3GPP TSG SA WG5 Meeting 136-e TDoc S5-212130rev2

electronic meeting, online, 1 March - 10 March 2021

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  | **28.552** | **CR** | **0294** | **rev** | **-** | **Current version:** |  |  |
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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 | **x** | Core Network |  |

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| ***Title:***  | RRC connection number measurements |
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| ***Source to WG:*** | China Telecom |
| ***Source to TSG:*** | S5 |
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| ***Work item code:*** |  |  | ***Date:*** | 22 |
|  |  |  |  |  |
| ***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)* |
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| ***Reason for change:*** | In TS 28.552, the RRC connection number measurements for NR cell is defined. However, this measurement can not support the statics for each participating operator in 5G MOCN network sharing scenerio. Therefore, the RRC connection number measurements in a time period per cell for each participating operator should be added to guarantee the requirements from each participating operator. |
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| ***Summary of change:*** | Add PLMN granularity for RRC connection number measurements. |
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| ***Consequences if not approved:*** | Imcomplete granularity potentially affects the diagnosis of network problems. |
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| ***Clauses affected:*** | 5.1.1.4 |
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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:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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| **First change** |

#### 5.1.1.4 RRC connection number

##### 5.1.1.4.1 Mean number of RRC Connections

a) This measurement provides the mean number of users in RRC connected mode for each NR cell during each granularity period. The measurement is optionally split into subcounters per PLMN ID.

b) SI.

c) This measurement is obtained by sampling at a pre-defined interval, the number of users in RRC connected mode for each NR cell and for each PLMN ID, and then taking the arithmetic mean.

d) Each measurement is a single integer value. If the optional measurement is perfomed, the number of measurements is equal to the number of supported PLMNs.

e) RRC.ConnMean, or optionally RRC.ConnMean.PLMN, where PLMN identifies the PLMN ID.

f) NRCellCU

g) Valid for packet switched traffic

h) 5GS

i) One usage of this measurement is for monitoring the number of RRC connections in connected mode during the granularity period.

##### 5.1.1.4.2 Max number of RRC Connections

a) This measurement provides the maximum number of users in RRC connected mode for each NR cell during each granularity period. The measurement is optionally split into subcounters per PLMN ID.

b) SI.

c) This measurement is obtained by sampling at a pre-defined interval, the number of users in RRC connected mode for each NR cell and for each PLMN ID, and then taking the maximum.

d) Each measurement is a single integer value. If the optional measurement is perfomed, the number of measurements is equal to the number of supported PLMNs.

e) RRC.ConnMax, or optionally RRC.ConnMax.PLMN, where PLMN identifies the PLMN ID.

f) NRCellCU

g) Valid for packet switched traffic

h) 5GS

i) One usage of this measurement is for monitoring the number of RRC connections in connected mode during the granularity period.

##### 5.1.1.4.3 Mean number of stored inactive RRC Connections

a) This measurement provides the mean number of users in RRC inactive mode for each NR cell during each granularity period. The measurement is optionally split into subcounters per PLMN ID.

b) SI

c) This measurement is defined according to measurement “Mean number of stored inactive UE contexts” in TS 38.314 [29]. Separate counters are optionally maintained for each PLMN ID. d) Each measurement is a real representing the mean number. If the optional measurement is perfomed, the number of measurements is equal to the number of supported PLMNs.

e) The measurement name has the form RRC.InactiveConnMean, or optionally RRC.InactiveConnMean.PLMN, where PLMN identifies the PLMN ID.

f) NRCellCU.

g) Valid for packet switched traffic.

h) 5GS.

i) One usage of this measurement is for monitoring the memory allocation due to storage of inactive RRC connections.

##### 5.1.1.4.4 Max number of stored inactive RRC Connections

a) This measurement provides the max number of users in RRC inactive mode for each NR cell during each granularity period. The measurement is optionally split into subcounters per PLMN ID.

b) SI

c) This measurement is defined according to measurement “Max number of stored inactive UE contexts” in TS 38.314 [29]. Separate counters are optionally maintained for each PLMN ID.

d) Each measurement is a single integer value. If the optional measurement is perfomed, the number of measurements is equal to the number of supported PLMNs.

e) The measurement name has the form RRC.InactiveConnMax, or optionally RRC.InactiveConnMax.PLMN, where PLMN identifies the PLMN ID.

f) NRCellCU.

g) Valid for packet switched traffic.

h) 5GS.

i) One usage of this measurement is for monitoring the memory allocation due to storage of inactive RRC connections.

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| **End of changes** |