**3GPP TSG-SA5 Meeting #138e *S5-214147rev1***

**23 August to 31 August 2021, E-meeting**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **28.552** | **CR** | **0311** | **rev** | **1** | **Current version:** | **17.3.1** |  |
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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 |  | Core Network | **x** |

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|  |
| ***Title:***  | Add measurements related to AF session with QoS for NEF |
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| ***Source to WG:*** | Intel |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** | ePM\_KPI\_5G |  | ***Date:*** | 2021-08-12 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | 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 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)**Rel-17 (Release 17)* |
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| ***Reason for change:*** | To support a specific QoS requirements for an application, the AF may provide the required QoS information when setting up the connection with the UE. NEF offers the “AF session with QoS” service allowing the AF to send the QoS information for the session, and then interacts with 5GC NFs to apply the QoS requirements to the session.If the 5GC fails to meet required QoS for an application for the UE, the user’s experience is directly impacted. Therefore, the performance of “AF session with QoS” needs to be monitored. |
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| ***Summary of change:*** | Add the measurements related to AF session with QoS for NEF. |
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| ***Consequences if not approved:*** | The performance of AF session with QoS for NEF cannot be monitored. |
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| ***Clauses affected:*** | 3.3, 5.9.x (new), A.x (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 ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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| **1st modified section** |

## 3.3 Measurement family

The measurement names defined in the present document are all beginning with a prefix containing the measurement family name. This family name identifies all measurements which relate to a given functionality and it may be used for measurement administration.

The list of families currently used in the present document is as follows:

- DRB (measurements related to Data Radio Bearer).

- RRC (measurements related to Radio Resource Control).

- UECNTX (measurements related to UE Context).

- RRU (measurements related to Radio Resource Utilization).

- RM (measurements related to Registration Management).

- SM (measurements related to Session Management).

- GTP (measurements related to GTP Management).

- IP (measurements related to IP Management).

- PA (measurements related to Policy Association).

- MM (measurements related to Mobility Management).

- VR (measurements related to Virtualized Resource).

- CARR (measurements related to Carrier).

- QF (measurements related to QoS Flow).

- AT (measurements related to Application Triggering).

- SMS (measurements related to Short Message Service).

- PEE (measurements related to Power, Energy and Environment).

- NFS (measurements related to NF service).

- PFD (measurements related to Packet Flow Description).

- RACH (measurements related to Random Access Channel)

- MR (measurements related to Measurement Report)

- L1M (measurements related to Layer 1 Measurement)

- NSS (measurements related to Network Slice Selection)

- PAG (measurements related to Paging)

- NIDD (measurements related to Non-IP Data Delivery)

- EPP (measurements related to external parameter provisioning)

- TI (measurements related to traffic influence)

- CE (measurements related to Connection Establishment)

- SPP (measurements related to Service Parameter Provisioning)

- BDTP (measurements related to Background Data Transfer Policy)

- DM (measurements related to Data Management)

- BDTP (measurements related to Background Data Transfer Policy)

- AFQ (measurements related to AF session with QoS)

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| **Next modified section** |

### 5.9.x AF session with QoS

#### 5.9.x.1 Creation of AF session with QoS

##### 5.9.x.1.1 Number of AF session with QoS creation requests

a) This measurement provides the number of AF session with QoS creation requests received by the NEF.

b) CC

c) Receipt of an Nnef\_AFsessionWithQoS\_Create request by the NEF from an AF (see 3GPP TS 23.502 [7]).

d) An integer value

e) AFQ.CreateReq

f) NEFFunction

g) Valid for packet switched traffic

h) 5GS

##### 5.9.x.1.2 Number of successful AF session with QoS creations

a) This measurement provides the number of successful AF session with QoS creations at the NEF.

b) CC

c) Transmission of an Nnef\_AFsessionWithQoS\_Create response by the NEF to an AF indicating a successful AF session with QoS creation (see 3GPP TS 29.522 [44]).

d) An integer value

e) AFQ.CreateSucc

f) NEFFunction

g) Valid for packet switched traffic

h) 5GS

##### 5.9.x.1.3 Number of failed AF session with QoS creations

a) This measurement provides the number of failed AF session with QoS creations at the NEF.

b) CC

c) Transmission of an Nnef\_AFsessionWithQoS\_Create response by the NEF to an AF indicating a failed AF session with QoS creation (see 3GPP TS 29.522 [44]), each message increments the relevant subcounter per failure cause by 1.

