**3GPP TSG CT WG3 Meeting #130C3-234457**

Xiamen China, 09th - 13th October, 2023 (revision of C3-234096)

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
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|  | **29.513** | **CR** | **0496** | **rev** | **1** | **Current version:** | **18.3.0** |  |
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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 |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:***  | Correction on description of rfspValTime |
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| ***Source to WG:*** | China Telecom |
| ***Source to TSG:*** | CT3 |
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| ***Work item code:*** | AMP |  | ***Date:*** | 2023-10-09 |
|  |  |  |  |  |
| ***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-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
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| ***Reason for change:*** | How to use “rfspValTime” in 5GS access to EPS access is not clear enough. |
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| ***Summary of change:*** | Add expiration description in use of “rfspValTime”. |
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| ***Consequences if not approved:*** | Misunderstanding on use of “rfspValTime”. |
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| ***Clauses affected:*** | 5.1.1 |
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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 ...  |
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| ***Other comments:*** | This CR does not impact the OpenAPI. |
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| ***This CR's revision history:*** |  |

**Additional discussion(if needed):**

**…**

**Proposed changes:**

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| **First change** |

### 5.1.1 AM Policy Association Establishment

This procedure concerns the following scenarios:

1. UE initial registration with the network.

2. The AMF re-allocation with PCF change in handover procedure and registration procedure.

3. UE registers with 5GS during the UE moving from EPS to 5GS when there is no existing AM Policy Association.



Figure 5.1.1-1: AM Policy Association Establishment procedure

This procedure concerns both roaming and non-roaming scenarios.

In the non-roaming case the role of the V-PCF is performed by the PCF. For the roaming scenarios, the V-PCF interacts with the AMF.

Step 2 - step 5 are not executed in the roaming case.

1. The AMF receives the registration request from the AN. Based on local policy, the AMF selects to contact the (V-) PCF to create the policy association with the (V-) PCF and to retrieve Access and Mobility control policy. The AMF selects the PCF as described in clause 8.2 and invokes the Npcf\_AMPolicyControl\_Create service operation by sending the HTTP POST request to the "AM Policy Associations" resource as defined in clause 4.2.2 and clause 5.3.2.3.1 of 3GPP TS 29.507 [7]. The request operation provides, but is not limited to, the SUPI and the allowed NSSAI if applicable, and if received from the UDM, the Service Area Restrictions, RFSP index, UE-AMBR, a list of UE-Slice-MBR (s), GPSI and a list of Internal Group Identifiers, and may provide the applicable access type(s), the PEI if received in the AMF, the User Location Information if available, the UE Time Zone if available, Serving Network, the applicable RAT type(s), GUAMI of AMF, alternative or backup address(es) or FQDNs of AMF, trace control and configuration parameters information, etc., as defined in clause 4.2.2.1 of 3GPP TS 29.507 [7]. The request includes a Notification URI to indicate to the PCF where to send a notification when the policy is updated.

2. If the PCF does not have the subscription data, it invokes the Nudr\_DataRepository\_Query service operation to the UDR by sending an HTTP GET request to the "AccessAndMobilityPolicyData" resource as specified in 3GPP TS 29.519 [12].

3. The UDR sends an HTTP "200 OK" response to the PCF with the requested subscription data and/or application data in the response message body.

4. The PCF may request notifications from the UDR on changes in the subscription information by invoking Nudr\_DataRepository\_Subscribe service operation by sending an HTTP POST request to the "PolicyDataSubscriptions" resource as specified in 3GPP TS 29.519 [12].

 Additionally, if the PCF and the UDR support dynamically changing AM policies, the PCF may subscribe to the UDR using the Nudr\_DataRepository\_Subscribe service operation for notifications about AM Influence data changes by sending an HTTP POST request to the "ApplicationDataSubscriptions" resource as specified in 3GPP TS 29.519 [12].

5. The UDR sends an HTTP "201 Created" response to acknowledge the subscription from the PCF. If the PCF subscribed to notifications about AM Influence data with the immediate reporting indication set to "true" and matching AM Influence data exists in the UDR, the UDR includes them in the response as specified in 3GPP TS 29.519 [12].

6. The (V-)PCF makes the requested policy decision including Access and Mobility control policy information, and may determine applicable Policy Control Request Trigger(s).

6a. In non-roaming case, if the PCF determines that the policy decision depends on the status of the policy counters available at the CHF, and such reporting is not established for the subscriber, the PCF initiates an Initial Spending Limit Report Retrieval as defined in clause 5.3.2. If policy counter status reporting is already established for the subscriber, and the PCF determines that the status of additional policy counters is required, the PCF initiates an Intermediate Spending Limit Report Retrieval as defined in clause 5.3.3.

7. The (V-)PCF sends an HTTP "201 Created" response to the AMF with the determined policies as described in clause 4.2.2 of 3GPP TS 29.507 [7], e.g.:

- Access and Mobility Control Policy including Service Area Restrictions, and/or a RAT Frequency Selection Priority (RFSP) Index; and/or

- Policy Control Request Triggers and related policy information.;

7a. The PCF may register to the BSF as the PCF for the UE (i.e. as the PCF that handles the AM Policy Association of this UE) by sending an HTTP POST request to the "PCF for a UE Bindings" resource of the Nbsf\_Management\_Register service as described in clause 4.2.2.3 of 3GPP TS 29.521 [22].

7b. The BSF responds with "201 Created" if the registration of the PCF for the UE was successful.

8. The AMF deploys the Access and Mobility control policy information if received which includes, e.g. storing the Service Area Restrictions, provisioning the Service Area Restrictions to the UE and/or choosing the RFSP index in use and provisioning the chosen RFSP index and Service Area Restrictions to the NG-RAN, if applicable, when the UE is registered in the 3GPP access.

NOTE 1: The AMF can decide that the RFSP Index in use is the same as the RFSP index authorized by the PCF or can also use configured operator policies, the Allowed NSSAI and the UE related context information available at the AMF in its derivation.

 When the feature "RFSPValidityTime" is supported, the PCF provided the RFSP Index value that indicates the EPC/E-UTRAN access is prioritized over 5GS access and a validity time associated to the provided RFSP Index as specified in 3GPP TS 29.507 [7], if the AMF decides to use the RFSP Index received from the PCF, then the AMF provides to the MME both, the received RFSP Index and the received validity time. The validity time indicates the time for which the RFSP Index will be used in the MME after 5GS to EPS mobility.

NOTE 2: The RFSP validity time indicated by the PCF when the feature "RFSPValidityTime" is supported is used by the MME to allow the UE to stay in EPS during the period of time indicated by the "rfspValTime" attribute as specified in 3GPP TS 29.507 [7] and avoid the potential ping-pong issue between 5GS and EPS (i.e., 5GS keeps sending the UE to EPS based on authorized RFSP Index from PCF, and the EPS keeps sending the UE back to 5GS immediately based on the subscribed RFSP Index). If due to UE mobility the AMF receives from the MME a validity time associated to the RFSP in use, the AMF shall ignore validity time received from the MME.

NOTE 3: The PCF can reject the AM Policy Association establishment, e.g. the PCF cannot obtain the subscription-related information from the UDR and the PCF cannot make the policy decisions, as described in 3GPP TS 29.519 [12]. In this case, the AMF deploys the Access and Mobility control policy information based on the policy retrieved from the UDM if available or the local configuration. In order to choose the RFSP Index in use, Allowed NSSAI and the UE related context information available at the AMF can also be used.

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| **End of changes** |