**3GPP TSG-CT3 Meeting #120e C3-221673**

**E-Meeting, 17th – 25th February 2022**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** |  | **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** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Update of info and externalDocs fields | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | C3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***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 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:*** | | CRs modifying the Npcf\_EventExposure 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 OpenAPI file for Npcf\_EventExposure for the present release:   * TS 29.523 CR# 0067 impacts the OpenAPI file with a backwards compatible feature. * TS 29.523 CR# 0068 impacts the OpenAPI file with a backwards compatible correction. * TS 29.523 CR# 0069 impacts the OpenAPI file with a backwards compatible correction.   As the present release is not frozen, the API version needs to be upated from 1.2.0-alpha.4 to 1.2.0-alpha.5, and the TS version in the externalDocs field from 17.5.0 to 17.6.0.  In addition, the description field covering TS information is updated to cover proper line breaks structure, and the URL of the External Docs field is updated to https. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Update of the API version number and TS version in externalDocs field for Npcf\_EventExposure API.  Update of the line breaks in the description field of TS information, and of the URL of the External Docs Field. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Incorrect API version number and TS version in externalDocs field. | | | | | | | | |
|  | |  | | | | | | | | |
| ***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 Npcf\_EventExposure API

openapi: 3.0.0

info:

version: 1.2.0-alpha.5

title: Npcf\_EventExposure

description: |

PCF Event Exposure Service.

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externalDocs:

description: 3GPP TS 29.523 V17.6.0; 5G System; Policy Control Event Exposure Service; Stage 3.

url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.523/

servers:

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

variables:

apiRoot:

default: https://example.com

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

security:

- {}

- oAuth2ClientCredentials:

- npcf-eventexposure

paths:

/subscriptions:

post:

summary: Creates a new Individual Policy Control Events Subscription resource

operationId: PostPcEventExposureSubsc

tags:

- Policy Control Events Subscription (Collection)

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'201':

description: Success

content:

application/json:

schema:

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

headers:

Location:

description: 'Contains the URI of the created individual policy control events subscription resource, according to the structure: {apiRoot}/npcf-eventexposure/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'

callbacks:

PcEventNotification:

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

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: No Content, Notification was succesfull

'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'

/subscriptions/{subscriptionId}:

get:

summary: "Reads an existing Individual Policy Control Events Subscription"

operationId: GetPcEventExposureSubsc

tags:

- Individual Policy Control Events Subscription (Document)

parameters:

- name: subscriptionId

in: path

description: Policy Control Event Subscription ID

required: true

schema:

type: string

responses:

'200':

description: OK. Resource representation is returned

content:

application/json:

schema:

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

'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'

'503':

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

default:

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

put:

summary: "Modifies an existing Individual Policy Control Events Subscription "

operationId: PutPcEventExposureSubsc

tags:

- Individual Policy Control Events Subscription (Document)

requestBody:

required: true

content:

application/json:

schema:

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

parameters:

- name: subscriptionId

in: path

description: Policy Control Event Subscription ID

required: true

schema:

type: string

responses:

'200':

description: OK. Resource was succesfully modified and representation is returned

content:

application/json:

schema:

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

'204':

description: No Content. Resource was succesfully 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'

'503':

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

default:

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

delete:

summary: "Cancels an existing Individual Policy Control Events Subscription "

operationId: DeletePcEventExposureSubsc

tags:

- Individual Policy Control Events Subscription (Document)

parameters:

- name: subscriptionId

in: path

description: Policy Control Event Subscription ID

required: true

schema:

type: string

responses:

'204':

description: No Content. Resource was succesfully deleted

'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:

npcf-eventexposure: Access to the Npcf\_EventExposure API.

schemas:

PcEventExposureNotif:

description: Represents notifications about Policy Control events related to an Individual Policy Events Subscription resource.

type: object

properties:

notifId:

type: string

eventNotifs:

type: array

items:

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

minItems: 1

required:

- notifId

- eventNotifs

PcEventExposureSubsc:

description: Represents an Individual Policy Events Subscription resource.

type: object

properties:

eventSubs:

type: array

items:

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

minItems: 1

eventsRepInfo:

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

groupId:

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

filterDnns:

type: array

items:

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

minItems: 1

filterSnssais:

type: array

items:

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

minItems: 1

snssaiDnns:

type: array

items:

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

minItems: 1

filterServices:

type: array

items:

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

minItems: 1

notifUri:

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

notifId:

type: string

eventNotifs:

type: array

items:

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

minItems: 1

suppFeat:

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

required:

- eventSubs

- notifId

- notifUri

ReportingInformation:

description: Represents the type of reporting that the subscription requires.

type: object

properties:

immRep:

type: boolean

notifMethod:

$ref: 'TS29508\_Nsmf\_EventExposure.yaml#/components/schemas/NotificationMethod'

maxReportNbr:

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

monDur:

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

repPeriod:

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

sampRatio:

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

partitionCriteria:

type: array

items:

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

minItems: 1

description: Criteria for partitioning the UEs before applying the sampling ratio.

grpRepTime:

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

notifFlag:

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

ServiceIdentification:

description: Identifies the service to which the subscription applies.

type: object

properties:

servEthFlows:

type: array

items:

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

minItems: 1

servIpFlows:

type: array

items:

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

minItems: 1

afAppId:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/AfAppId'

# All conditions in allOf must be met

allOf:

# First condition is that servEthFlows and servIpFlows are mutually exclusive

- not:

required: [servEthFlows, servIpFlows]

# Second condition is that at least one the servEthFlows, servIpFlows and afAppId shall be present

- anyOf:

- required: [servEthFlows]

- required: [servIpFlows]

- required: [afAppId]

EthernetFlowInfo:

description: Identifies an UL/DL ethernet flow.

type: object

properties:

ethFlows:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/EthFlowDescription'

minItems: 1

maxItems: 2

flowNumber:

type: integer

required:

- flowNumber

IpFlowInfo:

description: Identifies an UL/DL IP flow.

type: object

properties:

ipFlows:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/FlowDescription'

minItems: 1

maxItems: 2

flowNumber:

type: integer

required:

- flowNumber

PcEventNotification:

description: Represents the information reported for a Policy Control event.

type: object

properties:

event:

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

accType:

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

addAccessInfo:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/AdditionalAccessInfo'

relAccessInfo:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/AdditionalAccessInfo'

anGwAddr:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/AnGwAddress'

ratType:

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

plmnId:

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

satBackhaulCategory:

$ref: 'TS29512\_Npcf\_SMPolicyControl.yaml#/components/schemas/SatelliteBackhaulCategory'

servAreaRes:

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

supi:

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

gpsi:

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

timeStamp:

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

pduSessionInfo:

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

repServices:

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

delivFailure:

$ref: 'TS29522\_ServiceParameter.yaml#/components/schemas/Failure'

required:

- event

- timeStamp

PduSessionInformation:

description: Represents PDU session identification information.

type: object

properties:

snssai:

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

dnn:

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

ueIpv4:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

ueIpv6:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

ipDomain:

type: string

ueMac:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/MacAddr48'

required:

- snssai

- dnn

oneOf:

- required: [ueMac]

- anyOf:

- required: [ueIpv4]

- required: [ueIpv6]

SnssaiDnnCombination:

description: Represents a combination of S-NSSAI and DNN(s).

type: object

properties:

snssai:

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

dnns:

type: array

items:

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

minItems: 1

# Simple data types and Enumerations

PcEvent:

description: Represents the policy control events that can be subscribed.

anyOf:

- type: string

enum:

- AC\_TY\_CH

- PLMN\_CH

- SAC\_CH

- SAT\_CATEGORY\_CH

- SUCCESS\_UE\_POL\_DEL\_SP

- UNSUCCESS\_UE\_POL\_DEL\_SP

- type: string

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