**3GPP TSG-CT3 Meeting #119e C3-216589**

**E-Meeting, 11th – 19th November 2021**

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **29.551** | **CR** | **0101** | **rev** | **-** | **Current version:** | **17.4.0** |  |
|  |
| *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:***  | Update of OpenAPI version and TS version in externalDocs field |
|  |  |
| ***Source to WG:*** | ZTE |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | TEI17 |  | ***Date:*** | 2021-11-22 |
|  |  |  |  |  |
| ***Category:*** | F |  | ***Release:*** | Rel-17 |
|  | *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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | CRs modifying Nnef\_PFDmanagement API have 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 CRs update the Nnef\_PFDmanagement API for the present release:- TS 29.551 CR #0099 is a backward compatible correction in Rel-17.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 Nnef\_PFDmanagement Service API version is changed from value "1.2.0.alpha-5" to value "1.2.0.alpha-6".The TS version number in the "description" field of the "externalDocs" object is changed to "17.5.0". |
|  |  |
| ***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:*** |  |

**Additional discussion(if needed):**

**…**

**Proposed changes:**

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

# A.2 Nnef\_PFDmanagement API

openapi: 3.0.0

info:

 title: Nnef\_PFDmanagement Service API

 version: 1.2.0-alpha.6

 description: |

 Packet Flow Description Management Service.

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#

externalDocs:

 description: 3GPP TS 29.551 v17.5.0, 5G System; Packet Flow Description Management Service

 url: 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.551/'

#

servers:

 - url: '{apiRoot}/nnef-pfdmanagement/v1'

 variables:

 apiRoot:

 default: https://example.com

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

security:

 - {}

 - oAuth2ClientCredentials:

 - nnef-pfdmanagement

paths:

 /applications:

 get:

 summary: Retrieve PFDs for all applications or for one or multiple applications with query parameter.

 tags:

 - PFD of applications

 operationId: Nnef\_PFDmanagement\_AllFetch

 parameters:

 - name: application-ids

 description: The required application identifier(s) for the returned PFDs.

 in: query

 required: true

 schema:

 type: array

 items:

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

 minItems: 1

 - name: supported-features

 in: query

 description: To filter irrelevant responses related to unsupported features

 schema:

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

 responses:

 '200':

 description: The PFDs for one or more application identifier(s) in the request URI are returned.

 content:

 application/json:

 schema:

 type: array

 items:

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

 minItems: 0

 '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'

 '414':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/414'

 '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'

 /applications/partialpull:

 post:

 summary: retrieve the PFD(s) by partial update

 operationId: Nnef\_PFDmanagement\_AppFetchPartialUpdate

 tags:

 - PFD of applications by partial update

 requestBody:

 required: true

 content:

 application/json:

 schema:

 type: array

 items:

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

 minItems: 1

 responses:

 '200':

 description: OK. Changed PFD(s) is returned

 content:

 application/json:

 schema:

 type: array

 items:

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

 minItems: 1

 '204':

 description: The PFD(s) is not changed

 '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'

 /applications/{appId}:

 get:

 summary: Retrieve the PFD for an application.

 tags:

 - Individual application PFD

 operationId: Nnef\_PFDmanagement\_IndAppFetch

 parameters:

 - name: appId

 description: The required application identifier(s) for the returned PFDs.

 in: path

 required: true

 schema:

 type: string

 - name: supported-features

 in: query

 description: To filter irrelevant responses related to unsupported features

 schema:

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

 responses:

 '200':

 description: A representation of PFDs for an application in the request URI is returned.

 content:

 application/json:

 schema:

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

 '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'

 '414':

 $ref: 'TS29571\_CommonData.yaml#/components/responses/414'

 '500':

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

 '503':

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

 default:

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

 /subscriptions:

 post:

 summary: Subscribe the notification of PFD changes.

 tags:

 - PFD subscriptions

 operationId: Nnef\_PFDmanagement\_CreateSubscr

 requestBody:

 description: a PfdSubscription resource to be created.

 required: true

 content:

 application/json:

 schema:

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

 callbacks:

 PfdChangeNotification:

 '{request.body#/notifyUri}':

 post:

 summary: Notification of PFD change.

 tags:

 - PfdChangeNotification data

 operationId: Nnef\_PFDmanagement\_Notify

 requestBody:

 required: true

 content:

 application/json:

 schema:

 type: array

 items:

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

 minItems: 1

 responses:

 '200':

 description: The PFD operation in the notification is performed and the PfdChangeReport indicates failure reason.

 content:

 application/json:

 schema:

 type: array

 items:

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

 minItems: 1

 '204':

 description: The PFD operation in the notification is performed successfully.

