**3GPP TSG-CT3 Meeting #114e C3-211552**

**E-Meeting, 24th February – 05th March 2021**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.554** | **CR** | **0066** | **rev** | **-** | **Current version:** | **16.5.0** |  |
|  | | | | | | | | |
| *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** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Update of OpenAPI version and TS version in externalDocs field | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI16 | | | | |  | ***Date:*** | | | 2021-03-01 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-16 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | CR modifying Npcf\_BDTPolicyControl API has been agreed and the version number of the corresponding OpenAPI file thus needs to be incremented following the rules in TS 29.501, subclause 4.3.1.  The following agreed CR updates the Npcf\_BDTPolicyControl API for the present release:  - TS 29.554 CR #0063 is a backward compatible correction in Rel-15.  As the present release is frozen, only the patch field needs to be updated.  Since a new TS version will be provided with changes to the OpenAPI specification file, the TS version number included in the "description" field of the "externalDocs" object also needs to be updated. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The Npcf\_BDTPolicyControl Service API version incremented from value "1.1.1" to value "1.1.2".  The TS version number in the "description" field of the "externalDocs" object is changed to "16.6.0". | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Incorrect API version number and incorrect TS version number in the "description" field of the "externalDocs" object. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 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's revision history:*** | |  | | | | | | | | |

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

# A.2 Npcf\_BDTPolicyControl API

openapi: 3.0.0

info:

title: Npcf\_BDTPolicyControl Service API

version: 1.1.2

description: |

PCF BDT Policy Control Service.

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#

externalDocs:

description: 3GPP TS 29.554 V16.6.0; 5G System; Background Data Transfer Policy Control Service.

url: 'http://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 subclause 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

#

# Error scenarios POST

#

'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'

'503':

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

default:

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

#

# End error scenarios POST

#

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':

description: Temporary Redirect

content:

application/problem+json:

schema:

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

headers:

Location:

required: true

description: 'A URI pointing to the endpoint of an alternative NF consumer (service) instance towards which the notification should be redirected.'

schema:

type: string

3gpp-Sbi-Target-Nf-Id:

description: 'Identifier of the target NF (service) instance ID towards which the notification request is redirected'

schema:

type: string

'308':

description: Permanent Redirect

content:

application/problem+json:

schema:

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

headers:

Location:

required: true

description: 'A URI pointing to the endpoint of an alternative NF consumer (service) instance towards which the notification should be redirected.'

schema:

type: string

3gpp-Sbi-Target-Nf-Id:

description: 'Identifier of the target NF (service) instance ID towards which the notification request is redirected'

schema:

type: string

'400':

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

'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'

'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'

#

# Error scenarios GET

#

'307':

description: Temporary Redirect

content:

application/problem+json:

schema:

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

headers:

Location:

description: 'An alternative URI of the resource located on an alternative PCF (service) instance.'

required: true

schema:

type: string

3gpp-Sbi-Target-Nf-Id:

description: 'Identifier of the target NF (service) instance ID towards which the request is redirected'

schema:

type: string

'308':

description: Permanent Redirect

content:

application/problem+json:

schema:

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

headers:

Location:

description: 'An alternative URI of the resource located on an alternative PCF (service) instance.'

required: true

schema:

type: string

3gpp-Sbi-Target-Nf-Id:

description: 'Identifier of the target NF (service) instance ID towards which the request is redirected'

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'

'406':

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

'429':

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

'500':

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

'503':

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

default:

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

#

# End error scenarios GET

#

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/BdtPolicyDataPatch'

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.

#

# Error scenarios PATCH

#

'307':

description: Temporary Redirect

content:

application/problem+json:

schema:

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

headers:

Location:

description: 'An alternative URI of the resource located on an alternative PCF (service) instance.'

required: true

schema:

type: string

3gpp-Sbi-Target-Nf-Id:

description: 'Identifier of the target NF (service) instance ID towards which the request is redirected'

schema:

type: string

'308':

description: Permanent Redirect

content:

application/problem+json:

schema:

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

headers:

Location:

description: 'An alternative URI of the resource located on an alternative PCF (service) instance.'

required: true

schema:

type: string

3gpp-Sbi-Target-Nf-Id:

description: 'Identifier of the target NF (service) instance ID towards which the request is redirected'

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'

'503':

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

default:

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

#

# End error scenarios PATCH

#

#

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

#

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'

#

BdtPolicyDataPatch:

description: A JSON Merge Patch body schema containing 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. Adds selTransPolicyId to BdtPolicyData data structure and modifies warnNotifReq from BdtReqData 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

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 \*\*\*