**3GPP TSG-CT WG1 Meeting #133e-bisC1-220256**

**E-meeting, 17-21 January 2022**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **24.301** | **CR** | **3661** | **rev** | **-** | **Current version:** | **17.5.0** |  |
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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:*** | PDN connection release if no service-level-AA container is responded. | | | | | | | | | |
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| ***Source to WG:*** | Qualcomm Incorporated | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | ID\_UAS | | | | |  | ***Date:*** | | | 2022-01-10 |
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| ***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 can be 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 some abnormal cases, for example, the selected P-GW does not support service-level AA container with two octets length and P-GW decodes ePCO IE incorrectly, it may result in the PDN connection establishment with unpredictable PCO parameters.  In order to avoid misuse of the PDN connection which has not properly perform UUAA due to abnormal cases, the UE can decide to perform following behaviour:  If the UE has sent Service-level-AA container but there is no response for the service-level AA container (i.e., no received service-level-AA container from the network), then the UE can consider that UUAA has failed (or cannot be performed). Since the UE wants to use UAS services but UUAA hasn’t been performed successfully, the UE can decide to release the PDN connection. | | | | | | | | |
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| ***Summary of change:*** | | If no response for service-level-AA container, the UE shall detach or release the PDN connection. | | | | | | | | |
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| ***Consequences if not approved:*** | | Wrongly established PDN connection due to unpredictable error for service-level-AA container in PCO may remain. | | | | | | | | |
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| ***Clauses affected:*** | | 6.4.1.3 | | | | | | | | |
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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 \*\*\*

6.4.1.3 Default EPS bearer context activation accepted by the UE

Upon receipt of the ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message, if the UE provided an APN for the establishment of the PDN connection, the UE shall stop timer T3396 if it is running for the APN provided by the UE. If the UE did not provide an APN for the establishment of the PDN connection and the request type was different from "emergency" and from "handover of emergency bearer services", the UE shall stop the timer T3396 associated with no APN if it is running. If the ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message was received in response to a request for an emergency PDN connection, the UE shall not stop the timer T3396 associated with no APN if it is running. For any case, the UE shall then send an ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT message and enter the state BEARER CONTEXT ACTIVE. When the default bearer is activated as part of the attach procedure, the UE shall send the ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT message together with ATTACH COMPLETE message. When the default bearer is activated as the response to the stand-alone PDN CONNECTIVITY REQUEST message, the UE shall send the ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT message alone.

If a WLAN offload indication information element is included in the ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message, the UE shall store the WLAN offload acceptability values for this PDN connection and use the E-UTRAN offload acceptability value to determine whether this PDN connection is offloadable to WLAN or not.

The UE checks the PTI in the ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message to identify the UE requested PDN connectivity procedure to which the default bearer context activation is related (see clause 6.5.1).

If the UE receives a serving PLMN rate control IE in the ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message, the UE shall store the serving PLMN rate control IE value and use the stored serving PLMN rate control value as the maximum allowed limit of uplink User data container IEs included in ESM DATA TRANSPORT messages for the corresponding PDN connection in accordance with 3GPP TS 23.401 [10].

If the UE receives an APN rate control parameters container in the protocol configuration options IE or extended protocol configuration options IE in the ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message, the UE shall store the APN rate control parameters value and use the stored APN rate control parameters value as the maximum allowed limit of uplink user data related to the APN indicated in the ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message in accordance with 3GPP TS 23.401 [10]. If the UE has a previously stored APN rate control parameters value for this APN, the UE shall replace the stored APN rate control parameters value for this APN with the received APN rate control parameters value.

If the UE receives an additional APN rate control parameters for exception data container in the protocol configuration options IE or extended protocol configuration options IE in the ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message, the UE shall store the additional APN rate control parameters for exception data value and use the stored additional APN rate control parameters for exception data value as the maximum allowed limit of uplink exception data related to the APN indicated in the ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message in accordance with 3GPP TS 23.401 [10]. If the UE has a previously stored additional APN rate control parameters for exception data value for this APN, the UE shall replace the stored additional APN rate control parameters for exception data value for this APN with the received additional APN rate control parameters for exception data value.

