**3GPP TSG-CT WG1 Meeting #141eC1-232664**

**Online 17– 21 April 2023 (was C1-232387)**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  | **24.501** | **CR** | **5279** | **rev** | **1** | **Current version:** | **18.2.1** |  |
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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 | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:***  | Clearing maximum number of PDU sessions |
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| ***Source to WG:*** | Samsung |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | 5GProtoc18 |  | ***Date:*** | 2023-04-17 |
|  |  |  |  |  |
| ***Category:*** | F |  | ***Release:*** | Rel-18 |
|  | *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)* |
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| ***Reason for change:*** | Maximum number of PDU session is maintained per PLMN.1. If UE is registered on PLMN-1 for 3GPP access and non-3GPP access then, maximum number of PDU sessions is mainted for the PLMN-1 irrespective of the access.
2. If UE is registered on PLMN-1 for 3GPP access and PLMN-2 on non-3GPP access then maximum number of PDU sessions is mainted for the PLMN-1 and PLMN-2

One of the condition to clear maximum number of PDU sessions is as below.*Upon successful registration with a new PLMN or SNPN, the UE may clear previous determinations representing any PLMN's or SNPN's maximum number(s) of PDU sessions.*But, When UE is registered on PLMN-1 for 3GPP access and then register on PLMN-2 on non-3GPP access (new PLMN), in this case UE shall not clear maximum number of PDU sessions on PLMN-1 because UE can continue to use that count over 3GPP access.If the previouse PLMN is not registered with any of the accesses then UE can delete the respective count.

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| Old | New |   |
| 3GPPA | non-3GPPA | 3GPPA | non-3GPPA | Outcome |
| PLMN-1 | PLMN-1 | PLMN-2 | PLMN-1 | PLMN-1 count need not be deleted as it can be used over non-3GPPA. |
| PLMN-1 | PLMN-1 | PLMN-1 | PLMN-2 | PLMN-1 count need not be deleted as it can be used over 3GPPA. |
|   |   |   |   |   |
| PLMN-1 | PLMN-2 | PLMN-3 | PLMN-2 | PLMN-1 count can be deleted as it is not registered on any of the access. |

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| ***Summary of change:*** | UE shall not clear maximum number of PDU sessions of the PLMN where UE is till registered with an access while other access register on the different PLMN i.e UE shall not clear the maximum number of PDU sessions of the PLMN where UE is still registered while other access is moved to different PLMN and registered |
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| ***Consequences if not approved:*** | UE will clear maximum number of PDU sessions of the PLMN where UE is till registered with an access while other access register on the different PLMN |
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| ***Clauses affected:*** | 6.4.1.5 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** | **N** |  |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** | **N** |  |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** | **N** |  |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

\* \* \* First Change \* \* \* \*

#### 6.4.1.5 Handling the maximum number of established PDU sessions

The maximum number of PDU sessions which a UE can establish in a PLMN or SNPN is limited by whichever is the lowest of: the maximum number of PDU session IDs allowed by the protocol (as specified in 3GPP TS 24.007 [11] subclause 11.2.3.1b), the PLMN's or SNPN's maximum number of PDU sessions and the UE's implementation-specific maximum number of PDU sessions.

If during a UE-requested PDU session establishment procedure the 5GSM sublayer in the UE receives an indication that the 5GSM message was not forwarded because:

a) the PLMN's maximum number of PDU sessions has been reached, then the UE determines the PLMN's maximum number of PDU sessions as the number of active PDU sessions it has; or

b) the SNPN's maximum number of PDU sessions has been reached, then the UE determines the SNPN's maximum number of PDU sessions as the number of active PDU sessions it has and associates the determined maximum number of PDU sessions with:

1) the entry in the "list of subscriber data" for the current SNPN if the UE does not support access to an SNPN using credentials from a credentials holder and equivalent SNPNs; or

2) the selected entry of the "list of subscriber data" or the selected PLMN subscription if the UE supports access to an SNPN using credentials from a credentials holder, equivalent SNPNs or both.

NOTE 1: In some situations, when attempting to establish multiple PDU sessions, the number of active PDU sessions that the UE has when 5GMM cause #65 is received is not equal to the maximum number of PDU sessions reached in the network.

NOTE 2: When the network supports emergency services, it is not expected that 5GMM cause #65 is returned by the network when the UE requests an emergency PDU session.

NOTE 3: The network maintains only one maximum number of PDU sessions for a PLMN regardless of which access the PDU session exists in.

NOTE 4: When the UE is registered on the same PLMN for both 3GPP access and non-3GPP access, the UE maintains single maximum number of PDU sessions for respective PLMN. When the UE is registered on two different PLMNs over 3GPP access and non-3GPP access, the UE maintains maximum number of PDU sessions for a PLMN separately for each PLMN.

NOTE 5: An MA PDU session which (only) has a PDN connection established as a user-plane resource is counted as an active PDU session when determining the PLMN's maximum number of PDU sessions.

The PLMN's maximum number of PDU sessions applies to the PLMN in which the 5GMM cause #65 "maximum number of PDU sessions reached" is received. When the UE is switched off or when the USIM is removed, the UE shall clear all previous determinations representing PLMN's maximum number of PDU sessions.

The SNPN's maximum number of PDU sessions applies to the SNPN in which the 5GMM cause #65 "maximum number of PDU sessions reached" is received. When the UE is switched off, the UE shall clear all previous determinations representing SNPN's maximum number of PDU sessions. In addition:

a) if the UE does not support access to an SNPN using credentials from a credentials holder and equivalent SNPNs, and the entry in the "list of subscriber data" for the current SNPN is updated, then the UE shall clear all previous determinations representing SNPN's maximum number of PDU sessions associated with the entry in the "list of subscriber data" for the current SNPN; and

b) if the UE supports access to an SNPN using credentials from a credentials holder, equivalent SNPNs or both, and:

1) the selected entry of the "list of subscriber data" is updated, then UE shall clear all previous determinations representing SNPN's maximum number of PDU sessions associated with the selected entry in the "list of subscriber data"; or

2) the USIM associated with the selected PLMN subscription is removed, then UE shall clear all previous determinations representing SNPN's maximum number of PDU sessions associated with the selected PLMN subscription.

Upon successful registration with a new PLMN or SNPN, the UE may clear previous determinations representing any PLMN's or SNPN's maximum number(s) of PDU sessions, if the previous PLMN or SNPN is not registered over both 3GPP access and non-3GPP access.

If the maximum number of established PDU sessions is reached at the UE and the upper layers of the UE request connectivity to a DNN the UE shall not send a PDU SESSION ESTABLISHMENT REQUEST message unless an established PDU session is released. If the UE needs to release an established PDU session, choosing which PDU session to release is implementation specific, however the UE shall not release the emergency PDU session.

If the UE needs to release a PDU session in order to request an emergency PDU session, it shall either perform a local release of a PDU session or release a PDU session via explicit signalling. If the UE performs a local release, the UE shall:

a) if the PDU session is an MA PDU session:

1) perform a registration procedure for mobility and periodic registration update to indicate PDU session status to the network over each access that user plane resources have been established; and

2) perform a normal and periodic tracking area updating to indicate EPS bearer context status to the network as specified in clause 5.5.3.2.2 of 3GPP TS 24.301 [15] when a PDN connection has been established as a user plance resource; or

b) if the PDU session is a single access PDU session, perform a registration procedure for mobility and periodic registration update to indicate PDU session status to the network over the access the PDU session is associated with.

\* \* \* End Change \* \* \* \*