**3GPP TSG- Meeting #C3-231204**

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| --- |
| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** | **0118** | **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)*.* |
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|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |
| --- |
|  |
| ***Title:***  | Corrections to the description fields of the enumerations defined for the NEF southbound APIs |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | SBIProtoc18 |  | ***Date:*** | 2023-04-10 |
|  |  |  |  |  |
| ***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 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)* |
|  |  |
| ***Reason for change:*** | The guidelines of clause 5.3.12 of TS 29.501 with regards to description fields in enumerations, cf. highlighted extract below, indicates that a description field should be added to contain the overall meaning and purpose of the enumeration, and optionally, a list of the defined values of the enumeration together with explanations of those values. The OpenAPI definition of the enumerations defined for the Nnef\_EventExposure API currently does not follow do not have this optional list of the defined values with their description. As not all the enumeration values are self-explenatory and some of them contain abbreviation, it is useful to add this list.*5.3.12 Enumerations**For enumerations, as defined in clause 5.2.4.3, the OpenAPI Specification [4] file shall contain a definition in the components/schemas clause defining a schema with the name of the enumeration as key.**The schema**- shall contain the "anyOf" keyword listing as alternatives:**1. the "type: string" keyword and the "enum" keyword with a list of all defined values for the enumeration; and**2. the "type: string" keyword and the "description" keyword with a description stating that the string is only provided for forward compatibility with future extensions but is not used to encode contents defined in the present version of the specification. Future extensions may need to be defined in conjunction with the supported feature mechanism as specified in clause 6.6.2 of 3GPP TS 29.500 [2], and**- should contain a description field, containing the overall meaning and purpose of the enumeration; additionally, this field may contain a list of the defined values of the enumeration together with explanations of those values.* |
|  |  |
| ***Summary of change:*** | This CR proposes to:* Update the description fields of the enumerations defined for the Nnef\_EventExposure API in the OpenAPI description to use the above guidelines of clause 5.3.12 of TS 29.501.
* Apply additional corrections and updates to the description text.
 |
|  |  |
| ***Consequences if not approved:*** | * The description fields of enumerations are not enhanced and do not use the tools defined by the related guidelines of TS 29.501.
 |
|  |  |
| ***Clauses affected:*** | 5.1.6.3.3, A.2, A.3 |
|  |  |
|  | **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 corrections to the OpenAPI description of the Nnef\_EventExposure and Nnef\_EASDeployment APIs (southbound interface) defined in this specification. |
|  |  |
| ***This CR's revision history:*** |  |

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

##### 5.1.6.3.3 Enumeration: NefEvent

The enumeration NefEvent represents the subscribed/notified event to be monitored. It shall comply with the provisions defined in table 5.1.6.3.3-1.

Table 5.1.6.3.3-1: Enumeration NefEvent

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| SVC\_EXPERIENCE | Indicates that the subscribed/notified event is service experience information. | ServiceExperience |
| UE\_COMM | Indicates that the subscribed/notified event is UE communication information. | UeCommunication |
| UE\_MOBILITY | Indicates that the subscribed/notified event is UE mobility information. | UeMobility |
| EXCEPTIONS | Indicates that the subscribed/notified event is exceptions information. | Exceptions |
| USER\_DATA\_CONGESTION | Indicates that the subscribed/notified subscribed is user data congestion analytics related information. | UserDataCongestion |
| PERF\_DATA | Indicates that the subscribed/notified event is performance data information. | PerformanceData |
| DISPERSION | Indicates that the event subscribed is dispersion information. | Dispersion |
| COLLECTIVE\_BEHAVIOUR | Indicates that the subscribed/notified event is collective behaviour information. | CollectiveBehaviour |
| MS\_QOE\_METRICS | Indicates that the subscribed/notified event is Media Streaming QoE metrics. | MSQoeMetrics |
| MS\_CONSUMPTION | Indicates that the subscribed/notified event is Media Streaming Consumption reports. | MSConsumption |
| MS\_NET\_ASSIST\_INVOCATION | Indicates that the subscribed/notified event is Media Streaming Network Assistance invocation. | MSNetAssInvocation |
| MS\_DYN\_POLICY\_INVOCATION | Indicates that the subscribed/notified event is Media Streaming Dynamic Policy invocation. | MSDynPolicyInvocation |
| MS\_ACCESS\_ACTIVITY | Indicates that the subscribed/notified event is Media Streaming access activity. | MSAccessActivity |
| GNSS\_ASSISTANCE\_DATA | Indicates that the subscribed/notified event is GNSS Assistance Data Collection. | GNSSAssistData |

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

# A.2 Nnef\_EventExposure API

openapi: 3.0.0

info:

 title: Nnef\_EventExposure

 version: 1.3.0-alpha.2

 description: |

 NEF Event Exposure Service.

