**3GPP TSG-SA5 Meeting #143-e *S5-223134***

**Online, , 9th May 2022 - 17th May 2022**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **28.552** | **CR** | **0365** | **rev** | **1** | **Current version:** | **17.6.0** |  |
|  |
| *For* ***[HE](http://www.3gpp.org/3G_Specs/CRs.htm%22%20%5Cl%20%22_blank)******[LP](http://www.3gpp.org/3G_Specs/CRs.htm%22%20%5Cl%20%22_blank)*** *on using this form: comprehensive instructions can be found at <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:***  | Rel-17 CR for TS28.552 editorialCorrections |
|  |  |
| ***Source to WG:*** | ZTE Corporation |
| ***Source to TSG:*** | SA5 |
|  |  |
| ***Work item code:*** | TEI17 |  | ***Date:*** | 2022-05-13 |
|  |  |  |  |  |
| ***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 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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
|  |  |
| ***Reason for change:*** | Delete redundant measurement family line; Adjust directory of QoS flow management via untrusted non-3GPP access  |
|  |  |
| ***Summary of change:*** | Editorial corrections; Only adjustments of directory as to QoS flow management |
|  |  |
| ***Consequences if not approved:*** | Confusion of QoS flow management via untrusted non-3GPP access |
|  |  |
| ***Clauses affected:*** | 3.3, 5.1.1.6.1.4, 5.8.2.X,5.8.2.X.1,5.8.2.X.2,5.8.2.X.3,5.8.2.Y,5.8.2.Y.1,5.8.2.Y.2,5.8.2.Y.3 |
|  |  |
|  | **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:*** |  |

#### Start of changes

## 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).

- AFQ (measurements related to AF session with QoS).

- UCM (measurements related to UE radio Capability Management).

- PAU (measurements related to Policy Authorization).

- EEX (measurements related to Event Exposure).

- SDM (measurements related to subscriber data management).

- PPV (measurements related to parameter provisioning).

- DIS (measurements related to discovery).

- Location Management (measurements related to Location Management).

#### Second change

###### 5.1.1.6.1.4 Number of requested legacy handover resource allocations

a) This measurement provides the number of legacy handover resource allocation requests received by the target NR cell CU.

b) CC.

c) On receipt of HANDOVER REQUEST message (see TS 38.413 [1]) by the NR cell CU from the AMF, or receipt of HANDOVER REQUEST message (see TS 38.423 [13]) , where the message denotes a legacy handover, by the target NR cell CU from the source NR cell CU, for requesting the preparation of resources for handover.

d) A single integer value.

e) MM.HoResAlloInterReq.

f) NRCellCU.

g) Valid for packet switched traffic.

h) 5GS.

i) One usage of this performance measurements is for performance assurance.

#### Third change

## 5.8 Performance measurements for N3IWF

### 5.8.1 PDU Session Resource management

#### 5.8.1.1 PDU Session Resource setup

##### 5.8.1.1.1 Number of PDU Sessions requested to setup

a) This measurement provides the number of PDU Sessions in the PDU SESSION RESOURCE SETUP REQUESTs received by the N3IWF from AMF. This measurement is split into subcounters per S-NSSAI.

b) CC.

c) Receipt of PDU SESSION RESOURCE SETUP REQUEST message (see TS 29.413 [22]) by the N3IWF from the AMF. Each PDU Session requested to setup increments the relevant subcounter per S-NSSAI by 1.

d) Each subcounter is an integer value.

e) SM.PDUSessionSetupNon3GPPReq.*SNSSAI.*

 Where *SNSSAI* identifies the S-NSSAI.

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

##### 5.8.1.1.2 Number of PDU Sessions successfully setup

a) This measurement provides the number of PDU Sessions successfully setup by the N3IWF for the PDU SESSION RESOURCE SETUP REQUESTs received from AMF. This measurement is split into subcounters per S-NSSAI.

b) CC.

c) Transmission of PDU SESSION RESOURCE SETUP RESPONSE message containing the "PDU Session Resource Setup Response List" IE (see TS 38.413 [11]) by the N3IWF to the AMF. Each PDU Session listed in the "PDU Session Resource Setup Response List" IE increments the relevant subcounter per S-NSSAI by 1.

d) Each subcounter is an integer value.

e) SM.PDUSessionSetupNon3GPPSucc.*SNSSAI.*

 Where *SNSSAI* identifies the *S-NSSAI*.

