**3GPP TSG-SA3 Meeting #124 S3-253631-r1**

**Wuhan, China, 13 – 17 October 2025**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  |  | **CR** | **0045** | **rev** |  | **Current version:** | **19.0.0** |  |
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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 | **X** |

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| ***Title:***  | Addressing the missing information on the initial value of temporary identifier in Clause 5.4.3 and Annex B.  |
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| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | S3 |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** | 2025-10-06 |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** | Rel-19 |
|  | *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:*** | The initial stored temporary identification information is missing in the specification.  |
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| ***Summary of change:*** | Initial stored temporary ID is set to AIoT device permanent ID. |
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| ***Consequences if not approved:*** | Unclear specification leading to misunderstandings in stage-3 and implementation.  |
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| ***Clauses affected:*** | 5.4.3, Annex B |
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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 \* \* \* \*

### 5.4.3 Procedure for AIoT Device identifier protection with Temp ID update during Individual inventory

For the protection of AIoT device permanent identifier during the inventory procedure with AIoT device identifier described in clause 5.2.2, the following changes shall apply:

- In step 1, AIOTF shall retrieve a T-ID in addition to the RANDAIOT\_n from ADM. The ADM shall, based on T-ID type, either fetch the stored T-ID in the AIoT device profile or generate the T-ID as specified in Annex B.1.

- In step 2, 3 and 4, the T-ID shall be used as a device identification information.

- In step 2 and 3 the AIOTF includes indication of type of T-ID handling. T-ID can be either concealed type or stored type. The concealed type can be based on either the stored T-ID or the permanent identifier. If needed the handling also indicates whether the stored T-ID type shall be updated with or without a command. NG-RAN includes the T-ID handling in the paging message. If the T-ID is stored type, the initial value of the T-ID (Temp ID\_0) is identical to AIoT device permanent ID. This initial T-ID (Temp ID\_0) shall not be used for paging. The very first time, the network uses Temp\_ID\_1 for paging the device with stored type.

- In step 4, the AIoT device, based on the T-ID handling indication in the paging message, generates the T-ID in the same way as the ADM did in step 1. The AIoT device determines it needs to reply to the NG-RAN if the generated T-ID matches with the received T-ID. In case the stored T-ID update shall be done without a command, the AIoT Device generates a new Temp\_ID\_n+1 as specified in Annex B.1 and stores the new Temp ID\_n+1.

- In step 5 and 6, a device identification information is not included in the D2R message and Inventory Report message.

- In step 7, the AIoT device permanent identifier is used as a device identification information. AIOTF requests the ADM to derive a new T-ID as specified in Annex B.1 and to store it in the AIoT Device profile.

NOTE 1: The AIOTF identifies the AIoT device by checking the received RESAIoT parameter. Therefore, the device identification information is not needed in the D2R message and Inventory Report message.

NOTE 2: In case of concealed T-ID type, every AIoT devices that receive an Inventory Request with T-ID need to perform a T-ID matching by generating a T-ID based on the KAIoT\_root and check if the generated T-ID is matched with the received T-ID. It is assumed that the AIoT device that receive the Inventory Request has enough energy to perform this T-ID matching in addition to the Inventory procedure specified in clause 5.2.2.

NOTE 3: In case of stored T-ID type, the stored T-IDs on the device side and network side can get out-of synch. The handling of such situation is described in clause

\* \* \* Next Change \* \* \* \*

Annex B (normative):
Temporary Identifier generation functions

## B.1 T-ID generation

When generating a temporary ID (i.e., T-ID) from KAIOT\_root, the following parameters shall be used to form the input S to the KDF:

- FC = 0xNN,

- P0 = Temp\_n,

- L0 = length of Temp\_n,

- P1 = RANDAIOT\_n,

- L1 = length of RANDAIOT\_n

The input key KEY shall be KAIOT\_root. The P0 input is either the stored Temp ID\_n or AIoT device Permanent ID. If privacy protection is used and the T-ID is stored type, then the output of the KDF is Temp ID\_n+1, and the initial value of the T-ID (i.e., Temp ID\_0) is identical to AIoT device permanent ID.

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