d) Each subcounter is an integer value

e) AFQ.CreateFail.*cause*
Where *cause* indicates the failure cause of the AF session with QoS creation.

f) NEFFunction

g) Valid for packet switched traffic

h) 5GS

#### 5.9.x.2 Update of AF session with QoS

##### 5.9.x.2.1 Number of AF session with QoS update requests

a) This measurement provides the number of AF session with QoS update requests received by the NEF.

b) CC

c) Receipt of an Nnef\_AFsessionWithQoS\_Update request by the NEF from an AF (see 3GPP TS 23.502 [7]).

d) An integer value

e) AFQ.UpdateReq

f) NEFFunction

g) Valid for packet switched traffic

h) 5GS

##### 5.9.x.2.2 Number of successful AF session with QoS updates

a) This measurement provides the number of successful AF session with QoS updates at the NEF.

b) CC

c) Transmission of an Nnef\_AFsessionWithQoS\_Update response by the NEF to an AF indicating a successful AF session with QoS update (see 3GPP TS 29.522 [44]).

d) An integer value

e) AFQ.UpdateSucc

f) NEFFunction

g) Valid for packet switched traffic

h) 5GS

##### 5.9.x.2.3 Number of failed AF session with QoS updates

a) This measurement provides the number of failed AF session with QoS updates at the NEF.

b) CC

c) Transmission of an Nnef\_AFsessionWithQoS\_Update response by the NEF to an AF indicating a failed AF session with QoS update (see 3GPP TS 29.522 [44]), each message increments the relevant subcounter per failure cause by 1.

d) Each subcounter is an integer value

e) AFQ.UpdateFail.*cause*
Where *cause* indicates the failure cause of the AF session with QoS update.

f) NEFFunction

g) Valid for packet switched traffic

h) 5GS

#### 5.9.x.3 Revocation of AF session with QoS

##### 5.9.x.3.1 Number of AF session with QoS revocation requests

a) This measurement provides the number of AF session with QoS revocationrequests received by the NEF.

b) CC

c) Receipt of an Nnef\_AFsessionWithQoS\_Revoke request by the NEF from an AF (see 3GPP TS 23.502 [7]).

d) An integer value

e) AFQ.RevokeReq

f) NEFFunction

g) Valid for packet switched traffic

h) 5GS

##### 5.9.x.3.2 Number of successful AF session with QoS revocations

a) This measurement provides the number of successful AF session with QoS revocations at the NEF.

b) CC

c) Transmission of an Nnef\_AFsessionWithQoS\_Revoke response by the NEF to an AF indicating a successful AF session with QoS revocation (see 3GPP TS 29.522 [44]).

d) An integer value

e) AFQ.RevokeSucc

f) NEFFunction

g) Valid for packet switched traffic

h) 5GS

##### 5.9.x.3.3 Number of failed AF session with QoS revocations

a) This measurement provides the number of failed AF session with QoS revocations at the NEF.

b) CC

c) Transmission of an Nnef\_AFsessionWithQoS\_Revoke response by the NEF to an AF indicating a failed AF session with QoS revocation (see 3GPP TS 29.522 [44]), each message increments the relevant subcounter per failure cause by 1.

d) Each subcounter is an integer value

e) AFQ.RevokeFail.*cause*
Where *cause* indicates the failure cause of the AF session with QoS revocation.

f) NEFFunction

g) Valid for packet switched traffic

h) 5GS

#### 5.9.x.4 Notification of AF session with QoS

##### 5.9.x.4.1 Number of AF session with QoS notifications

a) This measurement provides the number of AF session with QoS notifications sent by the NEF to AF.

b) CC

c) Transmission of an Nnef\_AFsessionWithQoS\_Notify message by the NEF to an AF (see 3GPP TS 23.502 [7]).

d) An integer value

e) AFQ.NbrNotify

f) NEFFunction

g) Valid for packet switched traffic

h) 5GS

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| **Next modified section** |

# A.x Monitoring of AF session with QoS

To support a specific QoS requirements for an application, the AF may provide the required QoS information when setting up the connection with the UE. NEF offers the “AF session with QoS” service allowing the AF to send the QoS information for the session, and then interacts with 5GC NFs to apply the QoS requirements to the session.

If the 5GC fails to meet required QoS for an application for the UE, the user’s experience is directly impacted. Therefore, the performance of “AF session with QoS” needs to be monitored.

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| **End of modified sections** |