**3GPP TSG- Meeting # *r1***

**, , -**

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
|  |
| *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)*.* |
|  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **x** | Core Network | **x** |

|  |
| --- |
|  |
| ***Title:***  |  |
|  |  |
| ***Source to WG:*** |  |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** |  |
|  | *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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | The CN and RAN paging measurements are reported per object class GNBCUCPFunction, however the description and measurement name in several places are referring to cell. Futhermore the wrong message is used in the condition of RAN Paging and the measurement name is misspelled. |
|  |  |
| ***Summary of change:*** | The description related to CN and RAN initiated paging have been aligned with the reported object class. Message name and and measurement name corrected. The UC updated. |
|  |  |
| ***Consequences if not approved:*** | The measurement definitions and descriptions will be inconsistent, and could lead to missunderstanding. |
|  |  |
| ***Clauses affected:*** | 3.3, 5.1.1.27.1, 5.1.1.27.2, A.70 |
|  |  |
|  | **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:*** |  |

|  |
| --- |
| **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 sevice).

- 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)

- PAG (measurements related to Paging)

|  |
| --- |
| **Next modified section** |

##### 5.1.1.27.1 Number of CN Initiated paging records received by the gNB-CU

a) This measurement provides number of CN Initiated paging records received by the gNB-CU.

b) CC.

c) Reception of a PAGING message from AMF, (See in TS 38.413 [11]).

d) A single integer value.

e) PAG.ReceivedNbrCnInitiated.

f) GNBCUCPFunction

g) Valid for packet switched traffic

h) 5GS

##### 5.1.1.27.2 Number of NG-RAN Initiated paging records received by the gNB-CU

a) This measurement provides number of NG-RAN Initiated paging records received by the gNB-CU.

b) CC.

c) Reception of a RAN PAGING message from NG-RAN (See inTS 38.304 [37] and TS 38.423 [13]).

d) A single integer value.

e) PAG.ReceivedNbrRanInitiated.

f) GNBCUCPFunction

g) Valid for packet switched traffic

h) 5GS

|  |
| --- |
| **Next modified section** |

# A.70 Monitor of paging performance

In NR, Paging is under the control of the 5GC or NG-RAN (aka RAN initiated paging and CN initiated paging). When the 5GC wants to page (CN initiated paging) a UE, it has to page it in all cells that belong to the TA(s) to which the UE is registered.

The paging load per cell and gNB is an important measure for the operator as it allows the operator to properly dimension the resources for paging in the NR Cell and gNB.

At an NR Cell and gNB it makes sense to measure the number of discarded paging messages if this is due to some problem in the gNB, such as paging occasion overflow. In that scenario the periodicity of paging occasions can be reconfigured in order to ensure that all paging messages are transmitted by the gNB in the first available paging occasion, thereby avoiding paging delays and extended call setup delay.

Operators need to know when such an event occurs, in order to identify if the problem is at the NR cell or gNB level or not.

In addition to discarded paging records measurement, it is important to know total paging records received so that discarded paging records ratio can be derived.

Total number of paging records received is important in the sense that, it may be fine if the discarded paging records are high if discarded paging records ratio is small. On the other hand, it may be problematic if discarded paging records are low, if discarded paging records ratio turn out to be high.

|  |
| --- |
| **End of modified section** |