**3GPP TSG CT WG3 Meeting #142 *C3-253483***

**Goteborg, SE, 25th – 29th August, 2025 was C3-253348**

|  |
| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** | **0104** | **rev** | **1** | **Current version:** |  |  |
|  |
| *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:***  | Updates and corrections to Energy Consumption information management |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | EnergySys |  | ***Date:*** | 2025-08-25 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** |  |
|  | *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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
|  |  |
| ***Reason for change:*** | There are a few corrections and alignments (e.g., terminology and formulation alignments with the upstream/downstream NEF/UDR APIs, a few necessary text corrections/optimizations, feature description alignments with the other features defined in the other impacted APIs/specifications) needed in the definition of the provisions introduced in Rel-19 to support the Energy based BDT policy control functionality.In addition, the Editor's Note on whether the energy indicator should be present in the BDT transfer policy can be resolved as there are no related stage 2 requirements. The PCF should only take the energy indicator into account when deriving the BDT transfer policies. |
|  |  |
| ***Summary of change:*** | This CR proposes to:* Address the above-detailed issues and related necessary updates/corrections.
 |
|  |  |
| ***Consequences if not approved:*** | * The above-detailed necessary updates/corrections are not addressed.
 |
|  |  |
| ***Clauses affected:*** | 4.2.2.2, 4.2.3.2, 5.6.2.3, 5.8, A.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 ... |
|  |  |
| ***Other comments:*** | This CR introduces backwards compatible new feature and corrections to the OpenAPI descriptions of the following APIs:* TS29554\_Npcf\_BDTPolicyControl.yaml
 |
|  |  |
| ***This CR's revision history:*** |  |

\* \* \* \* Start of changes \* \* \* \*

#### 4.2.2.2 Creation of a BDT Policy

This procedure is used by the NF service consumer to request the creation of a BDT policy at the PCF, 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 creation of a BDT policy.



Figure 4.2.2.2-1: Creation of a 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;

- if "Energy" feature is supported, the energy indicator within the "energyInd" 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, the energy indicator, if "Energy" feature is supported, for the desired time window); and

NOTE 2: The PCF can retrieve energy related information related to the energy indicator from the OAM.

- shall create a BDT Reference ID.

The PCF shall create an "Individual BDT Policy" resource and 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.

Editor's note: It's FFS whether energy indicator needs to be included in TransferPolicy data type for each BDT policy.

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

NOTE 3: 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, if "BdtNotification\_5G" feature is supported, an indication whether BDT warning notification is requested, and if "Energy" feature is supported, the energy indicator.

NOTE 4: 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.

\* \* \* \* Next changes \* \* \* \*

#### 4.2.3.2 Indication about selected transfer policy

When the feature "PatchCorrection" is supported, this procedure is used by the NF service consumer to inform the PCF about selected transfer policy, as defined in 3GPP TS 23.501 [2], 3GPP TS 23.502 [3] and 3GPP TS 23.503 [4], if the AF selected the transfer policy from the received transfer policy list after:

- retrieval of the BDT policies as described in clause 4.2.2; or

- reception of the BDT warning notification as described in clause 4.2.4.

Figure 4.2.3.2-1 illustrates an indication about selected transfer policy.



Figure 4.2.3.2-1: Indication about selected transfer policy

Upon reception of a Background Data Transfer request from the AF indicating transfer policy selection, the NF service consumer shall invoke the Npcf\_BDTPolicyControl\_Update service operation by sending an HTTP PATCH request to the PCF, as shown in figure 4.2.3.2-1, step 1. The NF service consumer shall set the request URI to "{apiRoot}/npcf-bdtpolicycontrol/v1/bdtpolicies/{bdtPolicyId}".

