**3GPP TSG-CT WG3 Meeting #138C3-246419**

**Orlando, US, 14 - 18 October, 2024**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.513** | **CR** | **0579** | **rev** | **1** | **Current version:** | **19.0.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | URSP rules provisioning for Background Data Transfer | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | UEP19 | | | | |  | ***Date:*** | | | 2024-10-21 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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 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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19) Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | According to TS 23.503, clause 6.1.2.4, for the handling of BDT for future PDU sessions:  “The PCF uses local policies to decide when the URSP rule related to the Background Data Transfer Policy is going to be sent to the UE. The PCF may, based on operator configuration, trigger the UE Configuration Update procedure when the AF request to apply the BDT policy to a future session is received, or the PCF may wait until receiving a notification from the AMF that the UE has entered the Tracking Area or Presence Area where the BDT policy applies, and/or the PCF may wait until the time window when the BDT policy applies is approaching.”  However, clause 5.5.6 in TS 29.513 only allows that the PCF initiates the UE Policy Modification procedure when the UE policy association exists or that the PCF provides the UE policies as part of the UE policy association establishment when the UE Policy association does not exist. That is, the current specification does not consider that the PCF can postpone the decision based on the temporal and/or spatial revalidation criteria. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Clause 5.5.6 is updated to allow that the PCF postpone the update of the UE policies based on spatial or temporal conditions. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Incorrect specification. Misalignment with stage 2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.5.6. | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

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

### 5.5.6 Background data transfer policy applying procedure



Figure 5.5.6-1: Background data transfer policy applying procedure

0. The AF negotiates policy for background data transfer during Negotiation for future background data transfer procedure (see clause 5.5.4).

1. To apply the negotiated Background Data Transfer Policy to UE or a group of UE, the AF invokes the Nnef\_ApplyPolicy\_Create service operation to the NEF by sending the HTTP POST request to the "Applied BDT Policy Subscriptions" resource.

To update the applied policy, the AF invokes the Nnef\_ApplyPolicy\_Update service operation by sending the HTTP PATCH request to the "Individual Applied BDT Policy Subscription" resource.

To remove the applied policy, the AF invokes the Nnef\_ApplyPolicy\_Delete service operation by sending the HTTP DELETE request to the "Individual Applied BDT Policy Subscription" resource.

NOTE 1: For details of Nnef\_ApplyPolicy\_Create/Update/Delete service operations refer to 3GPP TS 29.522 [24].

2. Upon receipt of the AF request, the NEF authorizes it and then performs the mapping from the information provided by the AF into information needed by the 5GC as described in 3GPP TS 23.502 [3].

3-4. When receiving the Nnef\_ApplyPolicy\_Create request, the NEF invokes the Nudr\_DataRepository\_Create service operation to store the AF request information in the UDR by sending the HTTP PUT request to the "Individual Applied BDT Policy Data" resource, and the UDR sends a "201 Created" response.

When receiving the Nnef\_ApplyPolicy\_Update request, the NEF invokes the Nudr\_DataRepository\_Update service operation to modify the AF request information in the UDR by sending the HTTP PATCH request to the resource "Individual Applied BDT Policy Data", and the UDR sends a "200 OK" or "204 No Content" response.

When receiving the Nnef\_ApplyPolicy\_Delete request, t he NEF invokes the Nudr\_DataRepository\_Delete service operation to delete the AF requirements from the UDR by sending the HTTP DELETE request to the "Individual Applied BDT Policy Data" resource, and the UDR sends a "204 No Content" response.

5. The NEF sends the HTTP response message to the AF correspondingly.

6A. The PCF previously subscribed to the changes of Applied BDT Policy Data during UE Policy Association Establishment procedure (see clause 5.6.1.2).

6a. The UDR invokes the Nudr\_DataRepository\_Notify service operation to PCF(s) that have subscribed to the changes of Applied BDT Policy Data by sending the HTTP POST request to the callback URI "{notificationUri}".

6b. The PCF sends a "204 No Content" response to the UDR.

6c. UE Policy Association Modification procedure is initiated as described in 3GPP TS 29.525 [31] to send the background data transfer policy to the UE.

6B. The PCF retrieves the Applied BDT Policy Data in the UDR by invoking the Nudr\_DataRepository\_Query service operation and sends the background data transfer policy to the UE during UE Policy Association Establishment procedure (see clause 5.6.1.2). or during the UE Policy Association Modification procedure (see clauses 5.6.2.2.2 and 5.6.2.1.2).

NOTE 2: The PCF can decide to wait for the UE Policy Association modification procedure to send the background data transfer information as described in 3GPP TS 29.525 [31].7. The PCF invokes the Nudr\_DataRepository\_Update service operation to the UDR by sending the HTTP PATCH request to the "SessionManagementPolicyData" resource, to store the BDT reference ID(s) into the PDU session related policy data.

8. The UDR sends a "204 No Content" or "200 OK" response to the PCF.

NOTE 3: For details of the Nudr\_DataRepository\_Create/Update/Delete/Notify service operations refer to 3GPP TS 29.504 [27] and 3GPP TS 29.519 [12].

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