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externalDocs:

 description: >

 3GPP TS 29.591 V18.1.0; 5G System; Network Exposure Function Southbound Services; Stage 3.

 url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.591/

servers:

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

 variables:

 apiRoot:

 default: https://example.com

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

security:

 - {}

 - oAuth2ClientCredentials:

 - nnef-eventexposure

paths:

 /subscriptions:

 post:

 summary: subscribe to notifications

 operationId: CreateIndividualSubcription

 tags:

 - Subscriptions (Collection)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: Success

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: >

 Contains the URI of the newly created resource, according to the structure

 {apiRoot}/nnef-eventexposure/<apiVersion>/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'

 '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:

 myNotification:

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

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 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'

 '502':

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

 '503':

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

 default:

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

 /subscriptions/{subscriptionId}:

 get:

 summary: retrieve subscription

 operationId: GetIndividualSubcription

 tags:

 - IndividualSubscription (Document)

 parameters:

 - name: subscriptionId

 in: path

 description: Event Subscription ID

 required: true

 schema:

 type: string

 - name: supp-feat

 in: query

 description: Features supported by the NF service consumer

 required: false

 schema:

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

 responses:

 '200':

 description: OK. Resource representation is returned

 content:

 application/json:

 schema:

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

 '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'

 put:

 summary: update subscription

 operationId: ReplaceIndividualSubcription

 tags:

 - IndividualSubscription (Document)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 parameters:

 - name: subscriptionId

 in: path

 description: 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/NefEventExposureSubsc'

 '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'

 '502':

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

 '503':

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

 default:

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

 delete:

 summary: unsubscribe from notifications

 operationId: DeleteIndividualSubcription

 tags:

 - IndividualSubscription (Document)

 parameters:

 - name: subscriptionId

 in: path

 description: 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'

 '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:

 nnef-eventexposure: Access to the Nnef\_EventExposure API

 schemas:

 NefEventExposureSubsc:

 description: Represents an Individual Network Exposure Event Subscription resource.

 type: object

 properties:

 dataAccProfId:

 type: string

 eventsSubs:

 type: array

 items:

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

 minItems: 1

 eventsRepInfo:

 $ref: 'TS29523\_Npcf\_EventExposure.yaml#/components/schemas/ReportingInformation'

 notifUri:

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

 notifId:

 type: string

 eventNotifs:

 type: array

 items:

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

 minItems: 1

 suppFeat:

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

 required:

 - eventsSubs

 - notifId

 - notifUri

 NefEventExposureNotif:

 description: >

 Represents notifications on network exposure event(s) that occurred for an Individual Network

 Exposure Event Subscription resource.

 type: object

 properties:

 notifId:

 type: string

 eventNotifs:

 type: array

 items:

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

 minItems: 1

 required:

 - notifId

 - eventNotifs

 NefEventNotification:

 description: Represents information related to an event to be reported.

 type: object

 properties:

 event:

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

 timeStamp:

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

 svcExprcInfos:

 type: array

 items:

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

 minItems: 1

 ueMobilityInfos:

 type: array

 items:

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

 minItems: 1

 ueCommInfos:

 type: array

 items:

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

 minItems: 1

 excepInfos:

 type: array

 items:

 $ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/ExceptionInfo'

 minItems: 1

 congestionInfos:

 type: array

 items:

 $ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/UserDataCongestionCollection'

 minItems: 1

 perfDataInfos:

 type: array

 items:

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

 minItems: 1

 dispersionInfos:

 type: array

 items:

 $ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/DispersionCollection'

 minItems: 1

 collBhvrInfs:

 type: array

 items:

 $ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/CollectiveBehaviourInfo'

 minItems: 1

 msQoeMetrInfos:

 type: array

 items:

 $ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/MsQoeMetricsCollection'

 minItems: 1

 msConsumpInfos:

 type: array

 items:

 $ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/MsConsumptionCollection'

 minItems: 1

 msNetAssInvInfos:

 type: array

 items:

 $ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/MsNetAssInvocationCollection'

 minItems: 1

 msDynPlyInvInfos:

 type: array

 items:

 $ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/MsDynPolicyInvocationCollection'

 minItems: 1

 msAccActInfos:

 type: array

 items:

 $ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/MSAccessActivityCollection'

 minItems: 1

 required:

 - event

 - timeStamp

 NefEventSubs:

 description: Represents an event to be subscribed and the related event filter information.

 type: object

 properties:

 event:

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

 eventFilter:

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

 required:

 - event

 NefEventFilter:

 description: Represents event filter information for an event.

