**3GPP TSG-CT WG1 Meeting #138-eC1-225710\_rev4**

**E-Meeting, 10th – 14th October 2022**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.301** | **CR** | **3795** | **rev** | **-** | **Current version:** | **18.0.0** |  |
|  | | | | | | | | |
| *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:*** | Clarification on the condition of transmitting “UAS services not allowed indication” to the UE, mirror in Rel-18 | | | | | | | | | |
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| ***Source to WG:*** | SHARP | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | ID\_UAS | | | | |  | ***Date:*** | | | 2022-09-30 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | A |  | | | | | ***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 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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
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| ***Reason for change:*** | | According to the current specification TS 23.256, if the UAV has not provided the Service Level Device Identity (e.g. the CAA-Level UAV ID), the network rejects the PDN Connectivity Request, in the procedure for C2 authorization in EPS.  However in the current specification TS24.301, it is not clear that the network shall transmit “UAS services not allowed indication” if the UE does not include the service-level-AA container in the PDN CONNECTIVITY REQUEST message. | | | | | | | | |
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| ***Summary of change:*** | | Clarify the condition that the network transmits “UAS services not allowed indication” in the procedure for C2 authorization in EPS.  **Backward compatibility analysis**  No backward compatibility issues since the feature is new in Rel-17. | | | | | | | | |
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| ***Consequences if not approved:*** | | It is unclear how the network decides to transmit “UAS services not allowed indication”. | | | | | | | | |
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| ***Clauses affected:*** | | 6.5.1.4.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \* \* \* \*

##### 6.5.1.4.1 General

If connectivity with the requested PDN cannot be accepted by the network, the MME shall send a PDN CONNECTIVITY REJECT message to the UE. The message shall contain the PTI and an ESM cause value indicating the reason for rejecting the UE requested PDN connectivity.

The ESM cause IE typically indicates one of the following ESM cause values:

#8: operator determined barring;

#26: insufficient resources;

#27: missing or unknown APN;

#28: unknown PDN type;

#29: user authentication or authorization failed;

#30: request rejected by Serving GW or PDN GW;

#31: request rejected, unspecified;

#32: service option not supported;

#33: requested service option not subscribed;

#34: service option temporarily out of order;

#35: PTI already in use;

#38: network failure;

#50: PDN type IPv4 only allowed;

#51: PDN type IPv6 only allowed;

#53: ESM information not received;

#54: PDN connection does not exist;

#55: multiple PDN connections for a given APN not allowed;

#57: PDN type IPv4v6 only allowed;

#58: PDN type non IP only allowed;

#61: PDN type Ethernet only allowed;

#65: maximum number of EPS bearers reached;

#66: requested APN not supported in current RAT and PLMN combination;

#95 – 111: protocol errors;

#112: APN restriction value incompatible with active EPS bearer context;

#113: Multiple accesses to a PDN connection not allowed.

The network may include a Back-off timer value IE in the PDN CONNECTIVITY REJECT message. If the ESM cause value is #26 "insufficient resources" and the PDN CONNECTIVITY REQUEST message was received via a NAS signalling connection established with RRC establishment cause "High priority access AC 11 – 15" or the request type in the PDN CONNECTIVITY REQUEST message was set to "emergency" or "handover of emergency bearer services", the network shall not include a Back-off timer value IE.

If the Back-off timer value IE is included and the ESM cause value is different from #26 "insufficient resources", #50 "PDN type IPv4 only allowed", #51 "PDN type IPv6 only allowed", #57 "PDN type IPv4v6 only allowed", #58 "PDN type non IP only allowed", #61 "PDN type Ethernet only allowed", and #65 "maximum number of EPS bearers reached", the network may include the Re-attempt indicator IE to indicate:

- whether the UE is allowed to attempt a PDP context activation procedure in the PLMN for the same APN in A/Gb or Iu mode or a PDU session establishment procedure in the PLMN for the same APN in N1 mode; and

- whether another attempt in A/Gb and Iu mode, in S1 mode or in N1 mode is allowed in an equivalent PLMN.

If the ESM cause value is #50 "PDN type IPv4 only allowed", #51 "PDN type IPv6 only allowed", #57 "PDN type IPv4v6 only allowed", #58 "PDN type non IP only allowed" or #61 "PDN type Ethernet only allowed", the network may include the Re-attempt indicator IE without Back-off timer value IE to indicate whether the UE is allowed to attempt a PDN connectivity procedure in an equivalent PLMN for the same APN in S1 mode using the same PDN type.

If the ESM cause value is #66 "requested APN not supported in current RAT and PLMN combination", the network may include the Re-attempt indicator IE without Back-off timer value IE to indicate whether the UE is allowed to attempt a PDN connectivity procedure in an equivalent PLMN for the same APN in S1 mode.

Upon receipt of the PDN CONNECTIVITY REJECT message, the UE shall stop timer T3482 and enter the state PROCEDURE TRANSACTION INACTIVE.

If the PDN CONNECTIVITY REJECT message is due to an ESM failure notified by EMM layer (i.e., EMM cause #19 "ESM failure" included in an ATTACH REJECT message), the UE may include a different APN in the PDN CONNECTIVITY REQUEST message.

NOTE 1: When receiving EMM cause #19 "ESM failure", coordination is required between the EMM and ESM sublayers in the UE to notify the ESM failure.

If the PDN CONNECTIVITY REQUEST message was sent with request type set to "emergency" or "handover of emergency bearer services" in a stand-alone PDN connectivity procedure and the UE receives a PDN CONNECTIVITY REJECT message, then the UE may:

a) inform the upper layers of the failure to establish the emergency bearer; or

NOTE 2: This can result in the upper layers requesting establishment of a CS emergency call (if not already attempted in the CS domain) or other implementation specific mechanisms, e.g. procedures specified in 3GPP TS 24.229 [13D] can result in the emergency call being attempted to another IP-CAN.

b) detach locally, if not detached already, attempt EPS attach for emergency bearer services.

If the PDN CONNECTIVITY REQUEST message was sent with PDN type set to "Ethernet" and the UE receives a PDN CONNECTIVITY REJECT message with ESM cause #58 "PDN type non IP only allowed", then the UE may attempt a PDN connectivity procedure with the non-IP PDN type.

If the PDN CONNECTIVITY REJECT message contains the UAS services not allowed indication parameter in the extended protocol configuration options IE and the UE has not provided its CAA-level UAV ID to the network, the UE shall not send another PDN CONNECTIVITY REQUEST message for UAS services without providing its CAA-level UAV ID to the network.

NOTE 3: If the PDN CONNECTIVITY REJECT message contains the UAS services not allowed indication parameter in the extended protocol configuration options IE, the ESM cause value #29 "user authentication or authorization failed" is included in the PDN CONNECTIVITY REJECT message.

NOTE x: The PDN CONNECTIVITY REQUEST message is rejected with a PDN CONNECTIVITY REJECT message with the UAS services not allowed indication parameter included in the extended protocol configuration options IE, if the PDN connection is identified to be for C2 communication based on the APN and the CAA-level UAV ID is not provided.

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