The NF service consumer shall include a "PatchBdtPolicy" data type in a content of the HTTP PATCH request. When the AF selects a transfer policy, the "PatchBdtPolicy" data type shall contain a "bdtPolData" attribute which shall encode the transfer policy ID of the selected transfer policy in the "selTransPolicyId" attribute. In the case of transfer policy re-negotiation and if the BdtNotification\_5G feature is supported and the AF did not select any transfer policy, the NF service consumer shall set the "selTransPolicyId" attribute to value "0" to indicate no transfer policy is selected.

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

If the feature "ES3XX" is supported, and the PCF determines the received HTTP PATCH request needs to be redirected, the PCF shall send an HTTP redirect response as specified in clause 6.10.9 of 3GPP TS 29.500 [6].

Otherwise, upon the reception of the HTTP PATCH request from the NF service consumer, the PCF:

- in case of the initial transfer policy negotiation 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, if "BdtNotification\_5G" feature is supported, an indication whether BDT warning notification is requested, and if "Energy" feature is supported, the energy indicator; or

- in case of transfer policy re-negotiation may invoke:

a) if a transfer policy is selected the Nudr\_DataRepository\_Update service operation, as described in 3GPP TS 29.504 [11] and 3GPP TS 29.519 [12] clause 5.2.9.3.4, to update the UDR with the selected candidate transfer policy and set the "bdtpStatus" attribute to value "VALID" within the BdtDataPatch data type; or

b) if no transfer policy is selected the Nudr\_DataRepository\_Delete service operation, as described in 3GPP TS 29.504 [11] and 3GPP TS 29.519 [12] clause 5.2.9.3.3, to remove the transfer policy from the UDR; and

NOTE: 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 send:

a) a "204 No Content" response (as shown in figure 4.2.3.2-1, step 2a); or

b) a "200 OK" response (as shown in figure 4.2.3.2-1, step 2b) with a "BdtPolicy" data type in the content,

 to the HTTP PATCH request to the NF service consumer.

\* \* \* \* Next changes \* \* \* \*

#### 5.6.2.3 Type BdtReqData

Table 5.6.2.3-1: Definition of type BdtReqData

| Attribute name | Data type | P | Cardinality | Description | Applicability |
| --- | --- | --- | --- | --- | --- |
| aspId | AspId | M | 1 | This IE contains an identity of an application service provider. |  |
| desTimeInt | TimeWindow | M | 1 | This IE indicates a desired time window for BDT. |  |
| dnn | Dnn | O | 0..1 | This IE identifies a DNN. A full DNN with both the Network Identifier and Operator Identifier, or a DNN with the Network Identifier only.(NOTE) |  |
| interGroupId | GroupId | O | 0..1 | Represents an internal group identifier and identifies a group of UEs. |  |
| notifUri | Uri | O | 0..1 | This IE indicates that the NF service consumer requests a BDT notification from the PCF. It contains an URI of the recipient of BDT notification. | BdtNotification\_5G |
| nwAreaInfo | NetworkAreaInfo | O | 0..1 | This IE represents a network area information in which the NF service consumer requests a number of UEs.It may be present in the POST request that requests a creation of an Individual BDT Policy and in the response to GET request. |  |
| numOfUes | integer | M | 1 | This IE indicates a number of UEs. |  |
| snssai | Snssai | O | 0..1 | This IE identifies a slice. |  |
| suppFeat | SupportedFeatures | C | 0..1 | This IE represents a list of Supported features used as described in clause 5.8.It shall be supplied by the NF service consumer in the POST request that request a creation of an Individual BDT Policy resource. |  |
| trafficDes | TrafficDescriptor | O | 0..1 | Contains the traffic descriptor of the background data. |  |
| volPerUe | UsageThreshold | M | 1 | This IE indicates a data volume expected to be transferred per UE. |  |
| warnNotifReq | boolean | O | 0..1 | This IE indicates whether the BDT warning notification is enabled or disabled.It may be present:- in the POST request that requests a creation of an Individual BDT Policy and in the corresponding response; and- in responses to GET and PATCH requests.true: enabled;false: disabled (default). | BdtNotification\_5G |
| energyInd | boolean | O | 0..1 | Indicates whether the NF service consumer is interested in transferring data in time windows that consume lower energy.- "true" indicates that the AF is interested in transferring data in time windows that consume lower energy.- "false"(default) indicates that the AF is not interested in transferring data in time windows that consume lower energy. | Energy |
| NOTE: The PCF uses the DNN as received from the NF service consumer without applying any transformation. To successfully perform DNN matching, in a specific deployment a DNN shall always be encoded either with the full DNN (e.g., because there are multiple Operator Identifiers for a Network Identifier) or the DNN Network Identifier only. The NF service consumer may include the DNN Operator Identifier based on local configuration. |

