**3GPP TSG-CT WG3 Meeting #****125 C3-225761**

**Toulouse, France, 14th - 18th, November, 2022**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.565** | **CR** | **0035** | **rev** | **-** | **Current version:** | **17.1.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **x** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Update of info and externalDocs fields | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI18 | | | | |  | ***Date:*** | | | 2022-11-18 |
|  |  | | | |  | |  | | |  |
| ***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 can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | CRs modifying the Ntsctsf\_TimeSynchronization, Ntsctsf\_QoSandTSCAssistance and Ntsctsf\_ASTI APIs have been agreed and the version number of the corresponding OpenAPI file thus needs to be incremented following the rules in TS 29.501, subclause 4.3.1.  The following agreed CRs update theOpenAPI file for **Ntsctsf\_TimeSynchronization** **API** for the present release:  + TS 29.565 CR#0031 introduces a backward compatible correction  The following agreed CRs update theOpenAPI file for **Ntsctsf\_QoSandTSCAssistance** **API** for the present release:  + TS 29.565 CR#0031 introduces a backward compatible correction  + TS 29.565 CR#0032 introduces a backward compatible correction  The following agreed CRs update theOpenAPI file for **Ntsctsf\_ASTI** **API** for the present release:  + TS 29.565 CR#0031 introduces a backward compatible correction  As the present release is not yet frozen, a draft version number should be assigned. As the first backward compatible changes without prior backward incompatible changes to the existing API were agreed in for present non-frozen release, the minor version number needs to be incremented.  Since a new Rel-18 TS version will be provided with changes to the OpenAPI specification file, the TS version number included in the "description" field of the "externalDocs" object also needs to be updated. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Update the API version number and TS version in externalDocs field for above the API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Incorrect API version number and TS version in externalDocs field. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | A.2, A.3, A.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\*\*\* First Change \*\*\*

# A.2 Ntsctsf\_TimeSynchronization API

openapi: 3.0.0

info:

title: Ntsctsf\_TimeSynchronization Service API

version: 1.1.0-alpha.1

description: |

TSCTSF Time Synchronization Service.

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externalDocs:

description: >

3GPP TS 29.565 V18.0.0; 5G System; Time Sensitive Communication and Time Synchronization Function

Services; Stage 3.

url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.565/'

servers:

- url: '{apiRoot}/ntsctsf-time-sync/v1'

variables:

apiRoot:

default: https://example.com

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

security:

- {}

- oAuth2ClientCredentials:

- ntsctsf-time-sync

paths:

/subscriptions:

post:

summary: Creates a new subscription to notification of capability of time synchronization service resource

operationId: TimeSynchronizationExposureSubscriptions

tags:

- Time Synchronization Exposure Subscriptions (Collection)

requestBody:

description: Contains the information for the creation the resource.

required: true

content:

application/json:

schema:

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

responses:

'201':

description: Successful creation of the resource.

content:

application/json:

schema:

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

headers:

Location:

description: >

Contains the URI of the created individual time synchronization exposure

subscription resource, according to the structure

{apiRoot}/ntsctsf-time-sync/{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'

'503':

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

default:

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

callbacks:

subsEventNotification:

'{$request.body#/subsNotifUri':

post:

requestBody:

description: Notification of an event occurrence in the TSCTSF.

required: true

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is 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'

'503':

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

default:

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

/subscriptions/{subscriptionId}:

get:

summary: "Reads an existing Individual Time Synchronization Exposure Subscription"

operationId: GetIndividualTimeSynchronizationExposureSubscription

tags:

- Individual Time Synchronization Exposure Subscription (Document)

parameters:

- name: subscriptionId

description: String identifying an Individual Time Synchronization Exposure Subscription

in: path

required: true

schema:

type: string

responses:

'200':

description: A representation of the resource is returned.

content:

application/json:

schema:

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

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29571\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

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

default:

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

put:

operationId: ReplaceIndividualTimeSynchronizationExposureSubscription

summary: Replace an individual Time Synchronization Exposure Subscription

tags:

- IndividualTimeSynchronizationExposureSubscription (Document)

requestBody:

required: true

content:

application/json:

schema:

$ref: 'TS29522\_TimeSyncExposure.yaml#/components/schemas/TimeSyncExposureSubsc'

parameters:

- name: subscriptionId

description: String identifying an Individual Time Synchronization Exposure Subscription.

in: path

required: true

schema:

type: string

responses:

'200':

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

content:

application/json:

schema:

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

'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'

'503':

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

default:

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

delete:

operationId: DeleteIndividualTimeSynchronizationExposureSubscription

summary: Delete an Individual TimeSynchronization Exposure Subscription

tags:

- Individual Time Synchronization Exposure Subscription (Document)

parameters:

- name: subscriptionId

in: path

description: String identifying an Individual Time Synchronization Exposure Subscription.

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'

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$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

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

default:

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

/subscriptions/{subscriptionId}/configurations:

post:

summary: "Craete a new Individual Time Synchronization Exposure Configuration"

operationId: CreateIndividualTimeSynchronizationExposureConfiguration

tags:

- Individual Time Synchronization Exposure Configuration (Document)

parameters:

- name: subscriptionId

description: String identifying an Individual Time Synchronization Exposure Subscription.

in: path

required: true

schema:

type: string

requestBody:

description: Contains the information for the creation the resource.

required: true

content:

application/json:

schema:

$ref: 'TS29522\_TimeSyncExposure.yaml#/components/schemas/TimeSyncExposureConfig'

responses:

'201':

description: Successful creation of the resource.

content:

application/json:

schema:

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

headers:

Location:

description: >

Contains the URI of the created individual time synchronization exposure

configuration resource, according to the structure

{apiRoot}/ntsctsf-time-sync/{apiVersion}/subscriptions/{subscriptionId}

/configurations/{configurationId}

required: true

schema:

type: string

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

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$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

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'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

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

default:

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

callbacks:

configEventNotification:

'{$request.body#/configNotifUri':

post:

requestBody:

description: Notification of an event occurrence in the TSCTSF.

required: true

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is acknowledged.

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

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$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

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$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

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

default:

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

/subscriptions/{subscriptionId}/configurations/{configurationId}:

get:

summary: "Reads an existing Individual Time Synchronization Exposure Configuration"

operationId: GetIndividualTimeSynchronizationExposureConfiguration

tags:

- Individual Time Synchronization Exposure Configuration (Document)

parameters:

- name: subscriptionId

description: String identifying an Individual Time Synchronization Exposure Subscription.

in: path

required: true

schema:

type: string

- name: configurationId

description: String identifying an Individual Time Synchronization Exposure Configuration.

in: path

required: true

schema:

type: string

responses:

'200':

description: A representation of the resource is returned.

content:

application/json:

schema:

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

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

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$ref: 'TS29571\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

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

default:

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

put:

operationId: ReplaceIndividualTimeSynchronizationExposureConfiguration

summary: Replace an individual Time Synchronization Exposure Configuration

tags:

- IndividualTimeSynchronizationExposureConfiguration (Document)

requestBody:

required: true

content:

application/json:

schema:

$ref: 'TS29522\_TimeSyncExposure.yaml#/components/schemas/TimeSyncExposureConfig'

parameters:

- name: subscriptionId

description: String identifying an Individual Time Synchronization Exposure Subscription.

in: path

required: true

schema:

type: string

- name: configurationId

description: String identifying an Individual Time Synchronization Exposure Configuration.

in: path

required: true

schema:

type: string

responses:

'200':

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

content:

application/json:

schema:

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

'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'

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$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

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

default:

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

delete:

operationId: DeleteIndividualTimeSynchronizationExposureConfiguration

summary: Delete an Individual TimeSynchronization Exposure Configuration

tags:

- Individual Time Synchronization Exposure Configuration (Document)

parameters:

- name: subscriptionId

in: path

description: String identifying an Individual Time Synchronization Exposure Subscription.

required: true

schema:

type: string

- name: configurationId

description: String identifying an Individual Time Synchronization Exposure Configuration.

in: path

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'

'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:

ntsctsf-timesynchronization: Access to the Ntsctsf\_TimeSynchronization API

schemas:

TimeSyncExposureSubsc:

description: >

Contains the parameters for the subscription to notification of capability of time

synchronization service.

type: object

properties:

supis:

type: array

items:

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

minItems: 1

gpsis:

type: array

items:

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

minItems: 1

interGrpId:

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

exterGrpId:

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

anyUeInd:

type: boolean

description: >

Identifies whether the request applies to any UE. This attribute shall set to "true" if

applicable for any UE, otherwise, set to "false".

notifMethod:

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

dnn:

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

snssai:

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

subscribedEvents:

type: array

items:

$ref: 'TS29522\_TimeSyncExposure.yaml#/components/schemas/SubscribedEvent'

minItems: 1

eventFilters:

type: array

items:

$ref: 'TS29522\_TimeSyncExposure.yaml#/components/schemas/EventFilter'

minItems: 1

subsNotifUri:

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

subsNotifId:

type: string

description: Notification Correlation ID assigned by the NF service consumer.

maxReportNbr:

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

expiry:

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

repPeriod:

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

suppFeat:

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

required:

- subsNotifUri

- subsNotifId

- dnn

- snssai

- subscribedEvents

oneOf:

- required: [supis]

- required: [interGrpId]

- required: [gpsis]

- required: [exterGrpId]

- required: [anyUeInd]

TimeSyncExposureSubsNotif:

description: Contains the notification of time synchronization service.

type: object

properties:

subsNotifId:

type: string

description: Notification Correlation ID assigned by the NF service consumer.

eventNotifs:

type: array

items:

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

minItems: 1

SubsEventNotification:

description: >

Contains the notification of capability of time synchronization for a list of UEs.

type: object

properties:

event:

$ref: 'TS29522\_TimeSyncExposure.yaml#/components/schemas/SubscribedEvent'

timeSyncCapas:

type: array

items:

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

minItems: 1

required:

- event

TimeSyncCapability:

description: Contains the capability of time synchronization service.

type: object

properties:

upNodeId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

gmCapables:

type: array

items:

$ref: 'TS29522\_TimeSyncExposure.yaml#/components/schemas/GmCapable'

minItems: 1

asTimeRes:

$ref: 'TS29522\_TimeSyncExposure.yaml#/components/schemas/AsTimeResource'

ptpCapForUes:

type: object

additionalProperties:

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

minProperties: 1

description: >

Contains the PTP capabilities supported by each of the SUPI(s). The key of the map is the

SUPI.

ptpCapForGpsis:

type: object

additionalProperties:

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

minProperties: 1

description: >

Contains the PTP capabilities supported by each of the GPSI(s). The key of the map is

the GPSI.

required:

- upNodeId

anyOf:

- required: [gmCapables]

- required: [asTimeRes]

PtpCapabilitiesPerUe:

description: Contains the supported PTP capabilities per UE.

type: object

properties:

supi:

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

gpsi:

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

ptpCaps:

type: array

items:

$ref: 'TS29522\_TimeSyncExposure.yaml#/components/schemas/EventFilter'

minItems: 1

required:

- ptpCaps

oneOf:

- required: [supi]

- required: [gpsi]

TimeSyncExposureConfigNotif:

description: Contains the notification of time synchronization service state.

type: object

properties:

configNotifId:

type: string

description: Notification Correlation ID assigned by the NF service consumer.

stateOfConfig:

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

required:

- configNotifId

- stateOfConfig

StateOfConfiguration:

description: Contains the state of the time synchronization configuration.

type: object

properties:

stateNwtt:

type: boolean

description: >

When the PTP port state is Leader, Follower or Passive, it is included and set to true

to indicate the state of configuration for NW-TT port is active; when PTP port state is

in any other case, it is included and set to false to indicate the state of

configuration for NW-TT port is inactive. Default value is false.

stateOfDstts:

description: Contains the PTP port states of the DS-TT(s).

type: array

items:

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

minItems: 1

StateOfDstt:

description: Contains the PTP port state of a DS-TT.

type: object

properties:

supi:

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

gpsi:

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

state:

type: boolean

description: >

When the PTP port state is Leader, Follower or Passive, it is included and set to true

to indicate the state of configuration for DS-TT port is active; when PTP port state is

in any other case, it is included and set to false to indicate the state of

configuration for DS-TT port is inactive. Default value is false.

required:

- state

oneOf:

- required: [supi]

- required: [gpsi]

TimeSyncExposureConfig:

description: Contains the Time Synchronization Configuration parameters.

type: object

properties:

upNodeId:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint64'

reqPtpIns:

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

gmEnable:

type: boolean

description: >

Indicates that the AF requests 5GS to act as a grandmaster for PTP or gPTP if it is

included and set to true.

gmPrio:

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

timeDom:

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

timeSyncErrBdgt:

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

configNotifId:

type: string

description: Notification Correlation ID assigned by the NF service consumer.

configNotifUri:

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

tempValidity:

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

required:

- upNodeId

- reqPtpIns

- timeDom

- configNotifId

- configNotifUri

PtpInstance:

description: Contains PTP instance configuration and activation requested by the AF.

type: object

properties:

instanceType:

$ref: 'TS29522\_TimeSyncExposure.yaml#/components/schemas/InstanceType'

protocol:

$ref: 'TS29522\_TimeSyncExposure.yaml#/components/schemas/Protocol'

ptpProfile:

type: string

portConfigs:

type: array

items:

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

minItems: 1

required:

- instanceType

- protocol

- ptpProfile

ConfigForPort:

description: Contains configuration for each port.

type: object

properties:

supi:

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

gpsi:

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

n6Ind:

type: boolean

ptpEnable:

type: boolean

logSyncInter:

type: integer

logSyncInterInd:

type: boolean

logAnnouInter:

type: integer

logAnnouInterInd:

type: boolean

oneOf:

- required: [supi]

- required: [gpsi]

- required: [n6Ind]

\*\*\* Next Change \*\*\*

# A.3 Ntsctsf\_QoSandTSCAssistance API

openapi: 3.0.0

info:

title: Ntsctsf\_QoSandTSCAssistance Service API

version: 1.1.0-alpha.1

description: |

TSCTSF QoS and TSC Assistance Service.

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externalDocs:

description: >

3GPP TS 29.565 V18.0.0; 5G System; Time Sensitive Communication and Time Synchronization function

Services; Stage 3.

url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.565/'

servers:

- url: '{apiRoot}/ntsctsf-qos-tscai/v1'

variables:

apiRoot:

default: https://example.com

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

security:

- {}

- oAuth2ClientCredentials:

- ntsctsf-qos-tscai

paths:

/tsc-app-sessions:

post:

summary: Creates a new Individual TSC Application Session Context resource

operationId: PostTSCAppSessions

tags:

- TSC Application Sessions (Collection)

requestBody:

description: Contains the information for the creation the resource.

required: true

content:

application/json:

schema:

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

responses:

'201':

description: Successful creation of the resource.

content:

application/json:

schema:

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

headers:

Location:

description: >

Contains the URI of the created individual TSC application session context resource,

according to the structure

{apiRoot}/ntsctsf-qos-tscai/v1/tsc-app-sessions/{appSessionId} or the URI of the

created events subscription sub-resource, according to the structure

{apiRoot}/ntsctsf-qos-tscai/v1/tsc-app-sessions/{appSessionId}/events-subscription}

required: true

schema:

type: string

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

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

default:

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

callbacks:

terminationRequest:

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

post:

requestBody:

description: >

Request of the termination of the Individual TSC Application Session Context

required: true

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is 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'

'503':

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

default:

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

eventNotification:

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

post:

requestBody:

description: Notification of an event occurrence in the TSCTSF.

required: true

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is 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'

'503':

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

default:

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

/tsc-app-sessions/{appSessionId}:

get:

summary: Reads an existing Individual TSC Application Session Context

operationId: GetTSCAppSession

tags:

- Individual TSC Application Session Context (Document)

parameters:

- name: appSessionId

description: String identifying the resource.

in: path

required: true

schema:

type: string

responses:

'200':

description: A representation of the resource is returned.

content:

application/json:

schema:

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

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29571\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

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

default:

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

patch:

summary: Modifies an existing Individual TSC Application Session Context

operationId: ModAppSession

tags:

- Individual TSC Application Session Context (Document)

parameters:

- name: appSessionId

description: String identifying the resource.

in: path

required: true

schema:

type: string

requestBody:

description: Modification of the resource.

required: true

content:

application/merge-patch+json:

schema:

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

responses:

'200':

description: >

successful modification of the resource and a representation of that resource is

returned.

content:

application/json:

schema:

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

'204':

description: The successful modification.

