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

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

**Source: Huawei**

**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:

get:

summary: Retrieve all the active Training Subscriptions managed by the AF.

tags:

- Training Subscriptions (Collection)

operationId: RetrieveTrainSubscs

responses:

'200':

description: >

OK. All the active Training Subscription(s) managed by the AF are returned.

If there are no existing Individual Training Subscription resources managed at the

AF, an empty array is returned.

content:

application/json:

schema:

type: array

items:

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

minItems: 0

'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'

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'

required:

- event

# SIMPLE DATA TYPES

#

#

# ENUMERATIONS

#

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

#

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