\* \* \* \* Next changes \* \* \* \*

## 5.8 Feature negotiation

The optional features in table 5.8-1 are defined for the Npcf\_BDTPolicyControl API. They shall be negotiated using the extensibility mechanism defined in clause 6.6.2 of 3GPP TS 29.500 [6].

When requesting the PCF to create an Individual BDT policy resource the NF service consumer shall indicate the optional features the NF service consumer supports for the Npcf\_BDTPolicyControl service by including the "suppFeat" attribute in the "BdtReqData" data type of the HTTP POST request.

The PCF shall determine the supported features for the created Individual BDT policy resource as specified in clause 6.6.2 of 3GPP TS 29.500 [6]. The PCF shall indicate the supported features in the HTTP response confirming the creation of the Individual BDT policy resource by including the "suppFeat" attribute in the "BdtPolicyData" data type.

Table 5.8-1: Supported Features

|  |  |  |
| --- | --- | --- |
| Feature number | Feature Name | Description |
| 1 | BdtNotification\_5G | This feature indicates the support of sending the BDT notification to the NF service consumer.This feature includes sending of the BDT warning notification to the NF service consumer. |
| 2 | ES3XX | Extended Support for 3xx redirections.This feature indicates the support of redirection for any service operation, according to Stateless NF procedures as specified in clauses 6.5.3.2 and 6.5.3.3 of 3GPP TS 29.500 [6] and according to HTTP redirection principles for indirect communication, as specified in clause 6.10.9 of 3GPP TS 29.500 [6]. |
| 3 | PatchCorrection | Indicates support of the correction to the PATCH method.When this feature is not supported, the interoperability between a NF service consumer and the PCF can only be ensured when it is not required the update of the Individual BDT policy resource. |
| 4 | Energy | Indicates the support of the network energy-related BDT Policy control and management.The following functionalities are supported:- Support of provisioning the Energy Indicator to allow transferring data in time windows that consume lower energy. |

\* \* \* \* Next changes \* \* \* \*

# A.2 Npcf\_BDTPolicyControl API

openapi: 3.0.0

info:

 title: Npcf\_BDTPolicyControl Service API

 version: 1.4.0-alpha.1

 description: |

 PCF BDT Policy Control Service.

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externalDocs:

 description: >

 3GPP TS 29.554 V19.0.0; 5G System; Background Data Transfer Policy Control Service.

 url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.554/'

servers:

 - url: '{apiRoot}/npcf-bdtpolicycontrol/v1'

 variables:

 apiRoot:

 default: https://example.com

 description: apiRoot as defined in clause 4.4 of 3GPP TS 29.501.

security:

 - {}

 - oAuth2ClientCredentials:

 - npcf-bdtpolicycontrol

paths:

 /bdtpolicies:

 post:

 summary: Create a new Individual BDT policy

 operationId: CreateBDTPolicy

 tags:

 - BDT policies (Collection)

 requestBody:

 description: >

 Contains information for the creation of a new Individual BDT policy resource.

 required: true

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/BdtReqData'

 responses:

 '201':

 description: Background data transfer policies offered to an ASP.