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

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

default:

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

callbacks:

eventNotification:

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

post:

requestBody:

description: Notification of an event occurrence in the TSCTSF.

required: true

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is 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'

'503':

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

default:

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

/tsc-app-sessions/{appSessionId}/delete:

post:

summary: Deletes an existing Individual TSC Application Session Context

operationId: DeleteTSCAppSession

tags:

- Individual TSC Application Session Context (Document)

parameters:

- name: appSessionId

description: String identifying the Individual TSC Application Session Context resource.

in: path

required: true

schema:

type: string

requestBody:

description: >

Deletion of the Individual TSC Application Session Context resource, request notification.

required: false

content:

application/json:

schema:

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

responses:

'200':

description: The deletion of the resource is confirmed and a resource is returned

content:

application/json:

schema:

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

'204':

description: The deletion is confirmed without returning additional data.

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

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

default:

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

/tsc-app-sessions/{appSessionId}/events-subscription:

put:

summary: Creates or modifies an Events Subscription subresource

operationId: putEventsSubsc

tags:

- Events Subscription (Document)

parameters:

- name: appSessionId

description: String identifying the Events Subscription resource

in: path

required: true

schema:

type: string

requestBody:

description: Creation or modification of an Events Subscription resource.

required: true

content:

application/json:

schema:

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

responses:

'201':

description: >

The creation of the Events Subscription resource is confirmed and its representation is

returned.

content:

application/json:

schema:

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

headers:

Location:

description: >

Contains the URI of the created Events Subscription resource,

according to the structure

{apiRoot}/ntsctsf-qos-tscai/v1/tsc-app-sessions/{appSessionId}/events-subscription}

required: true

schema:

type: string

'200':

description: >

The modification of the Events Subscription resource is confirmed and its representation

is returned.

content:

application/json:

schema:

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

'204':

description: >

The modification of the Events Subscription subresource is confirmed without returning

additional data.

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

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

default:

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

callbacks:

eventNotification:

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

post:

requestBody:

description: >

Contains the information for the notification of an event occurrence in the TSCTSF.

required: true

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is 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'

'503':

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

default:

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

delete:

summary: Deletes the Events Subscription subresource.

operationId: DeleteEventsSubsc

tags:

- Events Subscription (Document)

parameters:

- name: appSessionId

description: String identifying the Individual TSC Application Session Context resource

in: path

required: true

schema:

type: string

responses:

'204':

description: >

The deletion of the of the Events Subscription sub-resource is confirmed without returning

additional data.

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

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

default:

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

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{nrfApiRoot}/oauth2/token'

scopes:

ntsctsf-qos-tscai: Access to the Ntsctsf\_QoSandTSCAssistance API

schemas:

TscAppSessionContextData:

description: Represents an Individual TSC Application Session Context resource.

type: object

required:

- notifUri

- afId

- qosReference

oneOf:

- required: [ueIpAddr]

- required: [ueMac]

properties:

ueIpAddr:

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

ipDomain:

type: string

description: The IPv4 address domain identifier.

ueMac:

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

dnn:

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

snssai:

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

notifUri:

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

appId:

type: string

description: Identifies the Application Identifier.

ethFlowInfo:

type: array

items:

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

minItems: 1

enEthFlowInfo:

type: array

items:

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

minItems: 1

description: >

Identifies the Ethernet flows which require QoS. Each Ethernet flow consists of a flow

identifer and the corresponding UL and/or DL flows.

flowInfo:

type: array

items:

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

minItems: 1

afId:

type: string

description: Identifies the AF identifier.

tscQosReq:

$ref: 'TS29122\_AsSessionWithQoS.yaml#/components/schemas/TscQosRequirement'

qosReference:

type: string

description: Identifies a pre-defined QoS information.

altQosReferences:

type: array

items:

type: string

minItems: 1

description: Identifies an ordered list of pre-defined QoS information.

altQosReqs:

type: array

items:

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

minItems: 1

description: >

Identifies an ordered list of alternative service requirements that include individual

QoS parameter sets. The lower the index of the array for a given entry, the higher the

priority.

aspId:

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

sponId:

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

sponStatus:

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

evSubsc:

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

suppFeat:

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

TscAppSessionContextUpdateData:

description: >

Describes the authorization data of an Individual TSC Application Session Context created by

the PCF.

type: object

properties:

notifUri:

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

appId:

type: string

description: Identifies the Application Identifier.

ethFlowInfo:

type: array

items:

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

minItems: 1

enEthFlowInfo:

type: array

items:

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

minItems: 1

description: >

Identifies the Ethernet flows which require QoS. Each Ethernet flow consists of a flow

identifer and the corresponding UL and/or DL flows.

flowInfo:

type: array

items:

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

minItems: 1

tscQosReq:

$ref: 'TS29122\_AsSessionWithQoS.yaml#/components/schemas/TscQosRequirementRm'

qosReference:

type: string

description: Identifies a pre-defined QoS information.

altQosReferences:

type: array

items:

type: string

minItems: 1

description: Identifies an ordered list of pre-defined QoS information.

altQosReqs:

type: array

items:

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

minItems: 1

description: >

Identifies an ordered list of alternative service requirements that include individual

QoS parameter sets. The lower the index of the array for a given entry, the higher the

priority.

aspId:

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

sponId:

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

sponStatus:

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

evSubsc:

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

EventsSubscReqData:

description: Identifies the events the application subscribes to.

type: object

required:

- events

- notifUri

- notifCorreId

properties:

events:

type: array

items:

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

minItems: 1

notifUri:

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

qosMon:

$ref: 'TS29122\_AsSessionWithQoS.yaml#/components/schemas/QosMonitoringInformation'

usgThres:

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

notifCorreId:

type: string

EventsSubscReqDataRm:

description: >

This data type is defined in the same way as the EventsSubscReqData data type, but with the

OpenAPI nullable property set to true.

type: object

required:

- events

properties:

events:

type: array

items:

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

minItems: 1

notifUri:

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

qosMon:

$ref: 'TS29122\_AsSessionWithQoS.yaml#/components/schemas/QosMonitoringInformationRm'

usgThres:

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

notifCorreId:

type: string

nullable: true

EventsNotification:

description: Describes the notification of matched events.

type: object

required:

- notifCorreId

- events

properties:

notifCorreId:

type: string

events:

type: array

items:

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

minItems: 1

EventNotification:

description: Describes a notification of an matched event.

type: object

required:

- event

properties:

event:

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

flowIds:

type: array

items:

type: integer

minItems: 1

description: Identifies the IP flows that were sent during event subscription.

qosMonReports:

type: array

items:

$ref: 'TS29122\_AsSessionWithQoS.yaml#/components/schemas/QosMonitoringReport'

minItems: 1

usgRep:

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

appliedQosRef:

type: string

description: >

The currently applied alternative QoS requirement referring to an alternative QoS

reference or a requested alternative QoS parameter set. Applicable for

event QOS\_NOT\_GUARANTEED or SUCCESSFUL\_RESOURCES\_ALLOCATION.

#

# ENUMERATIONS DATA TYPES

#

TscEvent:

description: Represents an event to notify to the AF.

anyOf:

- type: string

enum:

- FAILED\_RESOURCES\_ALLOCATION

- QOS\_MONITORING

- QOS\_GUARANTEED

- QOS\_NOT\_GUARANTEED

- SUCCESSFUL\_RESOURCES\_ALLOCATION

- USAGE\_REPORT

- type: string

\*\*\* Next change \*\*\*

# A.4 Ntsctsf\_ASTI API

openapi: 3.0.0

info:

title: Ntsctsf\_ASTI Service API

version: 1.1.0-alpha.1

description: |

TSCTSF Access Stratum time distribution configuration Service.

