U packet may carry a user plane packet and/or a user plane protocol message. The mapping between container fields and Xn user plane protocol procedures and functions is described in Table 7.2-1.

Table 7.2-1: Mapping between container fields and Xn user plane procedures / functions

| Xn-U Function | Container Type | Xn UP Protocol Procedure |
| --- | --- | --- |
| Data transfer | NR RAN Container, as per TS 29.281 [11] (Note 1) | Transfer of Downlink User Data,  TS 38.425 [7] |
| PDU Session Container, as per TS 29.281 [11] (Note 2) | Transfer of DL PDU Session Information, TS 38.415 [10]  Transfer of UL PDU Session Information, TS 38.415 [10] |
| PDU Set Information Container, as per TS 29.281 [11] (Note 5) | Transfer of DL PDU Set Information Container, TS 38.415 [10] |
| No container (Note 3) | NA |
| Flow control | NR RAN Container as per TS 29.281 [11] (Note 4) | Downlink Data Delivery Status, TS 38.425 [7]  Transfer of Downlink User Data, TS 38.425 [7] |
| Fast retransmission | NR RAN Container as per TS 29.281 [11] (Note 4) | Downlink Data Delivery Status, TS 38.425 [7]  Transfer of Downlink User Data, TS 38.425 [7] |
| Assistance information | NR RAN Container as per TS 29.281 [11] (Note 4) | Transfer of Assistance Information, TS 38.425 [7] |
| Note 1: optionally used in Dual Connectivity DL data transfer.  Note 2: in case of PDU Session level forwarding only.  Note 3: all other cases of data transfer when no other Xn-U functionality is required  Note 4: optionally used in Dual Connectivity  Note 5: optionally used in case forwarding PDU set information is required | | |

***-----------------Next Changes-------------------***

8.7 Summary of NG-RAN Xn interface Technical Specifications

The relationship between the technical specifications that define the NG-RAN Xn interface is shown in Figure 8.7-1.

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**Figure 8.7-1: Xn Interface Technical Specifications**

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