 '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'

 '503':

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

 default:

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

 NotificationPush:

 '{request.body#/notifyUri}/notifypush':

 post:

 summary: Notification Push.

 tags:

 - NotificationPush data

 operationId: Nnef\_PFDmanagement\_PushNotify

 requestBody:

 required: true

 content:

 application/json:

 schema:

 type: array

 items:

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

 minItems: 1

 responses:

 '204':

 description: Notificaiton PUSH is accepted.

 '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'

 '503':

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

 default:

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

 responses:

 '201':

 description: The creation of a PfdSubscription resource is confirmed and a representation of that resource is returned.

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/nnef-pfdmanagement/v1/subscriptions/{subscriptionId}'

 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'

 /subscriptions/{subscriptionId}:

 put:

 summary: Updates/replaces an existing subscription resource

 tags:

 - Individual PFD subscription

 operationId: Nnef\_PFDmanagement\_ModifySubscr

 parameters:

 - name: subscriptionId

 description: Identify the subscription.

 in: path

 required: true

 schema:

 type: string

 requestBody:

 description: Parameters to update/replace the existing subscription

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '200':

 description: OK (Successful update of the subscription)

 content:

 application/json:

 schema:

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

 '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'

 '503':

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

 default:

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

 delete:

 summary: Delete a subscription of PFD change notification.

 tags:

 - Individual PFD subscription

 operationId: Nnef\_PFDmanagement\_Unsubscribe

 parameters:

 - name: subscriptionId

 description: Identify the subscription.

 in: path

 required: true

 schema:

 type: string

 responses:

 '204':

 description: The PfdSubscription resource matching the subscriptionId was deleted successfully.

 '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'

 '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'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{nrfApiRoot}/oauth2/token'

 scopes:

 nnef-pfdmanagement: Access to the Nnef\_PFDmanagement API

 schemas:

#

# STRUCTURED DATA TYPES

#

 PfdContent:

 description: Represents the content of a PFD for an application identifier.

 type: object

 properties:

 pfdId:

 type: string

 description: Identifies a PDF of an application identifier.

 flowDescriptions:

 type: array

 items:

 type: string

 minItems: 1

 description: Represents a 3-tuple with protocol, server ip and server port for UL/DL application traffic.

 urls:

 type: array

 items:

 type: string

 minItems: 1

 description: Indicates a URL or a regular expression which is used to match the significant parts of the URL.

 domainNames:

 type: array

 items:

 type: string

 minItems: 1

 description: Indicates an FQDN or a regular expression as a domain name matching criteria.

 dnProtocol:

 $ref: 'TS29122\_PfdManagement.yaml#/components/schemas/DomainNameProtocol'

 PfdDataForApp:

 description: Represents the PFDs for an application identifier.

 type: object

 properties:

 applicationId:

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

 pfds:

 type: array

 items:

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

 minItems: 1

 cachingTime:

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

 pfdTimestamp:

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

 partialFlag:

 type: boolean

 required:

 - applicationId

 PfdSubscription:

 description: Represents a PFD subscription.

 type: object

 properties:

 applicationIds:

 type: array

 items:

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

 minItems: 1

 notifyUri:

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

 supportedFeatures:

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

 required:

 - notifyUri

 - supportedFeatures

 PfdChangeNotification:

 description: Represents information related to a notification of PFD change.

 type: object

 properties:

 applicationId:

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

 removalFlag:

 type: boolean

 default: false

 partialFlag:

 type: boolean

 default: false

 pfds:

 type: array

 items:

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

 minItems: 1

 required:

 - applicationId

 NotificationPush:

 description: Represents the information to be used by the NF service consumer to retrieve the PFDs and/or remove the PFDs of the applicable application identifier(s).

 type: object

 properties:

 appIds:

 type: array

 items:

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

 minItems: 1

 allowedDelay:

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

 pfdOp:

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

 required:

 - appIds

 PfdChangeReport:

 description: Represents an error report on PFD change.

 type: object

 properties:

 pfdError:

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

 applicationId:

 type: array

 items:

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

 minItems: 1

 required:

 - pfdError

 - applicationId

 PfdOperation:

 description: Indicates the operation to be applied on PFD(s).

 anyOf:

 - type: string

 enum:

 - RETRIEVE

 - FULLPULL

 - PARTIALPULL

 - REMOVE

 - type: string

 ApplicationForPfdRequest:

 description: Contains the application identifier(s) for the PFD(s) request.

 type: object

 properties:

 applicationId:

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

 pfdTimestamp:

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

 required:

 - applicationId

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