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externalDocs:

description: >

3GPP TS 29.565 V18.0.0; 5G System; Time Sensitive Communication and

Time Synchronization Function Services; Stage 3.

url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.565/'

servers:

- url: '{apiRoot}/ntsctsf-asti/v1'

variables:

apiRoot:

default: https://example.com

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

security:

- {}

- oAuth2ClientCredentials:

- ntsctsf-asti

paths:

/configurations:

post:

summary: Creates a new Individual ASTI Configuration resource.

operationId: ASTIConfiguration

tags:

- ASTI Configurations (Collection)

requestBody:

description: Contains the information for the creation the resource.

required: true

content:

application/json:

schema:

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

responses:

'201':

description: Successful creation of the resource.

content:

application/json:

schema:

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

headers:

Location:

description: >

Contains the URI of the created individual ASTI Configuration resource,

according to the structure

{apiRoot}/ntsctsf-asti/{apiVersion}/configurations/{configId}

required: true

schema:

type: string

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

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

default:

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

/configurations/retrieve:

post:

summary: Request the status of the 5G access stratum time distribution for a list of UEs.

operationId: RequestStatusof5GAccessStratumTimeDistribution

tags:

- ASTI Configurations

requestBody:

description: >

Contains the information for the status of the 5G access stratum time distribution.

required: true

content:

application/json:

schema:

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

responses:

'200':

description: >

Successful retrieval of the status of the 5G access stratum time distribution.

content:

application/json:

schema:

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

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

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

default:

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

/configurations/{configId}:

put:

summary: Modifies an existing Individual ASTI Configuration resource.

operationId: ModifyIndividualASTIConfiguration

tags:

- Individual ASTI Configuration (Document)

parameters:

- name: configId

description: String identifying an Individual ASTI Configuration.

in: path

required: true

schema:

type: string

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'200':

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

content:

application/json:

schema:

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

'204':

description: No Content. Resource was succesfully modified.

'307':

$ref: 'TS29571\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29571\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

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

default:

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

delete:

operationId: DeleteIndividualASTIConfiguration

summary: Delete an Individual ASTI Configuration

tags:

- Individual ASTI Configuration (Document)

parameters:

- name: configId

in: path

description: String identifying an Individual ASTI Configuration.

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'

'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:

ntsctsf-asti: Access to the Ntsctsf\_ASTI API

schemas:

AccessTimeDistributionData:

description: >

Contains the parameters for the creation of 5G access stratum time distribution

configuration.

type: object

properties:

supis:

type: array

items:

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

minItems: 1

gpsis:

type: array

items:

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

minItems: 1

interGrpId:

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

exterGrpId:

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

asTimeDisParam:

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

suppFeat:

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

required:

- asTimeDisParam

oneOf:

- required: [supis]

- required: [interGrpId]

- required: [gpsis]

- required: [exterGrpId]

AsTimeDistributionParam:

description: Contains the 5G access stratum time distribution parameters.

type: object

properties:

asTimeDisEnabled:

type: boolean

description: >

When this attribute is included and set to true, it indicates that the access stratum

time distribution via Uu reference point is activated.

timeSyncErrBdgt:

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

tempValidity:

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

StatusRequestData:

description: >

Contains the parameters for retrieval of the status of the access stratum time distribution

for a list of UEs.

type: object

properties:

supis:

type: array

items:

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

minItems: 1

gpsis:

type: array

items:

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

minItems: 1

oneOf:

- required: [supis]

- required: [gpsis]

StatusResponseData:

description: >

Contains the parameters for the status of the access stratum time distribution for a list of

UEs.

type: object

properties:

inactiveUes:

type: array

items:

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

minItems: 1

inactiveGpsis:

type: array

items:

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

minItems: 1

activeUes:

type: array

items:

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

minItems: 1

ActiveUe:

description: >

Contains the UE identifier whose status of the access stratum time distribution is active

and the optional requested time synchronization error budget.

type: object

properties:

supi:

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

gpsi:

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

timeSyncErrBdgt:

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

oneOf:

- required: [supi]

- required: [gpsi]

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