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/BdtPolicy'

 headers:

 Location:

 description: >

 Contains the URI of the created individual BDT policy resource,

 according to the structure

 {apiRoot}/npcf-bdtpolicycontrol/v1/bdtpolicies/{bdtPolicyId}

 required: true

 schema:

 type: string

 '303':

 description: >

 See Other. The result of the POST request would be equivalent to the

 existing Individual BDT policy resource.

 headers:

 Location:

 description: Contains the URI of the existing individual BDT policy resource.

 required: true

 schema:

 type: string

 '400':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/500'

 '502':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/502'

 '503':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29571\_CommonData.yaml#/components/responses/default'

 callbacks:

 BdtNotification:

 '{$request.body#/notifUri}':

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/Notification'

 responses:

 '204':

 description: No Content, a reception of the BDT notification was successful.

 '307':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/500'

 '502':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/502'

 '503':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29571\_CommonData.yaml#/components/responses/default'

 /bdtpolicies/{bdtPolicyId}:

 get:

 summary: Read an Individual BDT policy

 operationId: GetBDTPolicy

 tags:

 - Individual BDT policy (Document)

 parameters:

 - name: bdtPolicyId

 description: String identifying the individual BDT policy resource in the PCF.

 in: path

 required: true

 schema:

 type: string

 responses:

 '200':

 description: Background data transfer policies offered to and selected by an ASP.

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/BdtPolicy'

 '307':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/404'

 '406':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/406'

 '429':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/500'

 '502':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/502'

 '503':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29571\_CommonData.yaml#/components/responses/default'

 patch:

 summary: Update an Individual BDT policy

 operationId: UpdateBDTPolicy

 tags:

 - Individual BDT policy (Document)

 parameters:

 - name: bdtPolicyId

 description: String identifying the individual BDT policy resource in the PCF.

 in: path

 required: true

 schema:

 type: string

 requestBody:

 description: >

 Contains modification instruction to be performed on the BdtPolicy data

 structure to select a transfer policy and in addition, may indicate whether

 the BDT warning notification is enabled or disabled.

 required: true

 content:

 application/merge-patch+json:

 schema:

 $ref: '#/components/schemas/PatchBdtPolicy'

 responses:

 '200':

 description: >

 The Individual BDT Policy resource is modified and a representation of that

 resource is returned.

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/BdtPolicy'

 '204':

 description: The Individual BDT Policy resource is modified.

 '307':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/500'

 '502':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/502'

 '503':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29571\_CommonData.yaml#/components/responses/default'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{nrfApiRoot}/oauth2/token'

 scopes:

 npcf-bdtpolicycontrol: Access to the Npcf\_BDTPolicyControl API

 schemas:

# Structured data types

 BdtPolicy:

 description: Represents an Individual BDT policy resource.

 type: object

 properties:

 bdtPolData:

 $ref: '#/components/schemas/BdtPolicyData'

 bdtReqData:

 $ref: '#/components/schemas/BdtReqData'

 BdtReqData:

 description: >

 Contains service requirements for creation a new Individual BDT policy resource.

 type: object

 required:

 - aspId

 - desTimeInt

 - numOfUes

 - volPerUe

 properties:

 aspId:

 $ref: '#/components/schemas/AspId'

 desTimeInt:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/TimeWindow'

 dnn:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Dnn'

 interGroupId:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/GroupId'

 notifUri:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

 nwAreaInfo:

 $ref: '#/components/schemas/NetworkAreaInfo'

 numOfUes:

 description: Indicates a number of UEs.

 type: integer

 volPerUe:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/UsageThreshold'

 snssai:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Snssai'

 suppFeat:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

 trafficDes:

 $ref: 'TS29122\_ResourceManagementOfBdt.yaml#/components/schemas/TrafficDescriptor'

 warnNotifReq:

 description: Indicates whether the BDT warning notification is enabled or disabled.

 type: boolean

 default: false

 energyInd:

 type: boolean

 default: false

 description: >

 Indicates whether the NF service consumer is interested in transferring data in time

 windows that consume lower energy.

 true indicates that the AF is interested in transferring data in time windows that

 consume lower energy.

 false(default) indicates that the AF is not interested in transferring data in time

 windows that consume lower energy.

