**3GPP TSG-CT WG1 Meeting #136-eC1-22xxxx**

**E-Meeting, 12th – 20th May 2022**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **24.501** | **CR** | **4326** | **rev** | **1** | **Current version:** | **17.6.1** |  |
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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 |  |

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| ***Title:***  | Clarification on UE action for not forwarded 5GSM message |
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| ***Source to WG:*** | OPPO |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | 5GProtoc17 |  | ***Date:*** | 2022-4-28 |
|  |  |  |  |  |
| ***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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | If the SM message is not forwarded due to the max PDU session reached, the handling is missing in abnormal case. |
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| ***Summary of change:*** | Add abnormal handling when the 5GSM message is not forwarded due to the max PDU session reached. |
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| ***Consequences if not approved:*** | UE may keep timer T3580 running when the 5GSM message is not forwarded due to the max PDU session reached. |
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| ***Clauses affected:*** | 6.4.1.6 |
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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:*** |  |

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

#### 6.4.1.6 Abnormal cases in the UE

The following abnormal cases can be identified:

a) Expiry of timer T3580

 The UE shall, on the first expiry of the timer T3580:

- if the PDU SESSION ESTABLISHMENT REQUEST message was sent with request type set to "initial emergency request" or "existing emergency PDU session", then the UE may:

a) inform the upper layers of the failure of the procedure; or

NOTE 1: This can result in the upper layers requesting another emergency call attempt using domain selection as specified in 3GPP TS 23.167 [6].

b) de-register locally, if not de-registered already, attempt initial registration for emergency services.

 If the UE sent the PDU SESSION ESTABLISHMENT REQUEST message in order to perform a handover of an existing emergency PDU session between 3GPP access and non-3GPP access, the UE shall consider that the emergency PDU session is associated with the source access type.

- otherwise, retransmit the PDU SESSION ESTABLISHMENT REQUEST message and the PDU session information which was transported together with the initial transmission of the PDU SESSION ESTABLISHMENT REQUEST message and shall reset and start timer T3580, if still needed. This retransmission can be repeated up to four times, i.e. on the fifth expiry of timer T3580, the UE shall abort the procedure, release the allocated PTI and enter the state PROCEDURE TRANSACTION INACTIVE. If the UE sent the PDU SESSION ESTABLISHMENT REQUEST message in order to perform a handover of an existing non-emergency PDU session between 3GPP access and non-3GPP access, the UE shall consider that the PDU session is associated with the source access type.

b) Upon receiving an indication that the 5GSM message was not forwarded due to routing failure along with a PDU SESSION ESTABLISHMENT REQUEST message with the PDU session ID IE set to the same value as the PDU session ID that was sent by the UE, the UE shall stop timer T3580 and shall abort the procedure. If the UE sent the PDU SESSION ESTABLISHMENT REQUEST message in order to perform a handover of an existing PDU session between 3GPP access and non-3GPP access, the UE shall consider that the PDU session is associated with the source access type.

b1) Upon receiving an indication that the 5GSM message was not forwarded due to service area restrictions along with a PDU SESSION ESTABLISHMENT REQUEST message with the PDU session ID IE set to the same value as the PDU session ID that was sent by the UE, the UE shall stop timer T3580 and shall abort the procedure. If the UE sent the PDU SESSION ESTABLISHMENT REQUEST message in order to perform a handover of an existing PDU session between 3GPP access and non-3GPP access, the UE shall consider that the PDU session is associated with the source access type.

b2) Upon receiving an indication that the 5GSM message was not forwarded because the UE is registered to a PLMN via a satellite NG-RAN cell that is not allowed to operate at the present UE location along with a PDU SESSION ESTABLISHMENT REQUEST message with the PDU session ID IE set to the same value as the PDU session ID that was sent by the UE, the UE shall stop timer T3580 and shall abort the procedure. The UE shall not trigger the PDU session establishment procedure until the UE is deregistered from the PLMN.

b3) Upon receiving an indication that the 5GSM message was not forwarded because the UE is marked in the UE's 5GMM context that it is not allowed to request UAS services along with a PDU SESSION ESTABLISHMENT REQUEST message with the PDU session ID IE set to the same value as the PDU session ID that was sent by the UE, the UE shall stop timer T3580 and shall abort the procedure. The UE shall not trigger the PDU session establishment procedure until the UE is deregistered from the PLMN.

bx) Upon receiving an indication that the 5GSM message was not forwarded because the PLMN's maximum number of PDU sessions has been reached along with a PDU SESSION ESTABLISHMENT REQUEST message with the PDU session ID IE set to the same value as the PDU session ID that was sent by the UE, the UE shall stop timer T3580 and shall abort the procedure.

c) Collision of UE-requested PDU session establishment procedure and network-requested PDU session release procedure.