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

##### 5.8.1.1.3 Number of PDU Sessions failed to setup

a) This measurement provides the number of PDU Sessions failed to setup by the N3IWF for the PDU SESSION RESOURCE SETUP REQUESTs received from AMF. This measurement is split into subcounters per failure cause.

b) CC.

c) Transmission of PDU SESSION RESOURCE SETUP RESPONSE message containing the "PDU Session Resource Failed to Setup List" IE (see TS 38.413 [11]) by the N3IWF to the AMF. Each PDU Session listed in the "PDU Session Resource Failed to Setup List" IE increments the relevant subcounter per failure cause (see clause 9.3.1.2 of TS 38.413 [11]) by 1.

d) Each subcounter is an integer value.

e) SM.PDUSessionSetupNon3GPPFail.*Cause.*

 Where *Cause* identifies the cause of the PDU Sessions Resource Setup failure, per the "PDU Session Resource Setup Unsuccessful Transfer" IE. Encoding of the Cause is defined in clause 9.3.1.2 of TS 38.413 [11].

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

#### 5.8.1.2 PDU Session Resource modification

##### 5.8.1.2.1 Number of PDU Sessions requested to modify

a) This measurement provides the number of PDU Sessions in the PDU SESSION RESOURCE MODIFY REQUESTs received by the N3IWF from AMF. This measurement is split into subcounters per S-NSSAI.

b) CC.

c) Receipt of PDU SESSION RESOURCE MODIFY REQUEST message (see TS 29.413 [22]) by the N3IWF from the AMF. Each PDU Session requested to modify increments the relevant subcounter per S-NSSAI by 1.

d) Each subcounter is an integer value.

e) SM.PDUSessionModifyNon3GPPReq.*SNSSAI.*

 Where *SNSSAI* identifies the S-NSSAI.

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

##### 5.8.1.2.2 Number of PDU Sessions successfully modified

a) This measurement provides the number of PDU Sessions successfully modified by the N3IWF for the PDU SESSION RESOURCE MODIFY REQUESTs received from AMF. This measurement is split into subcounters per S-NSSAI.

b) CC.

c) Transmission of PDU SESSION RESOURCE MODIFY RESPONSE message containing the "PDU Session Resource Modify Response Item" IE (see TS 38.413 [11]) by the N3IWF to the AMF. Each PDU Session listed in the "PDU Session Resource Modify Response Item" IE increments the relevant subcounter per S-NSSAI by 1.

d) Each subcounter is an integer value.

e) SM.PDUSessionModifyNon3GPPSucc.*SNSSAI.*

 Where *SNSSAI* identifies the *S-NSSAI*.

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

##### 5.8.1.2.3 Number of PDU Sessions failed to modify

a) This measurement provides the number of PDU Sessions failed to modify by the N3IWF for the PDU SESSION RESOURCE MODIFY REQUESTs received from AMF. This measurement is split into subcounters per failure cause.

b) CC.

c) Transmission of PDU SESSION RESOURCE MODIFY RESPONSE message containing the "PDU Session Resource Failed to Modify List" IE (see TS 38.413 [11]) by the N3IWF to the AMF. Each PDU Session listed in the "PDU Session Resource Failed to Modify List" IE increments the relevant subcounter per failure cause (see clause 9.3.1.2 of TS 38.413 [11]) by 1.

d) Each subcounter is an integer value.

e) SM.PDUSessionModifyNon3GPPFail.*Cause.*

 Where *Cause* identifies the cause of the PDU Sessions Resource modification failure, per the "PDU Session Resource Modify Unsuccessful Transfer" IE. Encoding of the Cause is defined in clause 9.3.1.2 of TS 38.413 [11].

