**3GPP TSG-CT3 Meeting #127eC3-231203**

**, 17th – 21st April 2023**

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| --- |
| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **29.517** | **CR** | **0107** | **rev** | **-** | **Current version:** | **18.1.0** |  |
|  |
| *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:***  | Corrections to the description fields of the Naf\_EventExposure API enumerations |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | SBIProtoc18 |  | ***Date:*** | 2023-04-10 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-18 |
|  | *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 Naf\_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 Naf\_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:*** | 5.6.3.3, 5.6.3.4, 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 corrections to the OpenAPI description of the Naf\_EventExposure API defined in this specification. |
|  |  |
| ***This CR's revision history:*** |  |

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

#### 5.6.3.3 Enumeration: AfEvent

The enumeration AfEvent represents the application events that can be subscribed/notified. It shall comply with the provisions defined in table 5.6.3.3-1.

Table 5.6.3.3-1: Enumeration AfEvent

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

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

#### 5.6.3.4 Enumeration: CollectiveBehaviourFilterType

The enumeration CollectiveBehaviourFilterType represents the parameter type for collective behaviour information filtering. It shall comply with the provisions defined in table 5.6.3.4-1.

Table 5.6.3.4-1: Enumeration CollectiveBehaviourFilterType

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| COLLECTIVE\_ATTRIBUTE | Indicates that the parameter type is collective attributes. |  |
| DATA\_PROCESSING | Indicates that the parameter type is data processing. |  |

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

# A.2 Naf\_EventExposure API

openapi: 3.0.0

info:

 version: 1.3.0-alpha.2

 title: Naf\_EventExposure

 description: |

 AF Event Exposure Service.

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externalDocs:

 description: >

 3GPP TS 29.517 V18.1.0; 5G System; Application Function Event Exposure Service; Stage 3.

 url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.517/

servers:

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

 variables:

 apiRoot:

 default: https://example.com

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

security:

 - {}

 - oAuth2ClientCredentials: []

paths:

 /subscriptions:

 post:

 summary: Creates a new Individual Application Event Exposure Subscription resource

 operationId: PostAfEventExposureSubsc

 tags:

 - Application Event Subscription (Collection)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: Success

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: >

 Contains the URI of the created individual application event subscription 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:

 AfEventExposureNotif:

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

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '204':

 description: No Content, 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'

 /subscriptions/{subscriptionId}:

 get:

 summary: "Reads an existing Individual Application Event Subscription"

 operationId: GetAfEventExposureSubsc

 tags:

 - Individual Application Event Subscription (Document)

 parameters:

 - name: subscriptionId

 in: path

 description: Application 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/AfEventExposureSubsc'

 '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: "Modifies an existing Individual Application Event Subscription "

 operationId: PutAfEventExposureSubsc

 tags:

 - Individual Application Event Subscription (Document)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 parameters:

 - name: subscriptionId

 in: path

 description: Application Event Subscription ID

 required: true

 schema:

 type: string

 responses:

 '200':

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

 content:

 application/json:

 schema:

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

 '204':

 description: No Content. Resource was successfully 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: "Cancels an existing Individual Application Event Subscription "

 operationId: DeleteAfEventExposureSubsc

 tags:

 - Individual Application Event Subscription (Document)

 parameters:

 - name: subscriptionId

 in: path

 description: Application Event Subscription ID

 required: true

 schema:

 type: string

 responses:

 '204':

 description: No Content. Resource was successfully 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: '{tokenUri}'

 scopes: {}

 description: >

 For trusted AF, the 'naf-eventexposure' shall be used as 'scopes' and

 '{nrfApiRoot}/oauth2/token' shall be used as 'tokenUri'.

 schemas:

 AfEventExposureNotif:

 description: >

 Represents notifications on application event(s) that occurred for an Individual Application

 Event Subscription resource.

 type: object

 properties:

 notifId:

 type: string

 eventNotifs:

 type: array

 items:

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

 minItems: 1

 required:

 - notifId

 - eventNotifs

 AfEventExposureSubsc:

 description: Represents an Individual Application Event Subscription resource.

 type: object

 properties:

 dataAccProfId:

 type: string

 eventsSubs:

 type: array

 items:

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

 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/AfEventNotification'

 minItems: 1

 suppFeat:

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

 required:

 - eventsSubs

 - eventsRepInfo

 - notifId

 - notifUri

 AfEventNotification:

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

 type: object

 properties:

 event:

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

 timeStamp:

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

 svcExprcInfos:

 type: array

 items:

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

 minItems: 1

 ueMobilityInfos:

 type: array

 items:

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

 minItems: 1

 ueCommInfos:

 type: array

 items:

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

 minItems: 1

 excepInfos:

 type: array

 items:

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

 minItems: 1

 congestionInfos:

 type: array

 items:

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

 minItems: 1

 perfDataInfos:

 type: array

 items:

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

 minItems: 1

 dispersionInfos:

 type: array

 items:

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

 minItems: 1

 collBhvrInfs:

 type: array

 items:

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

 minItems: 1

 msQoeMetrInfos:

 type: array

 items:

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

 minItems: 1

 msConsumpInfos:

 type: array

 items:

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

 minItems: 1

 msNetAssInvInfos:

 type: array

 items:

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

 minItems: 1

 msDynPlyInvInfos:

 type: array

 items:

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

 minItems: 1

 msAccActInfos:

 type: array

 items:

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

 minItems: 1

 required:

 - event

 - timeStamp

 EventsSubs:

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

 type: object

 properties:

 event:

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

 eventFilter:

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

 required:

 - event

 - eventFilter

 EventFilter:

 description: Represents event filter information for an event.

 type: object

 properties:

 gpsis:

 type: array

 items:

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

 minItems: 1

 supis:

 type: array

 items:

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

 minItems: 1

 exterGroupIds:

 type: array

 items:

 $ref: 'TS29503\_Nudm\_SDM.yaml#/components/schemas/ExtGroupId'

 minItems: 1

 interGroupIds:

 type: array

 items:

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

 anyUeInd:

 type: boolean

 ueIpAddr:

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

 appIds:

 type: array

 items:

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

 minItems: 1

 locArea:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'

 collAttrs:

 type: array

 items:

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

 minItems: 1

 exceptionReqs:

 type: array

 items:

 $ref: 'TS29520\_Nnwdaf\_EventsSubscription.yaml#/components/schemas/Exception'

 minItems: 1

 ServiceExperienceInfoPerApp:

 description: Contains service experience information associated with an application.

 type: object

 properties:

 appId:

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

 appServerIns:

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

 svcExpPerFlows:

 type: array

 items:

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

 minItems: 1

 gpsis:

 type: array

 items:

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

 minItems: 1

 supis:

 type: array

 items:

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

 minItems: 1

 required:

 - svcExpPerFlows

 ServiceExperienceInfoPerFlow:

 description: Contains service experience information associated with a service flow.

 type: object

 properties:

 svcExprc:

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

 timeIntev:

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

 dnai:

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

 ipTrafficFilter:

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

 ethTrafficFilter:

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

 SvcExperience:

 description: Contains a mean opinion score with the customized range.

 type: object

 properties:

 mos:

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

 upperRange:

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

 lowerRange:

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

 UeMobilityCollection:

 description: >

 Contains UE mobility information associated with an application. If the allAppInd attribute

 is present and set to true, then the value in the appId shall be ignored, which indicates

 the collected UE mobility information is applicable to all the applications for the UE.

 type: object

 properties:

 gpsi:

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

 supi:

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

 appId:

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

 allAppInd:

 type: boolean

 description: >

 Indicates applicable to all applications if set to true, otherwise set to false.

 Default value is false if omitted.

 ueTrajs:

 type: array

 items:

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

 minItems: 1

 areas:

 type: array

 items:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'

 minItems: 1

 required:

 - appId

 - ueTrajs

 UeCommunicationCollection:

 description: Contains UE communication information associated with an application.

 type: object

 properties:

 gpsi:

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

 supi:

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

 exterGroupId:

 $ref: 'TS29503\_Nudm\_SDM.yaml#/components/schemas/ExtGroupId'

 interGroupId:

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

 appId:

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

 expectedUeBehavePara:

 $ref: 'TS29122\_CpProvisioning.yaml#/components/schemas/CpParameterSet'

 comms:

 type: array

 items:

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

 minItems: 1

 required:

 - appId

 - comms

 UeTrajectoryCollection:

 description: Contains UE trajectory information associated with an application.

 type: object

 properties:

 ts:

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

 locArea:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'

 required:

 - ts

 - locArea

 CommunicationCollection:

 description: Contains communication information.

 type: object

 properties:

 startTime:

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

 endTime:

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

 ulVol:

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

 dlVol:

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

 required:

 - startTime

 - endTime

 - ulVol

 - dlVol

 ExceptionInfo:

 description: Represents the exceptions information provided by the AF.

 type: object

 properties:

 ipTrafficFilter:

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

 ethTrafficFilter:

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

 exceps:

 type: array

 items:

 $ref: 'TS29520\_Nnwdaf\_EventsSubscription.yaml#/components/schemas/Exception'

 minItems: 1

 required:

 - exceps

 oneOf:

 - required: [ipTrafficFilter]

 - required: [ethTrafficFilter]

 UserDataCongestionCollection:

 description: Contains User Data Congestion Analytics related information collection.

 type: object

 properties:

 appId:

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

 ipTrafficFilter:

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

 timeInterv:

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

 thrputUl:

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

 thrputDl:

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

 thrputPkUl:

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

 thrputPkDl:

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

 oneOf:

 - required: [appId]

 - required: [ipTrafficFilter]

 PerformanceDataCollection:

 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'

 ueLoc:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'

 appLocs:

 type: array

 items:

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

 minItems: 1

 asAddr:

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

 perfData:

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

 timeStamp:

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

 required:

 - perfData

 - timeStamp

 PerformanceData:

 description: Contains Performance Data.

 type: object

 properties:

 pdb:

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

 pdbDl:

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

 maxPdbUl:

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

 maxPdbDl:

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

 plr:

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

 plrDl:

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

 maxPlrUl:

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

 maxPlrDl:

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

 thrputUl:

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

 maxThrputUl:

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

 minThrputUl:

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

 thrputDl:

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

 maxThrputDl:

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

 minThrputDl:

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

 AddrFqdn:

 description: IP address and/or FQDN.

 type: object

 properties:

 ipAddr:

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

 fqdn:

 type: string

 description: Indicates an FQDN.

