**3GPP TSG-SA5 Meeting #141-e *S5-221451rev1***

**e-meeting, 17th Jan 2022 - 26th Jan 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **28.552** | **CR** | **0361** | **rev** | **-** | **Current version:** | **17.5.0** |  |
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| *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:*** | Rel-17 CR TS 28.552 Updating packets based performance measurements | | | | | | | | | |
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| ***Source to WG:*** | Harman GmbH | | | | | | | | | |
| ***Source to TSG:*** | SA5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | ePM\_KPI\_5G | | | | |  | ***Date:*** | | | 2022-01-07 |
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| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
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| ***Reason for change:*** | | These performance measurements are further improvised for more accurate descriptions and results . These are also enhanced to provide Measurements per S-NSSAI. This is important for Reliability KPI’s accurate calculation in TS 28.554 | | | | | | | | |
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| ***Summary of change:*** | | Three PMs related to packets over N3 interface are updated for more accurate results and further usage. | | | | | | | | |
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| ***Consequences if not approved:*** | | Ambiguous and improper description and interpretation of measurements will continue.Per S-NSSAI measurement will not be possible. | | | | | | | | |
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| ***Clauses affected:*** | | Clause no. 5.4.1.1, 5.4.1.2 and 5.4.1.7 | | | | | | | | |
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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 28.554 CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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| **First change** |

5.4.1 N3 interface related measurements

5.4.1.1 Number of incoming GTP data packets on the N3 interface, from (R)AN to UPF

a) This measurement provides the number of GTP data PDUs on the N3 interface which have been accepted and processed by the GTP-U protocol entity in UPF on the N3 interface. The measurement can optionally be split into subcounters per S-NSSAI.

b) CC

c) Reception by the UPF of a GTP-U data PDU on the N3 interface from the (R)AN. See TS 23.501 [4].

d) Each measurement is a single integer value, the number of measurements is equal to one. If the optional S-NSSAI subcounter measurements are perfomed, the number of measurements is equal to the number of supported S-NSSAIs.

e) GTP.InDataPktN3UPF and optionally GTP.InDataPktN3UPF.*SNSSAI,* where *SNSSAI* identifies the S-NSSAI.

f) EP\_N3 (contained by UPFFunction).

g) Valid for packet switching.

h) 5GS

i) One usage of this measurement is for performance assurance within integrity area (user plane connection quality), and for reliability KPI.

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| **Next change** |

5.4.1.2 Number of outgoing GTP data packets of on the N3 interface, from UPF to (R)AN

a) This measurement provides the number of GTP data PDUs on the N3 interface which have been generated by the GTP-U protocol entity on the N3 interface. The measurement can optionally be split into subcounters per S-NSSAI.

b) CC

c) Transmission by the UPF of a GTP-U data PDU of on the N3 interface to the (R)AN. See TS 23.501 [4].

d) Each measurement is a single integer value, the number of measurements is equal to one. If the optional S-NSSAI subcounter measurements are perfomed, the number of measurements is equal to the number of supported S-NSSAIs.

e) GTP.OutDataPktN3UPF and optionally GTP.OutDataPktN3UPF.*SNSSAI,* where *SNSSAI* identifies the S-NSSAI.

f) EP\_N3 (contained by UPFFunction).

g) Valid for packet switching.

h) 5GS

i) One usage of this measurement is for performance assurance within integrity area (user plane connection quality) and for reliability KPI.

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| **Next change** |

5.4.1.7 Incoming GTP Data Packet Loss in UPF over N3

a) This measurement provides the number of GTP data packets which are not successfully received at UPF. It is a measure of the incoming GTP data packet loss per N3 on an UPF interface. The measurement is split into subcounters per QoS level (5QI) or subconters per GTP tunnel (TEID) or subcounters per QoS level per GTP tunnel (TEID) or subcounters per S-NSSAI.

b) CC.

c) This measurement is obtained by a counter: Number of missing incoming GTP sequence numbers (TS 29.281 [42]) among all GTP packets delivered by a gNB to an UPF per N3 interface. The separate subcounter can be maintained for each 5QI or for each GTP tunnel identified by TEID or for each supported S-NSSAI

d) Each measurement is an integer value representing the number of the lost GTP pakets. If the QoS level measurement is perfomed, the measurements are equal to the number of 5QIs. If the optional S-NSSAI subcounter measurements are performed, the number of measurements is equal to the number of supported S-NSSAIs.

e) The measurement name has the form GTP.InDataPktPacketLossN3UPF or GTP.InDataPktPacketLossN3UPF.QoS or GTP.InDataPktPacketLossN3UPF.TEID or GTP.InDataPktPacketLossN3UPF.TEID.QoSwhere QoS identifies the target quality of service class or GTP.InDataPktPacketLossN3UPF.*SNSSAI*, where *SNSSAI* identifies the S-NSSAI.

f) EP\_N3 (contained by UPFFunction).

g) Valid for packet switched traffic.

h) 5GS.

i) One usage of this measurement is for performance assurance within integrity area (user plane connection quality) and for reliability KPI.

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| **End of change** |