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

### 5.8.2 QoS flow management

#### 5.8.2.1 QoS flow setup via untrusted non-3GPP access

##### 5.8.2.1.1 Number of initial QoS flows attempted to setup via untrusted non-3GPP access

a) This measurement provides the number of QoS flows attempted to setup via untrusted non-3GPP access during initial UE context setup. The measurement is split into subcounters per 5QI and subcounters per network slice identifier (S-NSSAI).

b) CC.

c) Receipt by the N3IWF of an INITIAL CONTEXT SETUP REQUEST message (see TS 29.413 [22]). Each QoS flow requested to setup in the message is added to the relevant measurement per 5QI and relevant subcounter per per S-NSSAI.

d) Each measurement is an integer value.

e) QF.EstabNbrInitUntrustNon3gppAtt.*5QI,* where *5QI* identifies the 5QI, and

 QF.EstabNbrInitUntrustNon3gppAtt.*SNSSAI,* where *SNSSAI* identifies the S-NSSAI.

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

##### 5.8.2.1.2 Number of initial QoS flows successfully setup via untrusted non-3GPP access

a) This measurement provides the number of QoS flows successfully setup via untrusted non-3GPP access during initial UE context setup. The measurement is split into subcounters per 5QI and subcounters per network slice identifier (S-NSSAI).

b) CC.

c) Transmission by the N3IWF of an INITIAL CONTEXT SETUP RESPONSE message (see TS 29.413 [22]). Each QoS flow successfully setup in the message is added to the relevant measurement per 5QI and per S-NSSAI.

d) Each measurement is an integer value.

e) The measurement name has the form:

e) QF.EstabNbrInitUntrustNon3gppSucc.*5QI,* where *5QI* identifies the 5QI, and

 QF.EstabNbrInitUntrustNon3gppSucc.*SNSSAI,* where *SNSSAI* identifies the S-NSSAI.

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

##### 5.8.2.1.3 Number of initial QoS flows failed to setup via untrusted non-3GPP access

a) This measurement provides the number of QoS flows failed to setup via untrusted non-3GPP access during initial UE context setup. The measurement is split into subcounters per failure cause.

b) CC.

c) Transmission by the N3IWF of an INITIAL CONTEXT SETUP RESPONSE message (see TS 29.413 [22]). Each QoS flow failed to setup in the message is added to the relevant measurement per cause, the possible causes are specified in TS 38.413 [11].

d) Each measurement is an integer value.

e) QF.EstabNbrInitUntrustNon3gppFail.*cause,* where *cause* identifies the cause (see TS 38.413 [11]).

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

##### 5.8.2.1.4 Number of additional QoS flows attempted to setup via untrusted non-3GPP access

a) This measurement provides the number of additional QoS flows attempted to setup via untrusted non-3GPP access. The measurement is split into subcounters per 5QI and subcounters per network slice identifier (S-NSSAI).

b) CC.

c) Receipt by the N3IWF of a PDU SESSION RESOURCE SETUP REQUEST message or a PDU SESSION RESOURCE MODIFY REQUEST message (see TS 29.413 [22]). Each QoS flow requested to setup in the message is added to the relevant measurement per 5QI and relevant subcounter per per S-NSSAI.

d) Each measurement is an integer value.

e) QF.EstabNbrAddUntrustNon3gppAtt.*5QI,* where *5QI* identifies the 5QI, and

 QF.EstabNbrAddUntrustNon3gppAtt.*SNSSAI,* where *SNSSAI* identifies the S-NSSAI.

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

##### 5.8.2.1.5 Number of additional QoS flows successfully setup via untrusted non-3GPP access

a) This measurement provides the number of additional QoS flows successfully setup via untrusted non-3GPP access. The measurement is split into subcounters per 5QI and subcounters per network slice identifier (S-NSSAI).

b) CC.

c) Transmission by the N3IWF of a PDU SESSION RESOURCE SETUP RESPONSE message or a PDU SESSION RESOURCE MODIFY RESPONSE message (see TS 29.413 [22]). Each QoS flow successfully setup in the message is added to the relevant measurement per 5QI and per S-NSSAI.

d) Each measurement is an integer value.

e) The measurement name has the form:

e) QF.EstabNbrAddUntrustNon3gppSucc.*5QI,* where *5QI* identifies the 5QI, and

 QF.EstabNbrAddUntrustNon3gppSucc.*SNSSAI,* where *SNSSAI* identifies the S-NSSAI.