 type: object

 properties:

 tgtUe:

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

 appIds:

 type: array

 items:

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

 minItems: 1

 locArea:

 $ref: 'TS29554\_Npcf\_BDTPolicyControl.yaml#/components/schemas/NetworkAreaInfo'

 collAttrs:

 type: array

 items:

 $ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/CollectiveBehaviourFilter'

 minItems: 1

 required:

 - tgtUe

 TargetUeIdentification:

 description: Identifies the UE to which the request applies.

 type: object

 properties:

 supis:

 type: array

 items:

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

 minItems: 1

 interGroupIds:

 type: array

 items:

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

 minItems: 1

 anyUeId:

 type: boolean

 ServiceExperienceInfo:

 description: Contains service experience information associated with an application.

 type: object

 properties:

 appId:

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

 supis:

 type: array

 items:

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

 minItems: 1

 svcExpPerFlows:

 type: array

 items:

 $ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/ServiceExperienceInfoPerFlow'

 minItems: 1

 required:

 - svcExpPerFlows

 UeMobilityInfo:

 description: >

 Contains UE mobility information associated with an application. If the "appId" attribute is

 not present, then indicates the collected UE mobility information is applicable to all the

 applications for the UE.

 type: object

 properties:

 supi:

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

 appId:

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

 ueTrajs:

 type: array

 items:

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

 minItems: 1

 areas:

 type: array

 items:

 $ref: 'TS29554\_Npcf\_BDTPolicyControl.yaml#/components/schemas/NetworkAreaInfo'

 minItems: 1

 required:

 - supi

 - ueTrajs

 UeCommunicationInfo:

 description: Contains UE communication information associated with an application.

 type: object

 properties:

 supi:

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

 interGroupId:

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

 appId:

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

 comms:

 type: array

 items:

 $ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/CommunicationCollection'

 minItems: 1

 required:

 - comms

 UeTrajectoryInfo:

 description: Contains UE trajectory information.

 type: object

 properties:

 ts:

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

 location:

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

 required:

 - ts

 - location

 PerformanceDataInfo:

 description: Contains Performance Data Analytics related information collection.

 type: object

 properties:

 appId:

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

 ueIpAddr:

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

 ipTrafficFilter:

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

 userLoc:

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

 appLocs:

 type: array

 items:

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

 minItems: 1

 asAddr:

 $ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/AddrFqdn'

 perfData:

 $ref: 'TS29517\_Naf\_EventExposure.yaml#/components/schemas/PerformanceData'

 timeStamp:

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

 required:

 - perfData

 - timeStamp

# Simple data types and Enumerations

 NefEvent:

 anyOf:

 - type: string

 enum:

 - SVC\_EXPERIENCE

 - UE\_MOBILITY

 - UE\_COMM

 - EXCEPTIONS

 - USER\_DATA\_CONGESTION

 - PERF\_DATA

 - DISPERSION

 - COLLECTIVE\_BEHAVIOUR

 - MS\_QOE\_METRICS

 - MS\_CONSUMPTION

 - MS\_NET\_ASSIST\_INVOCATION

 - MS\_DYN\_POLICY\_INVOCATION

 - MS\_ACCESS\_ACTIVITY

 - GNSS\_ASSISTANCE\_DATA

 - type: string

 description: >

 This string provides forward-compatibility with future extensions to the enumeration but

 is not used to encode content defined in the present version of this API.

 description: |

 Represents a Network Exposure Event.

 Possible values are:

 - SVC\_EXPERIENCE: Indicates that the subscribed/notified event is service experience

 information for an application.

 - UE\_MOBILITY: Indicates that the subscribed/notified event is UE mobility information.

 - UE\_COMM: Indicates that the subscribed/notified event is UE communication information.

 - EXCEPTIONS: Indicates that the subscribed/notified event is exceptions information.

 - USER\_DATA\_CONGESTION: Indicates that the subscribed/notified event is user data congestion

 analytics related information.

 - PERF\_DATA: Indicates that the subscribed/notified event is performance data information.

 - DISPERSION: Indicates that the subscribed/notified event is dispersion information.

 - COLLECTIVE\_BEHAVIOUR: Indicates that the subscribed/notified event is collective behaviour

 information.

 - MS\_QOE\_METRICS: Indicates that the subscribed/notified event is Media Streaming QoE

 metrics.

 - MS\_CONSUMPTION: Indicates that the subscribed/notified event is Media Streaming

 consumption reports.

 - MS\_NET\_ASSIST\_INVOCATION: Indicates that the subscribed/notified event is Media Streaming

 network assistance invocation.

 - MS\_DYN\_POLICY\_INVOCATION: Indicates that the subscribed/notified event is Media Streaming

 dynamic policy invocation.

