**3GPP TSG- Meeting # *rev1***

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
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| *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:*** |  | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
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| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***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 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-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:*** | | Measurement name for the KPI named “Integrated downlink delay in RAN” is not correct. The text and measurement name are sometime using latency instead of delay. Further optional sub-counters per QoS and per S-NSSAI is missing in the definition. | | | | | | | | |
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| ***Summary of change:*** | | The subsection 6.3.1 has been updated to cover latency and delay KPIs.  Measurement name DLLat\_NR changed to DLDelay\_NR.  Subcounters has been added for QoS and S-NSSAI. | | | | | | | | |
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| ***Consequences if not approved:*** | | It will in the KPI not be possible to monitor the KPI named “Integrated downlink delay in RAN” per QoS and S-NSSAI. | | | | | | | | |
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| ***Clauses affected:*** | | 6.3.1, 6.3.1.2 | | | | | | | | |
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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 ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| **1st modified section** |

## 6.3 Integrity KPI

### 6.3.1 Latency and Delay of 5G network

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| **Next modified section** |

#### 6.3.1.2 Integrated downlink delay in RAN

a) DLDelay\_NR.

b) This KPI describes the average packet transmission delay through the RAN part to the UE. It is used to evaluate delay performance of NG-RAN in downlink. The measurement is optionally split into subcounters per QoS level (mapped 5QI or QCI in NR option 3) and per S-NSSAI. It is the average packets delay from reception of IP packet in gNB-CU-UP until the last part of an RLC SDU packet was received by the UE according to received HARQ feedback information for UM mode or until the last part of an RLC SDU packet was received by the UE according to received RLC ACK for AM mode. It is a Time interval (0.1 mS). The KPI type is MEAN. This KPI can optionally be split into KPIs per QoS level (mapped 5QI or QCI in NR option 3) and per S-NSSAI.

c) DLDelay\_NR = DRB.PdcpSduDelayDl + DRB.PdcpF1Delay + DRB.RlcSduDelayDl + DRB.AirIfDelayDl

or optionally DLDelay\_NR.*QOS* = DRB.PdcpSduDelayDl.*QOS* + DRB.PdcpF1Delay.*QOS* + DRB.RlcSduDelayDl.*QOS* + DRB.AirIfDelayDl.*QOS* where *QOS* identifies the target quality of service class.

or optionally DLDelay\_NR.*SNSSAI* = DRB.PdcpSduDelayDl.*SNSSAI* + DRB.PdcpF1Delay.*SNSSAI* + DRB.RlcSduDelayDl.*SNSSAI* + DRB.AirIfDelayDl.*SNSSAI* where *SNSSAI* identifies the S-NSSAI

For KPI on SubNetwork level, the individual measurements shall first be averaged for all NRCellDUs and gNBCUUPFunctions in the SubNetwork, before adding the averaged DL delay components together.

d) SubNetwork

e) In non-split gNB scenario, the value of DRB.PdcpF1Delay (and the optional DRB.PdcpF1Delay.*QOS and* DRB.PdcpF1Delay.*SNSSAI* ) is set to zero for there are no F1-interfaces in this scenario.

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| **End of modified section** |