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

##### 5.8.2.1.6 Number of additional QoS flows failed to setup via untrusted non-3GPP access

a) This measurement provides the number of additional QoS flows failed to setup via untrusted non-3GPP access. The measurement is split into subcounters per failure cause.

b) CC.

c) Transmission by the N3IWF of a PDU SESSION RESOURCE SETUP RESPONSE message or a PDU SESSION RESOURCE MODIFY RESPONSE message (see TS 29.413 [22]). Each QoS flow failed to setup in the message is added to the relevant measurement per cause, the possible causes are specified in TS 38.413 [11].

d) Each measurement is an integer value.

e) QF.EstabNbrAddUntrustNon3gppFail.*cause,* where *cause* identifies the cause (see TS 38.413 [11]).

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

#### 5.8.2.X QoS flow modification via untrusted non-3GPP access

##### 5.8.2.X.1 Number of QoS flows attempted to modify via untrusted non-3GPP access

a) This measurement provides the number of QoS flows attempted to modify via untrusted non-3GPP access. The measurement is split into subcounters per QoS level (5QI) and subcounters per network slice identifier (S-NSSAI).

b) CC.

c) On receipt by the N3IWF of a PDU SESSION RESOURCE MODIFY REQUEST message (see TS 38.413 [11]), each QoS flow requested to modify in this message is added to the relevant subcounter per QoS level (5QI) and relevant subcounter per S-NSSAI. In case the 5QI of the QoS flow is modified, the QoS flow is counted to the subcounter for the target 5QI.

d) Each measurement is an integer value.

e) QF.ModNbrUntrustNon3gppAtt.*5QI,* where *5QI* identifies the 5QI, and

 QF.ModNbrUntrustNon3gppAtt.*SNSSAI,* where *SNSSAI* identifies the S-NSSAI.

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

##### 5.8.2.X.2 Number of QoS flows successfully modified via untrusted non-3GPP access

a) This measurement provides the number of QoS flows successfully modified via untrusted non-3GPP access. The measurement is split into subcounters per QoS level (5QI) and subcounters per network slice identifier (S-NSSAI).

b) CC.

c) On transmission by the N3IWF of a PDU SESSION RESOURCE MODIFY RESPONSE message (see TS 38.413 [11]), each QoS flow successfully modified is added to the relevant subcounter per QoS level (5QI) and relevant subcounter per S-NSSAI. In case the 5QI of the QoS flow is modified, the QoS flow is counted to the subcounter for the target 5QI.

d) Each measurement is an integer value.

e) QF.ModNbrUntrustNon3gppSucc.*5QI,* where *5QI* identifies the 5QI, and

 QF.ModNbrUntrustNon3gppSucc.*SNSSAI,* where *SNSSAI* identifies the S-NSSAI.

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

##### 5.8.2.X.3 Number of QoS flows failed to modify via untrusted non-3GPP access

a) This measurement provides the number of QoS flows failed to modify via untrusted non-3GPP access. The measurement is split into subcounters per failure cause.

b) CC.

c) On transmission by the N3IWF of a PDU SESSION RESOURCE MODIFY RESPONSE message (see TS 38.413 [11]), each QoS flow failed to modify is added to the relevant subcounter per cause.

d) Each measurement is an integer value.

e) QF.ModNbrUntrustNon3gppFail.*cause,* where *cause* identifies the cause (see TS 38.413 [11]).

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

#### 5.8.2.Y QoS flow release via untrusted non-3GPP access

##### 5.8.2.Y.1 Number of QoS flows attempted to release

a) This measurement provides the number of QoS flows attempted to release via untrusted non-3GPP access. The measurement is split into subcounters per QoS level (5QI) and subcounters per network slice identifier (S-NSSAI).

b) CC.

c) Receipt by the N3IWF of a PDU SESSION RESOURCE RELEASE COMMAND, PDU SESSION RESOURCE MODIFY REQUEST or UE CONTEXT RELEASE COMMAND message from AMF. Each QoS flow requested to release increments the relevant subcounter per 5QI and the relevant subcounter per S-NSSAI by 1 respectively.

d) Each measurement is an integer value.

e) QF.RelNbrUntrustNon3gppAtt.*5QI,* where *5QI* identifies the 5QI, and

 QF.RelNbrUntrustNon3gppAtt.*SNSSAI,* where *SNSSAI* identifies the S-NSSAI.

