**3GPP TSG-SA5 Meeting #131eS5-203017**

 **25 May - 3 June 2020**

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| *CR-Form-v11.4* |
| **CHANGE REQUEST** |
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|  | **28.552** | **CR** | **0228** | **rev** | **-** | **Current version:** | **16.5.0** |  |
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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 |  |

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| ***Title:***  | Modification of “Distribution of Normally Released Call (5QI 1 QoS Flow) Duration” and “Distribution of Abnormally Released Call (5QI 1 QoS Flow) Duration” measurements. |
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| ***Source to WG:*** | Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** | S5 |
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| ***Work item code:*** | 5G\_SLICE\_ePA |  | ***Date:*** | 2020-05-15 |
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| ***Category:*** | **B** |  | ***Release:*** | Rel-16 |
|  | *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 canbe 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:*** | The average and distribution measurements for call duration are in different chapters in the spec and are not aligned from trigger events perspective. |
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| ***Summary of change:*** | Measurements for “Average Normally Released Call (5QI 1 QoS Flow) Duration” and “Average Abnormally Released Call (5QI 1 QoS Flow) Duration” were added into 28.552 spec via CR0201 (3GPP TSG-SA5 Meeting #130e) into a dedicated chapter 5.1.1.x. In order to have all call duration measurements in the same chapter the previously introduced “Distribution of Normally Released Call (5QI 1 QoS Flow) Duration” and “Distribution of Abnormally Released Call (5QI 1 QoS Flow) Duration” measurements shall be moved into the same chapter. In addition the triggering for Average Normally Released Call (5QI 1 QoS Flow) Duration” and “Average Abnormally Released Call (5QI 1 QoS Flow) Duration” was extended with some more detailed messages which shall be re-used also for Distribution of Normally Released Call (5QI 1 QoS Flow) Duration” and “Distribution of Abnormally Released Call (5QI 1 QoS Flow) Duration”. |
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| ***Consequences if not approved:*** | The average and distribution measurements for call duration are placed in different chapters in the spec and are not aligned from trigger events perspective. |
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| ***Clauses affected:*** | 5.1.1.x.3 (new), 5.1.1.x.4 (new)  |
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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 ...  |
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| ***Other comments:*** |  |

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| **1st Modified Section** |

#### 5.1.1.x 5QI 1 QoS Flow Duration

#### 5.1.1.x.1 Average Normally Released Call (5QI 1 QoS Flow) Duration

a) This measurement provides the average value of normally released call (5QI 1 QoS Flow) duration.

b) CC

c) The measurement is done as an arithmetical average of the samples of normally released calls (5QI 1 QoS Flows) duration at the end of measurement period. Each sample is measured from the point in time the 5QI 1 QoS Flow has been successfully established via initial Context setup procedure (INITIAL CONTEXT SETUP RESPONSE message sent by NR CU cell to AMF according to 3GPP TS 38.413 [11]) or additional 5QI 1 QoS Flow setup procedure (PDU SESSION RESOURCE SETUP RESPONSE or a PDU SESSION RESOURCE MODIFY RESPONSE message sent by NR CU cell to AMF according to 3GPP TS 38.413 [11]) or incoming handover (HANDOVER REQUEST ACKNOWLEDGE sent by target NR CU cell to AMF in case of NG intra/inter-system handover or sent by target to source NR CU cell via Xn in case of Xn based handover according to 3GPP TS 38.413 [11]) till the point in time the 5QI 1 QoS Flow is released via gNB (UE CONTEXT RELEASE REQUEST message sent by NR CU cell to AMF according to 3GPP TS 38.413 [11]) or AMF initiated release procedure (UE CONTEXT RELEASE COMMAND or PDU SESSION RESOURCE RELEASE COMMAND or PDU SESSION RESOURCE MODIFY REQUEST message sent by AMF to NR CU cell according to 3GPP TS 38.413 [11)) or successful outgoing handover (UE CONTEXT RELEASE over Xn received from the target NG CU cell in case of Xn based handover or UE CONTEXT RELEASE COMMAND message sent by AMF to NR CU cell in case of NG intra/inter-system handover according to 3GPP TS 38.413 [11]) due to normal release cause.

d) Each measurement is an integer value (in milliseconds).

e) The measurement name has the form 5QI1QoSflow.Rel.Average.NormCallDuration.

f) NRCellCU

g) Valid for packet switched traffic

h) 5GS

i) Possible normal release causes according to 3GPP TS 38.413 [11] are the following ones: "Normal Release", "Deregister", "User inactivity", “Release due to CN-detected mobility", "Handover Cancelled", "Partial handover", "Successful handover".

