**3GPP TSG- WG3 Meeting #134C3-242223**

**Changsha, CN, April 15th -19th, 2024**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** | **0093** | **rev** |  | **Current version:** | **18.2.0** |  |
|  |
| *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 |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:***  | Editorial correction in BDT Create Clause |
|  |  |
| ***Source to WG:*** | AT&T, Amdocs Software Systems Ltd |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** | 5GS\_Ph1-CT, TEI18 |  | ***Date:*** | 2024-04-08 |
|  |  |  |  |  |
| ***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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | Editorial correction for BDTPolicyControl Create clause. |
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| ***Summary of change:*** | Minor updates for clarity of information. |
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| Consequences if not approved: | BDTPolicyControl Create Clause not aligned with Npcf\_BDTPolicyControl Service API |
|  |  |
| ***Clauses affected:*** | 4.2.1, 4.2.2 |
|  |  |
|  | **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's revision history:*** |  |

\*\*\* 1st Change \*\*\*

## 4.2 Service Operations

### 4.2.1 Introduction

Table 4.2.1-1: Operations of the Npcf\_BDTPolicyControl Service

| Service operation name | Description | Initiated by |
| --- | --- | --- |
| Npcf\_BDTPolicyControl\_Create | Creates a background data transfer policy based on service requirements received from the NF service consumer. | NF service consumer (e.g. NEF) |
| Npcf\_BDTPolicyControl\_Update | Updates the PCF with the background data transfer policy selected by the NF service consumer. | NF service consumer (e.g. NEF) |
| Npcf\_BDTPolicyControl\_Notify | Sends the BDT notification to the NF service consumer. | PCF |

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

\*\*\* 2nd Change \*\*\*

### 4.2.2 Npcf\_BDTPolicyControl\_Create service operation

#### 4.2.2.1 General

The Npcf\_BDTPolicyControl\_Create service operation is used by an NF service consumer to create a BDT policy in PCF.

The following procedure using the Npcf\_BDTPolicyControl\_Create service operation is supported:

 creation of BDT policy.

#### 4.2.2.2 Creation of BDT Policy

This procedure is used by the NF service consumer to request to the PCF the creation of BDT Policy as defined in 3GPP TS 23.501 [2], 3GPP TS 23.502 [3] and 3GPP TS 23.503 [4].

Figure 4.2.2.2-1 illustrates a creation of BDT policy.



Figure 4.2.2.2-1: Creation of BDT Policy

Upon reception of a Background Data Transfer request from the AF indicating a transfer policy request, the NF service consumer shall invoke the Npcf\_BDTPolicyControl\_Create service operation by sending an HTTP POST request to the URI representing a "BDT policies" collection resource of the PCF (as shown in figure 4.2.2.2-1, step 1). The NF service consumer shall include a "BdtReqData" data type in a content of the HTTP POST request. The "BdtReqData" data type shall contain:

- an ASP identifier in the "aspId" attribute;

- a volume of data per UE in the volPerUe" attribute;

- an expected number of UEs in the "numOfUes" attribute;

- a desired time window in the "desTimeInt" attribute; and

- if "BdtNotification\_5G" feature is supported a notification URI in the "notifUri" attribute,

and may include:

- a network area information (e.g. list of TAIs and/or NG-RAN nodes and/or cells identifiers) in the "nwAreaInfo" attribute;

- an identification of a group of UE(s) via an "interGroupId" attribute;

- a traffic descriptor of background data within the "trafficDes" attribute;

- if "BdtNotification\_5G" feature is supported an indication whether BDT warning notification is requested in the "warnNotifReq" attribute; and

- a DNN and an S-NSSAI, corresponding to the ASP identifier, in the "dnn" attribute and the "snssai" attribute respectively.

If the PCF cannot successfully fulfil the received HTTP POST request due to the internal PCF error or due to the error in the HTTP POST request, the PCF shall send the HTTP error response as specified in clause 5.7.

Otherwise, upon the reception of the HTTP POST request from the NF service consumer indicating a BDT policy request, the PCF:

- may invoke the Nudr\_DataRepository\_Query service operation, as described in 3GPP TS 29.504 [11] and 3GPP TS 29.519 [12], to request from the UDR all stored transfer policies;

NOTE 1: In case only one PCF is deployed in the network, transfer policies can be locally stored in the PCF and the interaction with the UDR is not required.

- shall determine one or more acceptable transfer policies based on:

a) information provided by the NF service consumer; and

b) other available information (e.g. the existing transfer policies, network policy, load status estimation for the desired time window); and

- shall create a BDT Reference ID.

The PCF shall send to the NF service consumer a "201 Created" response to the HTTP POST request, as shown in figure 4.2.2.2-1, step 2. The PCF shall include in the "201 Created" response:

- a Location header field; and

- a "BdtPolicy" data type in the response content containing the BDT Reference ID in the "bdtRefId" attribute and acceptable transfer policy/ies in the "transfPolicies" attribute.

The Location header field shall contain the URI of the created individual BDT policy resource i.e. "{apiRoot}/npcf-bdtpolicycontrol/v1/bdtpolicies/{bdtPolicyId}".

For each included transfer policy, the PCF shall provide:

- a transfer policy ID in the "transPolicyId" attribute;

- a recommended time window in the "recTimeInt" attribute; and

- a reference to charging rate for the recommended time window in the "ratingGroup" attribute,

and may provide a maximum aggregated bitrate for the uplink direction in the "maxBitRateUl" attribute and/or a maximum aggregated bitrate for the downlink direction in the "maxBitRateDl" attribute.

If the BdtNotification\_5G feature is supported the PCF shall not assign value "0" for any transfer policy ID.

NOTE 2: As specified in clause 4.2.3.2, value "0" of transfer policy ID is reserved and indicates that no transfer policy is selected.

The PCF may map the ASP identifier into a target DNN and S-NSSAI based on local configuration if the NF service consumer did not provide the DNN and S-NSAAI to the PCF.

If the PCF included in the "BdtPolicy" data type:

- more than one transfer policy, the PCF shall wait for the transfer policy selected by the NF service consumer as described in clause 4.2.3; or

- only one transfer policy, the PCF may invoke the Nudr\_DataRepository\_Update service operation, as described in 3GPP TS 29.504 [11] and 3GPP TS 29.519 [12] clause 5.2.9.3.2, to update the UDR with the selected transfer policy, the corresponding BDT Reference ID, the volume of data per UE, the expected number of UEs and, if available, a network area information, the associated DNN and S-NSSAI for the provided ASP identifier, traffic descriptor of background data and if "BdtNotification\_5G" feature is supported an indication whether BDT warning notification is requested.

NOTE 3: In case only one PCF is deployed in the network, transfer policies can be locally stored in the PCF and the interaction with the UDR is not required.

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