 - MS\_ACCESS\_ACTIVITY: Indicates that the subscribed/notified event is Media Streaming access

 activity.

 - GNSS\_ASSISTANCE\_DATA: Indicates that the subscribed/notified event is GNSS Assistance Data

 Collection.

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

# A.3 Nnef\_EASDeployment API

openapi: 3.0.0

info:

 title: Nnef\_EASDeployment

 version: 1.1.0-alpha.2

 description: |

 NEF EAS Deployment service.

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externalDocs:

 description: >

 3GPP TS 29.591 V18.1.0; 5G System; Network Exposure Function Southbound Services; Stage 3.

 url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.591/

servers:

 - url: '{apiRoot}/nnef-eas-deployment/v1'

 variables:

 apiRoot:

 default: https://example.com

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

security:

 - {}

 - oAuth2ClientCredentials:

 - nnef-eas-deployment

paths:

 /subscriptions:

 post:

 summary: subscribe to notifications

 operationId: CreateIndividualSubcription

 tags:

 - Subscriptions (Collection)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: Success

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: >

 Contains the URI of the newly created resource, according to the structure:

 {apiRoot}/nnef-eas-deployment/<apiVersion>/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'

 '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:

 notifUri:

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

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 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'

 '502':

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

 '503':

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

 default:

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

 /subscriptions/{subscriptionId}:

 get:

 summary: retrieve subscription

 operationId: GetIndividualSubcription

 tags:

 - IndividualSubscription (Document)

 parameters:

 - name: subscriptionId

 in: path

 description: Event Subscription ID

 required: true

 schema:

 type: string

 responses:

 '200':

 description: OK. Resource representation is returned

 content:

 application/json:

 schema:

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

 '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'

 delete:

 summary: unsubscribe from notifications

 operationId: DeleteIndividualSubcription

 tags:

 - IndividualSubscription (Document)

 parameters:

 - name: subscriptionId

 in: path

 description: 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'

 '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:

 nnef-eas-deployment: Access to the Nnef\_EASDeployment API

 schemas:

 EasDeploySubData:

 description: Represents an Individual EAS Deployment Event Subscription resource.

 type: object

 properties:

 appId:

 type: string

 dnnSnssaiInfos:

 type: array

 items:

 $ref: 'TS29522\_AMInfluence.yaml#/components/schemas/DnnSnssaiInformation'

 minItems: 1

 description: Each of the element identifies a (DNN, S-NSSAI) combination.

 eventId:

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

 eventsNotifs:

 type: array

 items:

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

 minItems: 1

 description: >

 Represents the EAS Deployment Information changes event(s) to be reported.

 Shall only be present if the "immRep" attribute is included and sets to true,

 and the current status of EAS Deployment Information is available.

 immRep:

 type: boolean

 description: >

 Indication of immediate reporting. Set to true: requires the immediate reporting of the

 current status of EAS Deployment Information, if available. Set to false (default): EAS

 Deployment Information event report occurs when the event is met.

 interGroupId:

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

 notifId:

 type: string

 notifUri:

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

 required:

 - eventId

 - notifId

 - notifUri

 EasDeployInfoNotif:

 description: >

 Represents notifications on EAS Deployment Information changes event(s) that occurred for an

 Individual EAS Deployment Event Subscription resource.

 type: object

 properties:

 easDepNotifs:

 type: array

 items:

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

 minItems: 1

 notifId:

 type: string

 required:

 - easDepNotifs

 - notifId

 EasDepNotification:

 description: Represents the EAS Deployment Notifcation.

 type: object

 properties:

 easDepInfo:

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

 eventId:

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

 required:

 - easDepInfo

 - eventId

 EasDeployInfoData:

 description: Represents the EAS Deployment Information to be reported.

 type: object

 properties:

 appId:

 type: string

 dnaiInfos:

 type: object

 additionalProperties:

 $ref: 'TS29522\_EASDeployment.yaml#/components/schemas/DnaiInformation'

 minProperties: 1

 description: >

 list of DNS server identifier (consisting of IP address and port) and/or IP address(s)

 of the EAS in the local DN for each DNAI. The key of map is the DNAI.

 dnn:

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

 fqdnPatternList:

 type: array

 items:

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

 minItems: 1

 internalGroupId:

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

 snssai:

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

 required:

 - fqdnPatternList

# Simple data types and Enumerations

 EasEvent:

 anyOf:

 - type: string

 enum:

 - EAS\_INFO\_CHG

 - type: string

 description: |

 Represents the EAS event.

 Possible values are:

 - EAS\_INFO\_CHG: Indicates that the EAS Deployment Information is changed.

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