 BdtPolicyData:

 description: Describes the authorization data of an Individual BDT policy resource.

 type: object

 required:

 - bdtRefId

 - transfPolicies

 properties:

 bdtRefId:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/BdtReferenceId'

 transfPolicies:

 description: Contains transfer policies.

 type: array

 items:

 $ref: '#/components/schemas/TransferPolicy'

 minItems: 1

 selTransPolicyId:

 description: Contains an identity of the selected transfer policy.

 type: integer

 suppFeat:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

 PatchBdtPolicy:

 description: >

 Describes the updates in authorization data of an Individual BDT Policy created

 by the PCF.

 type: object

 properties:

 bdtPolData:

 $ref: '#/components/schemas/BdtPolicyDataPatch'

 bdtReqData:

 $ref: '#/components/schemas/BdtReqDataPatch'

 BdtPolicyDataPatch:

 description: >

 A JSON Merge Patch body schema containing modification instruction to be performed

 on the bdtPolData attribute of the BdtPolicy data structure to select a transfer

 policy. Adds selTransPolicyId to BdtPolicyData data structure.

 type: object

 required:

 - selTransPolicyId

 properties:

 selTransPolicyId:

 description: >

 Contains an identity (i.e. transPolicyId value) of the selected transfer

 policy. If the BdtNotification\_5G feature is supported value 0 indicates that

 no transfer policy is selected.

 type: integer

 BdtReqDataPatch:

 description: >

 A JSON Merge Patch body schema containing modification instruction to be performed

 on the bdtReqData attribute of the BdtPolicy data structure to indicate whether

 the BDT warning notification is enabled or disabled. Modifies warnNotifReq from

 BdtReqData data structure.

 type: object

 properties:

 warnNotifReq:

 description: Indicates whether the BDT warning notification is enabled or disabled.

 type: boolean

 TransferPolicy:

 description: Describes a transfer policy.

 type: object

 required:

 - ratingGroup

 - recTimeInt

 - transPolicyId

 properties:

 maxBitRateDl:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

 maxBitRateUl:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/BitRate'

 ratingGroup:

 description: Indicates a rating group for the recommended time window.

 type: integer

 recTimeInt:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/TimeWindow'

 transPolicyId:

 description: Contains an identity of a transfer policy.

 type: integer

 NetworkAreaInfo:

 description: >

 Describes a network area information in which the NF service consumer requests

 the number of UEs.

 type: object

 properties:

 ecgis:

 description: Contains a list of E-UTRA cell identities.

 type: array

 items:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ecgi'

 minItems: 1

 ncgis:

 description: Contains a list of NR cell identities.

 type: array

 items:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ncgi'

 minItems: 1

 gRanNodeIds:

 description: Contains a list of NG RAN nodes.

 type: array

 items:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/GlobalRanNodeId'

 minItems: 1

 tais:

 description: Contains a list of tracking area identities.

 type: array

 items:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Tai'

 minItems: 1

 Notification:

 description: Describes a BDT notification.

 type: object

 required:

 - bdtRefId

 properties:

 bdtRefId:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/BdtReferenceId'

 candPolicies:

 description: >

 Contains a list of the candidate transfer policies from which the AF may

 select a new transfer policy due to a network performance is below the criteria

 set by the operator.

 type: array

 items:

 $ref: '#/components/schemas/TransferPolicy'

 minItems: 1

 nwAreaInfo:

 $ref: '#/components/schemas/NetworkAreaInfo'

 timeWindow:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/TimeWindow'

# Simple data types

 AspId:

 description: Contains an identity of an application service provider.

 type: string

\* \* \* \* End of changes \* \* \* \*