 DispersionCollection:

 description: Contains the dispersion information collected for an AF.

 type: object

 properties:

 gpsi:

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

 supi:

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

 ueAddr:

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

 dataUsage:

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

 flowDesp:

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

 appId:

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

 dnais:

 type: array

 items:

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

 minItems: 1

 appDur:

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

 required:

 - dataUsage

 oneOf:

 - required: [gpsi]

 - required: [supi]

 - required: [ueAddr]

 CollectiveBehaviourFilter:

 description: Contains the collective behaviour filter information to be collected from UE.

 type: object

 properties:

 type:

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

 value:

 type: string

 description: Value of the parameter type as in the type attribute.

 listOfUeInd:

 type: boolean

 description: >

 Indicates whether request list of UE IDs that fulfill a collective behaviour within the

 area of interest. This attribute shall set to "true" if request the list of UE IDs,

 otherwise, set to "false". May only be present and sets to "true" if "AfEvent" sets to

 "COLLECTIVE\_BEHAVIOUR".

 required:

 - type

 - value

 CollectiveBehaviourInfo:

 description: Contains the collective behaviour information to be reported to the subscriber.

 type: object

 properties:

 colAttrib:

 type: array

 items:

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

 minItems: 1

 noOfUes:

 type: integer

 description: Total number of UEs that fulfil a collective within the area of interest.

 appIds:

 type: array

 items:

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

 minItems: 1

 extUeIds:

 type: array

 items:

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

 minItems: 1

 ueIds:

 type: array

 items:

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

 minItems: 1

 required:

 - colAttrib

 oneOf:

 - required: [extUeIds]

 - required: [ueIds]

 PerUeAttribute:

 description: UE application data collected per UE.

 type: object

 properties:

 ueDest:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'

 route:

 type: string

 avgSpeed:

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

 timeOfArrival:

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

 MsQoeMetricsCollection:

 description: >

 Contains the Media Streaming QoE metrics information collected for an UE Application via AF.

 type: object

 properties:

 msQoeMetrics:

 type: array

 items:

 type: string

 minItems: 1

 required:

 - msQoeMetrics

 MsConsumptionCollection:

 description: >

 Contains the Media Streaming Consumption information collected for an UE Application via AF.

 type: object

 properties:

 msConsumps:

 type: array

 items:

 type: string

 description: >

 Represents the Media Streaming Consumption reports with formatting as specified in

 clause 11.3.3 of 3GPP TS 26.512 [30], if required for Media Streaming UE Application.

 minItems: 1

 required:

 - msConsumps

 MsNetAssInvocationCollection:

 description: >

 Contains the Media Streaming Network Assistance invocation collected for an UE Application

 via AF.

 type: object

 properties:

 msNetAssInvocs:

 type: array

 items:

 $ref: 'TS26512\_M5\_NetworkAssistance.yaml#/components/schemas/NetworkAssistanceSession'

 minItems: 1

 required:

 - msNetAssInvocs

 MsDynPolicyInvocationCollection:

 description: >

 Contains the Media Streaming Dynamic Policy invocation collected for an UE

 Application via AF.

 type: object

 properties:

 msDynPlyInvocs:

 type: array

 items:

 $ref: 'TS26512\_M5\_DynamicPolicies.yaml#/components/schemas/DynamicPolicy'

 minItems: 1

 required:

 - msDynPlyInvocs

 MSAccessActivityCollection:

 description: Contains Media Streaming access activity collected for an UE Application via AF.

 type: object

 properties:

 msAccActs:

 type: array

 items:

 $ref: 'TS26512\_R4\_DataReporting.yaml#/components/schemas/MediaStreamingAccessRecord'

 minItems: 1

 required:

 - msAccActs

# Simple data types and Enumerations

 AfEvent:

 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 an application's 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.

 CollectiveBehaviourFilterType:

 anyOf:

 - type: string

 enum:

 - COLLECTIVE\_ATTRIBUTE

 - DATA\_PROCESSING

 - 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 the parameter type for collective behaviour information filtering.

 Possible values are:

 - COLLECTIVE\_ATTRIBUTE: Indicates that the parameter type is collective attributes.

 - DATA\_PROCESSING: Indicates that the parameter type is data processing.

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