#### 5.1.1.x.2 Average Abnormally Released Call (5QI 1 QoS Flow) Duration

a) This measurement provides the average value of abnormally released call (5QI 1 QoS Flow) duration.

b) CC

c) The measurement is done as an arithmetical average of the samples of normally released calls (5QI 1 QoS Flows) duration at the end of measurement period. Each sample is measured from the point in time the 5QI 1 QoS Flow has been successfully established via initial Context setup procedure (INITIAL CONTEXT SETUP RESPONSE message sent by NR CU cell to AMF according to 3GPP TS 38.413 [11]) or additional 5QI 1 QoS Flow setup procedure (PDU SESSION RESOURCE SETUP RESPONSE or a PDU SESSION RESOURCE MODIFY RESPONSE message sent by NR CU cell to AMF according to 3GPP TS 38.413 [11]) or incoming handover (HANDOVER REQUEST ACKNOWLEDGE sent by target NR CU cell to AMF in case of NG intra/inter-system handover or sent by target to source NR CU cell via Xn in case of Xn based handover according to 3GPP TS 38.413 [11]) till the point in time the 5QI 1 QoS Flow is released via gNB (UE CONTEXT RELEASE REQUEST message sent by NR CU cell to AMF according to 3GPP TS 38.413 [11]) or AMF initiated release procedure (UE CONTEXT RELEASE COMMAND, PDU SESSION RESOURCE RELEASE COMMAND or PDU SESSION RESOURCE MODIFY REQUEST message sent by AMF to NR CU cell according to 3GPP TS 38.413 [11)) due to abnormal release cause.

d) Each measurement is an integer value (in milliseconds).

e) The measurement name has the form 5QI1QoSflow.Rel.Average.AbnormCallDuration.

f) NRCellCU

g) Valid for packet switched traffic

h) 5GS

i) Possible abnormal release causes are given in 3GPP TS 38.413 [11] except for the following causes: "Normal Release", "Deregister", "User inactivity", “Release due to CN-detected mobility", "Handover Cancelled", "Partial handover", "Successful handover".

#### 5.1.1.x.3 Distribution of Normally Released Call (5QI 1 QoS Flow) Duration

a) This measurement provides the histogram result of the samples related to normally released call (5QI 1 QoS Flow) duration collected during measurement period duration.

b) CC

c) Each sample is measured from the point in time the 5QI 1 QoS Flow has been successfully established via initial Context setup or additional 5QI 1 QoS Flow setup procedure or incoming handover till the point in time the 5QI 1 QoS Flow is released via gNB or AMF initiated release procedure or successful outgoing handover due to normal release cause ((refer to 5QI1QoSflow.Rel.Average.NormCallDuration part c) in chapter 5.1.1.x.1 for detailed sampling (refer to 5QI1QoSflow.Rel.Average.NormCallDuration part c) in chapter 5.1.1.x.1 for detailed triggering). Triggering is done for the bin the given sample falls in.

d) Each measurement is an integer value.

e) The measurement name has the form 5QI1QoSflow.Rel.NormCallDurationBinX where X denotes the X-th bin from total number of N configured bins. X-th bin stands for the normal call duration which is within the range from tx-1 to tx.

f) NRCellCU

g) Valid for packet switched traffic

h) 5GS

i) Each histogram function is represented by the configured number of bins with configured bin width by operator.

#### 5.1.1.x.4 Distribution of Abnormally Released Call (5QI 1 QoS Flow) Duration

a) This measurement provides the histogram result of the samples related to abnormally released call (5QI 1 QoS Flow) duration collected during measurement period duration.

b) CC

c) Each sample is measured from the point in time the 5QI 1 QoS Flow has been successfully established via initial Context setup or additional 5QI 1 QoS Flow setup procedure or incoming handover till the point in time the 5QI 1 QoS Flow is released via gNB or AMF initiated release procedure due to abnormal release cause (refer to 5QI1QoSflow.Rel.Average.AbnormCallDuration part c) in chapter 5.1.1.x.2 for detailed triggering). Triggering is done for the bin the given sample falls in.

d) Each measurement is an integer value.

e) The measurement name has the form 5QI1QoSflow.Rel.AbnormCallDurationBinX where X denotes the X-th bin from total number of N configured bins. X-th bin stands for the abnormal call duration which is within the range from tx-1 to tx.

f) NRCellCU

g) Valid for packet switched traffic

h) 5GS

i) Each histogram function is represented by the configured number of bins with configured bin width by operator.

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| **End of Modified Section** |