**3GPP TSG-RAN WG3 Meeting #125 *R3-24xxxx***

**Maastricht, NL, 19th Aug – 23rd Aug, 2024**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **5** | **CR** | **0156** | **rev** |  | **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 L4S in NR-NR DC | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson, AT&T, BT, T-Mobile USA, Charter Communications, Qualcomm | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NR\_XR\_Ph3-Core | | | | |  | ***Date:*** | | | 5 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | C |  | | | | | ***Release:*** | | | 9 |
|  | *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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | As part of a Rel19 WI on NR XR Enhancements, it was agreed that support for ECN marking for L4S would be introduced for NR-DC use cases. Necessary changes are needed to fulfil such objective for NR-DC split bearers where the node hosting PDCP needs to take into account ECN Marking or Congestion Information Reporting information corresponding to different legs of a split bearer to derive a final instance of the information. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The node hosting PDCP takes into account the UL Congestion Information and/or DL Congestion information reported by the corresponding node to derive a single value of the UL Congestion Information and/or DL Congestion information and to to further send it to the UPF | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The specification is incorrect because the node hosting PDCP can only send a single value of the UL Congestion Information and/or DL Congestion information towards the UPF, while it will receive two instances of such information from the corresponding nodes serving different legs of a split bearer. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.4.3.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  |  | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  |  | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

-------------------------------------- CHANGES START HERE --------------------------------------

### 5.4.3 Transfer of Assistance Information

#### 5.4.3.1 Successful operation

NOTE 1: In this section, PDCP duplication and delay measurement related information are not applicable to E-UTRA PDCP.

The purpose of the Transfer of Assistance Information procedure is to provide assistance information to the node hosting the NR PDCP entity. Such information may be taken into consideration by the node hosting the NR PDCP entity for UP management and optimisation procedures.

An NR user plane protocol instance making use of the Transfer of Assistance Information procedure is associated to a single data radio bearer only.

The Transfer of Assistance Information procedure may be invoked if

- the corresponding node decides to send the Radio Quality Assistance Information and/or the PDCP duplication activation suggestion to the node hosting the NR PDCP entity for the concerned data radio bearer or,

- the corresponding node decides to send the Radio Quality Assistance Information to the node hosting the NR PDCP entity for the concerned RLC entity.

The Transfer of Assistance Information procedure may be invoked if the corresponding node is configured to perform the QoS monitoring and to send the QoS monitoring results to the node hosting the NR PDCP entity for the concerned data radio bearer.

The ASSISTANCE INFORMATION DATA frame may include one or more Radio Quality Assistance Information. The information shall consist of the information indicated in the Assistance Information Type.

The ASSISTANCE INFORMATION DATA shall be sent, if supported, when the corresponding node receives a DL USER DATA PDU including the Assistance Information Report Polling Flag set to 1.

The ASSISTANCE INFORMATION DATA frame may include the PDCP Duplication Activation Suggestion, which informs the node hosting the NR PDCP entity of the suggestion from the corresponding node on whether to activate or not activate DL PDCP duplication. The node hosting the NR PDCP entity may take this information into account to take a decision on whether to activate or not activate PDCP duplication.

The ASSISTANCE INFORMATION DATA frame may include the UL Delay or/and DL Delay measured by the corresponding node. The node hosting the NR PDCP entity may take this information into account to calculate the whole UL or/and DL delay of RAN.

The ASSISTANCE INFORMATION DATA frame may include UL Congestion Information and/or DL Congestion information measured by the corresponding node. The node hosting the NR PDCP entity shall, if supported, take this information into account to perform ECN marking in the NG-RAN node, or it should take this information into account to derive a single value of the UL Congestion Information and/or DL Congestion information and to send it to the UPF for ECN marking or information exposure as specified in TS 23.501 [8].



Figure 5.4.3.1-1: Successful Transfer of Assistance Information

----------------------------------------------------------------------------- END OF CHANGES -----------------------------------------------------------------------------