**3GPP TSG-CT3 Meeting #121e C3-222157**

**E-Meeting, 6th – 12th April 2022**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.522** | **CR** | **0568** | **rev** | **-** | **Current version:** | **17.5.0** |  |
|  | | | | | | | | |
| *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:*** | Correction to state of configuration | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | IIoT | | | | |  | ***Date:*** | | | 2022-04-12 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | As defined in table 5.2.6.25.5-1 of 23.502, the DS-TT port and NW-TT port indicate the PTP port state separately. And it is also specified the definition of the Active and Inactive. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Define the StateOfConfiguration aligned with stage 2 definition. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Not aligned with stage 2. Misleading proceduring, which may lead to incorrect implementations | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.15.4.1, 5.15.4.3.17, 5.15.4.3.x(new), A.13 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 introduce a backward compatible correction to the OpenAPI file of TimeSyncExposure. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* \* Start of Changes \* \* \* \*

#### 5.15.4.1 General

This subclause specifies the application data model supported by the TimeSyncExposure API.

Table 5.15.4.1-1 specifies the data types defined for the TimeSyncExposure API.

Table 5.15.4.1-1: TimeSyncExposure API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| AccessTimeDistributionData | 5.15.4.3.13 | Contains the parameters for the creation of 5G access stratum time distribution configuration. |  |
| ActiveUe | 5.15.4.3.16 | Contains the UE identifier whose status of the access stratum time distribution is active and the optional requested time synchronization error budget. |  |
| AsTimeResource | 5.15.4.4.8 | Identifies the supported 5G clock quality. |  |
| ConfigForPort | 5.15.4.3.18 | Contains configuration information for each port. |  |
| EventFilter | 5.15.4.3.10 | Contains the filter conditions to match for notifying the event(s) of time synchronization capabilities. |  |
| GmCapable | 5.15.4.4.5 | Identifies the supported grandmaster. |  |
| InstanceType | 5.15.4.4.7 | Identifies supported PTP instance type. |  |
| Protocol | 5.15.4.4.4 | Identifies the supported protocol. |  |
| PtpCapabilitiesPerUe | 5.15.4.3.11 | Contains the supported PTP capabilities per UE. |  |
| PtpInstance | 5.15.4.3.12 | Contains PTP instance configuration and activation information requested by the AF. |  |
| StageOfConfiguration | 5.15.4.3.17 | Contains the PTP port state of the time synchronization configuration. |  |
| StateOfDstt | 5.15.4.3.x | Contains the PTP port state of a DS-TT |  |
| StatusRequestData | 5.15.4.3.14 | Contains the parameters for retrieval of the status of the access stratum time distribution for a list of UEs. |  |
| StatusResponseData | 5.15.4.3.15 | Contains the parameters for the status of the access stratum time distribution for a list of UEs. |  |
| SubscribedEvent | 5.15.4.4.6 | Identifies the supported event. |  |
| SubsEventNotification | 5.15.4.3.8 | Represents the notification about a subscribed Individual Event. |  |
| TimeSyncCapability | 5.15.4.3.3 | Contains the time synchronization capability. |  |
| TimeSyncExposureConfig | 5.15.4.3.6 | Contains the Time Synchronization Configuration parameters. |  |
| TimeSyncExposureConfigNotif | 5.15.4.3.9 | Contains the notification of time synchronization service state. |  |
| TimeSyncExposureSubsc | 5.15.4.3.2 | Contains the requested parameters for the subscription to time synchronization capability notifications. |  |
| TimeSyncExposureSubsNotif | 5.15.4.3.7 | Contains the notification of time synchronization capability. |  |

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

##### 5.15.4.3.17 Type: StateOfConfiguration

Table 5.15.4.3.17-1: Definition of type StateOfConfiguration

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| stateOfNwtt | boolean | O | 0..1 | When it is included and set to true, it indicates the state of configuration for NW-TT port is active. When it is included and set to false, it indicates the state of configuration for NW-TT port is inactive. Default value is false. |  |
| stateOfDstts | array(SateOfDstt) | O | 1..N | Contains the PTP port states of the DS-TT(s). |  |

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

##### 5.15.4.3.x Type: StateOfDstt

Table 5.15.4.3.x -1: Definition of type StateOfDstt

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| gpsi | Gpsi | M | 1 | Identifies the UE/DS-TT which the parameters below apply. |  |
| state | boolean | M | 1 | When it is included and set to true, it indicates the state of configuration for DS-TT port is active. When it is included and set to false, it indicates the state of configuration for DS-TT port is inactive. Default value is false. |  |

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

# A.13 TimeSyncExposure API

openapi: 3.0.0

info:

title: 3gpp-time-sync-exposure

version: 1.0.0-alpha.4

description: |

API for time synchronization exposure.