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

##### 5.8.2.Y.2 Number of QoS flows successfully released

a) This measurement provides the number of QoS flows successfully released via untrusted non-3GPP access. The measurement is split into subcounters per QoS level (5QI) and subcounters per network slice identifier (S-NSSAI).

b) CC.

c) Transmission by the N3IWF of a PDU SESSION RESOURCE RELEASE RESPONSE, PDU SESSION RESOURCE MODIFY RESPONSE or UE CONTEXT RELEASE COMPLETE message. Each QoS flow requested to release increments the relevant subcounter per 5QI and the relevant subcounter per S-NSSAI by 1 respectively.

d) Each measurement is an integer value.

e) QF.RelNbrUntrustNon3gppSucc.*5QI,* where *5QI* identifies the 5QI, and

 QF.RelNbrUntrustNon3gppSucc.*SNSSAI,* where *SNSSAI* identifies the S-NSSAI.

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

##### 5.8.2.Y.3 Number of released active QoS flows

a) This measurement provides the number of released QoS flows that were active at the time of release via untrusted non-3GPP access. QoS flows with bursty flow are seen as being active when there is user data in the queue in any of the directions. QoS flows with continuous flow are always seen as active QoS flows in the context of this measurement. This measurement is split into subcounters per QoS level (5QI) and subcounters per network slice identifier (S-NSSAI).

b) CC.

c) Transmission by the N3IWF of a PDU SESSION RESOURCE RELEASE RESPONSE message for the PDU session resource release initiated by the AMF with the exception of corresponding PDU SESSION RESOURCE RELEASE COMMAND message with "Cause" equal to "Normal Release" or "User inactivity", "Load balancing TAU required", "Release due to CN-detected mobility", "O&M intervention", or transmission by the PDU SESSION RESOURCE MODIFY RESPONSE message for the PDU session resource modification initiated by the AMF with the exception of corresponding PDU SESSION RESOURCE MODIFY REQUEST message with the "Cause" equal to "Normal Release", or transmission by the N3IWF of UE CONTEXT RELEASE COMPLETE for the UE context release initiated by the N3IWF with the exception of the corresponding UE CONTEXT RELEASE REQUEST message with the cause equal to "Normal Release" or "User inactivity", "Partial handover", "Successful handover", or transmission by the N3IWF of UE CONTEXT RELEASE COMPLETE message for the UE context release initiated by the AMF with the exception of the corresponding UE CONTEXT RELEASE COMMAND message with "Cause" equal to "Normal Release", "Handover Cancelled" or a successful mobility activity (e.g., cause "Successful Handover", or "NG Intra system Handover triggered"), or receipt by the N3IWF of a PATH SWITCH REQUEST ACKNOWLEDGE or PATH SWITCH REQUEST FAILED message by which some or all QoS flows in the corresponding PATH SWITCH REQUEST need to be released , or transmission by the N3IWF of a NG RESET ACKNOWLEDGE message to AMF; or receipt by the N3IWF of a NG RESET ACKNOWLEDGE message from AMF; if any of the UL or DL of the QoS flow is considered active in TS 38.413 [11].

QoS flows with bursty flow are considered active when there is still data transmission in the DL or UL. QoS flows with continuous flow are always seen as active QoS flows in the context of this measurement. Each released active QoS flow increments the relevant subcounter per QoS level (5QI) and subcounters per network slice identifier (S-NSSAI) by 1 respectively.

How to define for a particular 5QI if the QoS flow is of type bursty flow or continuous flow is outside the scope of this document.

d) Each measurement is an integer value.

e) QF.RelActNbrUntrustNon3gpp.*5QI,* where *5QI* identifies the 5QI, and

 QF.RelActNbrUntrustNon3gpp.*SNSSAI,* where *SNSSAI* identifies the S-NSSAI.

f) N3IWFFunction.

g) Valid for packet switched traffic.

h) 5GS.

### 5.8.3 Void

### 5.8.4 Void

#### End of changes