**3GPP TSG-SA5 Meeting #138-e *S5-214267r1***

**e-meeting, 23 - 31 August 2021**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **28.552** | **CR** | **0316** | **rev** | **1** | **Current version:** | **16.10.0** |  |
|  | | | | | | | | |
| *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 | **X** |

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| ***Title:*** | Revise the calculation for average round-trip packet delay between PSA UPF and NG-RAN | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI17\_ePM\_KPI\_5G | | | | |  | ***Date:*** | | | 2021-8-23 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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:*** | | The calculation refers to average round-trip packet delay between PSA UPF and NG-RAN is wrong in which there is an editing error. The lowercase i should be inside in bracket instead of outside. | | | | | | | | |
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| ***Summary of change:*** | | Lowercase i beside T1 should be inside in bracket and acts as subscript | | | | | | | | |
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| ***Consequences if not approved:*** | | The average RTT packet delay between PSA UPF and NG-RAN cannot be calculated correctly. | | | | | | | | |
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| ***Clauses affected:*** | | 5.4.8.1 | | | | | | | | |
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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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| **First change** |

#### 5.4.8.1 Average round-trip packet delay between PSA UPF and NG-RAN

a) This measurement provides the average round-trip GTP packet delay between PSA UPF and NG-RAN. This measurement is split into subcounters per 5QI and subcounters per S-NSSAI. This measurement is only applicable to the case the PSA UPF and NG-RAN are not time synchronised.

b) DER (n=1).

c) The measurement is obtained by the following method:

The UPF samples the GTP packets for QoS monitoring based on the policy provided by OAM or SMF.

NOTE: The sampling rate may vary for different S-NSSAI and different 5QIs, and the specific sampling rate is up to implementation unless given by the QoS monitoring policy.

For each received GTP PDU monitoring response packet (packet i) encapsulated with QFI, TEID, and QMP indicator for QoS monitoring, the PSA UPF records the following time stamps and information (see 23.501 [4] and 38.415 [31]):

- T1 received in the GTP-U header of the monitoring response packet indicating the local time that the DL GTP PDU was sent by the PSA UPF;

- T2 received in the GTP-U header of the monitoring response packet indicating the local time that the DL GTP PDU was received by NG-RAN;

- T3 received in the GTP-U header of the monitoring response packet indicating the local time that the monitoring response packet was sent by the NG-RAN;

- T4 that the monitoring response packet was received by the PSA UPF;

- The 5QI and S-NSSAI associated to the DL GTP PDU.

The PSA UPF counts the number (N) of received GTP PDU monitoring response packets for each 5QI and each S-NSSAI respectively, and takes the following calculation for each 5QI and each S-NSSAI:

d) Each measurement is a real representing the average delay in microseconds.

e) GTP.RttDelayPsaUpfNgranMean.*5QI, where 5QI* identifies the 5QI;   
GTP.RttDelayPsaUpfNgranMean.*SNSSAI, where SNSSAI* identifies the S-NSSAI.

f) EP\_N3 (contained by UPFFunction);   
EP\_N9 (contained by UPFFunction).

g) Valid for packet switched traffic.

h) 5GS.

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| **End change** |