If the UE receives a small data rate control parameters container in the protocol configuration options IE or the extended protocol configuration options IE in the ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message, the UE shall store the small data rate control parameters value and use the stored small data rate control parameters value as the maximum allowed limit of uplink user data for the corresponding PDU session that becomes transferred after inter-system change from S1 mode to N1 mode in accordance with 3GPP TS 23.501 [58].

If the UE receives an additional small data rate control parameters for exception data container in the protocol configuration options IE or the extended protocol configuration options IE in the ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message, the UE shall store the additional small data rate control parameters for exception data value and use the stored additional small data rate control parameters for exception data value as the maximum allowed limit of uplink exception data for the corresponding PDU session that becomes transferred after inter-system change from S1 mode to N1 mode in accordance with 3GPP TS 23.501 [58].

If the UE receives non-IP Link MTU parameter, Ethernet Frame Payload MTU parameter, IPv4 Link MTU parameter, or Unstructured Link MTU parameter of the protocol configuration options IE or of the extended protocol configuration options IE in the ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message, the UE shall pass the received Non-IP Link MTU size, Ethernet Frame Payload MTU size, or IPv4 Link MTU size, or Unstructured Link MTU size to the upper layer.

NOTE 1: The Non-IP Link MTU and the IPv4 Link MTU size correspond to the maximum length of user data that can be sent either in the user data container in the ESM DATA TRANSPORT message or via S1-U interface.

NOTE 2: The Ethernet frame payload MTU size corresponds to the maximum length of a payload of an Ethernet frame that can be sent either in the user data container in the ESM DATA TRANSPORT message or via S1-U interface.

NOTE 3: A PDN connection of non-IP PDN type can be transferred to a PDU session of "Unstructured" PDU session type, thus the UE can request the unstructured link MTU parameter in the default EPS bearer context activation procedure. The unstructured link MTU size correspond to the maximum length of user data packet that can be sent either via the control plane or via N3 interface for a PDU session of the "Unstructured" PDU session type as specified in 3GPP TS 24.501 [54].

If the UE receives the ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message containing the Uplink data not allowed parameter in the extended protocol configuration options IE, then the UE shall not send any uplink user data over EPS bearer context(s) of the corresponding PDN connection.

Upon receiving the DNS server security information, the UE shall pass it to the upper layer. The UE shall use this information to send the DNS over (D)TLS (See 3GPP TS 33.501 [24]).

NOTE 4: Support of DNS over (D)TLS is based on the informative requirements as specified in 3GPP TS 33.501 [24].

Upon receipt of the ACTIVATE DEFAULT EPS BEARER CONTEXT ACCEPT message, the MME shall enter the state BEARER CONTEXT ACTIVE and stop the timer T3485, if the timer is running. If the PDN CONNECTIVITY REQUEST message included a low priority indicator set to "MS is configured for NAS signalling low priority", the MME shall store the NAS signalling low priority indication within the default EPS bearer context.

If the UE, supporting UAS services, has sent the PDN CONNECTIVITY REQUEST message or the ESM INFORMATION RESPONSE with an extended protocol configuration options IE containing the service-level-AA container with length of two octets, and the received ACTIVATE DEFAULT EPS BEARER CONTEXT REQUEST message does not include the service-level-AA container with the length of two octets in the extended protocol configuration options IE, then:

a) if EMM-REGISTERED without PDN connection is supported by the UE and the MME, the UE performs PDN connection release procedure, or

b) if EMM-REGISTERED without PDN connection is not supported by the UE and the MME, the UE performs detach procedure.

NOTE 5: After PDN connection release or detach procedure, if the UE wants to use the services other than UAS services, the UE can perform attach procedure or PDN connection establishment procedure without including the service-level-AA container with the length of two octets for UAS services in the extended protocol configuration option IE.