**3GPP TSG CT WG3 Meeting #142 *C3-253367***

**Goteborg, SE, 25th – 29th August, 2025**

**Source: Huawei, Nokia**

**Title: Pseudo-CR on defining the OpenAPI of the Naf\_Training API**

**Spec: 3GPP TS 29.530**

**Agenda item: 19.39 (AIML\_CN)**

**Document for: Agreement**

**1. Introduction**

The stage 2 requirements for the new Naf\_Training API have been defined in clauses TS 23.288.

**2. Reason for Change**

Define the OpenAPI definition clauses of this new API in the corresponding new AI/ML related AF Services TS.

**3. Conclusions**

N/A

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 29.530 V 0.0.0.

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

# A.4 Naf\_Training API

openapi: 3.0.0

info:

 title: Naf\_Training Service API

 version: 1.0.0-alpha.1

 description: |

 AF Training Service.

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externalDocs:

 description: >

 3GPP TS 29.530 V1.0.0; 5G System; Application Function Artificial Intelligence/Machine Learning

 (AI/ML) Services.

 url: http://www.3gpp.org/ftp/Specs/archive/29\_series/29.530/

servers:

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

 variables:

 apiRoot:

 default: https://example.com

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

security:

 - {}

 - oAuth2ClientCredentials:

 - naf-train

paths:

 /subscriptions:

 post:

 summary: Request the creation of a Training Subscription.

 operationId: CreateTrainSubsc

 tags:

 - Training Subscriptions (Collection)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: >

 Created. The Training Subscription is successfully created and a representation of

 the created Individual Training Subscription resource shall be returned.

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: >

 Contains the URI of the created Individual Training 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:

 TrainEventsNotif:

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

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '204':

 description: >

 No Content. The Training Notification is successfully received

 and acknowledged.

 '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}:

 parameters:

 - name: subscriptionId

 in: path

 description: >

 Represents the identifier of the Individual Training Subscription

 resource.

 required: true

 schema:

 type: string

 get:

 summary: Retrieve an existing Individual Training Subscription resource.

 operationId: GetIndTrainSubsc

 tags:

 - Individual Training Subscription (Document)

 responses:

 '200':

 description: >

 OK. The requested Individual Training Subscription resource is returned.

 content:

 application/json:

 schema:

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

 '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: Request the update of an existing Individual Training Subscription resource.

 operationId: UpdateIndTrainSubsc

 tags:

 - Individual Training Subscription (Document)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '200':

 description: >

 OK. The Individual Training Subscription resource is successfully updated and a

 representation of the updated resource shall be returned in the response body.

 content:

 application/json:

 schema:

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

 '204':

 description: >

 No Content. The Individual Training Subscription resource is successfully updated

 and no content is returned in the response body.

 '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'

 patch:

 summary: Request the modification of an existing Individual Training Subscription resource.

 operationId: ModifyIndTrainSubsc

 tags:

 - Individual Training Subscription (Document)

 requestBody:

 required: true

 content:

 application/merge-patch+json:

 schema:

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

 responses:

 '200':

 description: >

 OK. The Individual Training Subscription resource is successfully modified and a

 representation of the updated resource shall be returned in the response body.

 content:

 application/json:

 schema:

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

 '204':

 description: >

 No Content. The Individual Training Subscription resource is successfully modified

 and no content is returned in the response body.

 '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: Request the deletion of an existing Individual Training Subscription resource.

 operationId: DeleteIndTrainSubsc

 tags:

 - Individual Training Subscription (Document)

 responses:

 '204':

 description: >

 No Content. The Individual Training Subscription resource is 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: '{nrfApiRoot}/oauth2/token'

 scopes:

 naf-train: >

 Enables to access all the resources and custom operations of the Naf\_Training API.

 schemas:

#

# STRUCTURED DATA TYPES

#

 TrainEventsSubsc:

 description: Represents a Training Subscription.

 type: object

 properties:

 trainEventSubs:

 type: object

 additionalProperties:

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

 minProperties: 1

 description: >

 Contains the subscribed training events. The key of the map shall be set to the

 value of the "event" attribute in the EventSubsc data structure.

 notifUri:

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

 notifCorreId:

 type: string

 reportingReqs:

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

 eventNotifs:

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

 suppFeat:

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

 required:

 - trainEventSubs

 - notifUri

 - notifCorreId

 TrainEventsSubscPatch:

 description: Represents the requested modifications to a Training Subscription.

 type: object

 properties:

 trainEventSubs:

 type: object

 additionalProperties:

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

 minProperties: 1

 description: >

 Contains the updated subscribed training events. The key of the map shall be set to the

 value of the "event" attribute in the EventSubsc data structure.

 notifUri:

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

 notifCorreId:

 type: string

 reportingReqs:

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

 EventSubsc:

 description: Represents events training subscription.

 type: object

 properties:

 event:

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

 useCaseCxt:

 type: string

 trainFilter:

 $ref: 'TS29520\_Nnwdaf\_AnalyticsInfo.yaml#/components/schemas/EventFilter'

 tgtUe:

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

 repRatio:

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

 targetPeriod:

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

 inferInputData:

 $ref: 'TS29520\_Nnwdaf\_MLModelProvision.yaml#/components/schemas/InputDataInfo'

 timeModelNeeded:

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

 modelMonInfo:

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

 accuLevel:

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

 required:

 - event

 MlModelMonitorInfo:

 description: Represents an event training subscription.

 type: object

 properties:

 modelMetric:

 $ref: 'TS29520\_Nnwdaf\_MLModelProvision.yaml#/components/schemas/MLModelMetric'

 accuThreshold:

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

 storedData:

 $ref: 'TS29520\_Nnwdaf\_MLModelProvision.yaml#/components/schemas/InferenceDataForModelTrain'

 TrainEventsNotif:

 description: Represents a events training notification.

 type: object

 properties:

 notifCorreId:

 type: string

 eventNotifs:

 type: array

 items:

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

 minItems: 1

 required:

 - notifCorreId

 - eventNotifs

 EventNotif:

 description: Represents an event training report.

 type: object

 properties:

 event:

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

 trainingInd:

 type: boolean

 description: >

 Set to "true" to indicate that the ML model training is ongoing. Set to "false" to

 indicate that the ML model training is done. Default value is "false" if omitted.

 validityPeriod:

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

 spatialValidity:

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

 repRatio:

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

 accMLModel:

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

 termCause:

 $ref: 'TS29520\_Nnwdaf\_VFLInference.yaml#/components/schemas/VflTermCause'

 required:

 - event

# SIMPLE DATA TYPES

#

#

# ENUMERATIONS

#

# Data types describing alternative data types or combinations of data types:

#

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