 If the UE receives a PDU SESSION RELEASE COMMAND message after sending a PDU SESSION ESTABLISHMENT REQUEST message to the network, and the PDU session ID in the PDU SESSION RELEASE COMMAND message is the same as the PDU session ID in the PDU SESSION ESTABLISHMENT REQUEST message:

i) if the UE-requested PDU session establishment procedure was to request the establishment of user plane resources on the second access for an MA PDU session established on a first access and the Access type IE is not included in PDU SESSION RELEASE COMMAND or the Access type IE included in PDU SESSION RELEASE COMMAND indicates the first access, the UE shall proceed with the network-requested PDU session release procedure, abort the UE-requested PDU session establishment procedure, stop timer T3580, release the allocated PTI and enter the state PROCEDURE TRANSACTION INACTIVE;

ii) if the PDU SESSION ESTABLISHMENT REQUEST message was sent with request type set to "existing PDU session" or "existing emergency PDU session" in order to perform a handover of an existing PDU session between 3GPP access and non-3GPP access, the UE shall abort the PDU session establishment procedure and proceed with the network-requested PDU session release procedure; or

iii) otherwise, the UE shall ignore the PDU SESSION RELEASE COMMAND message and proceed with the UE-requested PDU session establishment procedure.

d) Inter-system change from N1 mode to S1 mode triggered during UE-requested PDU session establishment procedure.

 If the UE-requested PDU session establishment procedure is triggered for handover of an existing PDU session from non-3GPP access to 3GPP access, and the inter-system change from N1 mode to S1 mode is triggered by the NG-RAN and the UE did not receive response to PDU session establishment request, then the UE shall abort the procedure, stop timer T3580, and notify the upper layer of the handover failure.

NOTE 2: This can result in the upper layer requesting re-initiation of handover from non-3GPP access to 3GPP access after the inter-system change is completed, if still required.

e) For an MA PDU session established on a single access, upon receipt of a PDU SESSION ESTABLISHMENT ACCEPT message over the other access, if any value of the selected PDU session type, selected SSC mode, 5GSM cause, PDU address, S-NSSAI, DNN IEs in the PDU SESSION ESTABLISHMENT ACCEPT message is different from the corresponding stored value, the UE shall perform a local release of the MA PDU session, and perform the registration procedure for mobility and periodic registration update with a REGISTRATION REQUEST message including the PDU session status IE over both accesses.

f) For an MA PDU session has a PDN connection as a user-plane resource, upon receipt of a PDU SESSION ESTABLISHMENT ACCEPT message over non-3GPP access, if any value of the selected PDU session type, selected SSC mode, 5GSM cause, PDU address, S-NSSAI, DNN IEs in the PDU SESSION ESTABLISHMENT ACCEPT message is different from the corresponding stored mapped value, the UE shall perform a local release of the MA PDU session, perform the registration procedure for mobility and periodic registration update with a REGISTRATION REQUEST message including the PDU session status IE over non-3GPP access, and perform the tracking area updating procedure as specified in clause 5.5.3.2.2 of 3GPP TS 24.301 [15] with a TRACKING AREA UPDATE REQUEST message including EPS bearer context status IE.

g) Collision of UE-requested PDU session establishment procedure initiated to perform handover of an existing PDU session from non-3GPP access to 3GPP access and a notification from the network with access type indicating non-3GPP access.

 If the UE receives a notification from the network with access type indicating non-3GPP access after sending a PDU SESSION ESTABLISHMENT REQUEST message to perform handover of an existing PDU session from non-3GPP access to 3GPP access, the UE shall abort the PDU session establishment procedure, stop timer T3580, proceed with the service request procedure to perform handover of existing PDU session(s) from non-3GPP access to 3GPP access.

h) Collision of UE-requested PDU session establishment procedure and N1 NAS signalling connection release

 The UE may immediately retransmit the PDU SESSION ESTABLISHMENT REQUEST message and stop, reset and restart timer T3580, if the following conditions apply:

1) The original UE-requested PDU session establishment procedure was initiated over an existing N1 NAS signalling connection;

2) the previous transmission of the PDU SESSION ESTABLISHMENT REQUEST message was not initiated due to timer T3580 expiry; and

3) no 5GSM message related to the PDU session (e.g. PDU SESSION ESTABLISHMENT REJECT or PDU SESSION AUTHENTICATION COMMAND message) or indication that the 5GSM message was not forwarded (see item b) and b1)) was received after the PDU SESSION ESTABLISHMENT REQUEST message was transmitted.

i) Collision of UE-requested PDU session establishment procedure and network-requested PDU session modification procedure

 If the UE receives a PDU SESSION MODIFICATION COMMAND message after sending a PDU SESSION ESTABLISHMENT REQUEST message to the network, and the PDU session ID in the PDU SESSION MODIFICATION COMMAND message is the same as the PDU session ID in the PDU SESSION ESTABLISHMENT REQUEST message:

i) if the UE-requested PDU session establishment procedure was to request the establishment of user plane resources on the second access for an MA PDU session established on a first access, the UE shall proceed with both the UE-requested PDU session establishment procedure and the network-requested PDU session modification procedure; or

ii) if the PDU SESSION ESTABLISHMENT REQUEST message was sent with request type set to "existing PDU session" or "existing emergency PDU session" in order to perform a handover of an existing PDU session between 3GPP access and non-3GPP access, the UE shall proceed with the UE-requested PDU session establishment procedure and abort the network-requested PDU session modification procedure.

\* \* \* End of Changes \* \* \* \*