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externalDocs:

description: >

3GPP TS 29.522 V17.5.0; 5G System; Network Exposure Function Northbound APIs.

url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.522/'

security:

- {}

- oAuth2ClientCredentials: []

servers:

- url: '{apiRoot}/3gpp-time-sync/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in subclause 5.2.4 of 3GPP TS 29.122.

paths:

/{afId}/subscriptions:

get:

summary: read all of the active subscriptions for the AF

tags:

- Time Synchronization Exposure Subscriptions

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

responses:

'200':

description: OK (Successful get all of the active subscriptions for the AF)

content:

application/json:

schema:

type: array

items:

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

minItems: 0

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

post:

summary: Creates a new subscription resource

tags:

- Time Synchronization Exposure Subscriptions

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

requestBody:

description: new subscription creation

required: true

content:

application/json:

schema:

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

responses:

'201':

description: Created (Successful creation)

content:

application/json:

schema:

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

headers:

Location:

description: 'Contains the URI of the newly created resource'

required: true

schema:

type: string

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

callbacks:

timeSyncSubsNotification:

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

post:

requestBody:

description: Notification for Time Synchronization Capability for a list of UEs.

required: true

content:

application/json:

schema:

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

responses:

'204':

description: Expected response to a successful callback processing without a body

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/{afId}/subscriptions/{subscriptionId}:

get:

summary: read an active subscription for the AF and the subscription Id

tags:

- Individual Time Synchronization Exposure Subscription

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of the subscription resource

required: true

schema:

type: string

responses:

'200':

description: OK (Successful get the active subscription)

content:

application/json:

schema:

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

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

delete:

summary: Deletes an already existing subscription

tags:

- Individual Time Synchronization Exposure Subscription

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of the subscription resource

required: true

schema:

type: string

responses:

'204':

description: No Content (Successful deletion of the existing subscription)

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/{afId}/subscriptions/{subscriptionId}/configurations:

get:

summary: read all of the active configurations for the AF

tags:

- Time Synchronization Exposure Configurations

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

- name: subscriptionId

description: String identifying the individual synchronization Exposure Subscription resource in the NEF

in: path

required: true

schema:

type: string

responses:

'200':

description: OK (Successful get all of the active configurations for the AF)

content:

application/json:

schema:

type: array

items:

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

minItems: 0

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

post:

summary: Creates a new configuration resource

tags:

- Time Synchronization Exposure Configurations

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

- name: subscriptionId

description: >

String identifying the individual synchronization Exposure Subscription

resource in the NEF.

in: path

required: true

schema:

type: string

requestBody:

description: new configuration creation

required: true

content:

application/json:

schema:

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

responses:

'201':

description: Created (Successful creation)

content:

application/json:

schema:

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

headers:

Location:

description: 'Contains the URI of the newly created resource'

required: true

schema:

type: string

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

callbacks:

timeSyncConfigNotification:

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

post:

requestBody:

description: Notification for Time Synchronization Service status.

required: true

content:

application/json:

schema:

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

responses:

'204':

description: Expected response to a successful callback processing without a body

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

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$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

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$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

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$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/{afId}/subscriptions/{subscriptionId}/configurations/{instanceReference}:

get:

summary: read an active subscription for the AF and the subscription Id

tags:

- Individual Time Synchronization Exposure Subscription

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of the subscription resource

required: true

schema:

type: string

- name: instanceReference

in: path

description: Identifier of the configuration resource

required: true

schema:

type: string

responses:

'200':

description: OK (Successful get the active subscription)

content:

application/json:

schema:

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

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

put:

summary: Updates/replaces an existing configuration resource

tags:

- Individual Time Synchronization Exposure Configuration

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of the subscription resource

required: true

schema:

type: string

- name: instanceReference

in: path

description: Identifier of the configuration resource

required: true

schema:

type: string

requestBody:

description: Parameters to update/replace the existing configuration

required: true

content:

application/json:

schema:

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

responses:

'200':

description: OK (Successful deletion of the existing configuration)

content:

application/json:

schema:

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

'204':

description: >

Successful case. The resource has been successfully updated and no additional

content is to be sent in the response message.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

delete:

summary: Deletes an already existing configuration

tags:

- Individual Time Synchronization Exposure Configuration

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of the subscription resource

required: true

schema:

type: string

- name: instanceReference

in: path

description: Identifier of the configuration resource

required: true

schema:

type: string

responses:

'204':

description: No Content (Successful deletion of the existing configuration)

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/{afId}/asti-configurations:

get:

summary: read all of the active configuration of 5G access stratum time distribution for the AF

tags:

- ASTI Configurations

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

responses:

'200':

description: OK (Successful get all of the active configurations for the AF)

content:

application/json:

schema:

type: array

items:

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

minItems: 0

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

post:

summary: Creates a new configuration resource

tags:

- ASTI Configurations

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

requestBody:

description: new configuration creation

required: true

content:

application/json:

schema:

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

responses:

'201':

description: Created (Successful creation)

content:

application/json:

schema:

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

headers:

Location:

description: 'Contains the URI of the newly created resource'

required: true

schema:

type: string

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/{afId}/asti-configurations/retrieve:

post:

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

tags:

- ASTI Configurations Retrieve (Document)

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

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/404'

'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'

/{afId}/asti-configurations/{astiConfigId}:

get:

summary: read an active configuration for the AF and the configuration Id

tags:

- Individual ASTI Configuration

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

- name: astiConfigId

in: path

description: Identifier of the configuration resource

required: true

schema:

type: string

responses:

'200':

description: OK (Successful get the active configuration)

content:

application/json:

schema:

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

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

delete:

summary: Deletes an already existing configuration

tags:

- Individual ASTI Configuration

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

- name: astiConfigId

in: path

description: Identifier of the configuration resource

required: true

schema:

type: string

responses:

'204':

description: No Content (Successful deletion of the existing configuration)

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{tokenUrl}'

scopes: {}

schemas:

TimeSyncExposureSubsc:

description: >

Contains requested parameters for the subscription to the notification

of time synchronization capability.

type: object

properties:

exterGroupId:

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

gpsis:

type: array

items:

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

minItems: 1

description: >

Contains a list of UE for which the time synchronization capabilities is requested.

anyUeInd:

type: boolean

description: >

Any UE indication. This IE shall be present if the event subscription

is applicable to any UE. Default value "false" is used, if not present.

afServiceId:

type: string

description: Identifies a service on behalf of which the AF is issuing the request.

dnn:

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

snssai:

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

subsNotifId:

type: string

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

subsNotifUri:

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

subscribedEvents:

type: array

items:

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

minItems: 1

description: Subscribed events

eventFilters:

type: array

items:

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

minItems: 1

description: >

Contains the filter conditions to match for notifying the event(s)

of time synchronization capabilities for a list of UE(s).

notifMethod:

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

maxReportNbr:

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

expiry:

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

repPeriod:

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

requestTestNotification:

type: boolean

description: >

Set to true by the SCS/AS to request the SCEF to send a test notification

as defined in subclause 5.2.5.3 of 3GPP TS 29.122. Set to false or omitted otherwise.

websockNotifConfig:

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

suppFeat:

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

required:

- subsNotifUri

- subsNotifId

TimeSyncCapability:

description: Contains time synchronization capability.

type: object

properties:

upNodeId:

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

gmCapables:

type: array

items:

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

asTimeRes:

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

ptpCapForUes:

type: object

additionalProperties:

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

minProperties: 1

description: >

Contains the PTP capabilities supported by each of the UE(s).

The key of the map is the gpsi.

required:

- upNodeId

anyOf:

- required: [gmCapables]

- required: [asTimeRes]

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'

uuErrorBudget:

$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

TimeSyncExposureSubsNotif:

description: Contains the notification of time synchronization capability.

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

required:

- subsNotifId

- eventNotifs

SubsEventNotification:

description: Notifications about subscribed Individual Events.

type: object

properties:

event:

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

timeSyncCapas:

type: array

items:

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

minItems: 1

required:

- event

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

PtpCapabilitiesPerUe:

description: Contains the supported PTP capabilities per UE.

type: object

properties:

gpsi:

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

ptpCaps:

type: array

items:

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

minItems: 1

required:

- gpsi

- ptpCaps

EventFilter:

description: >

Contains the filter conditions to match for notifying the event(s) of time

synchronization capabilities.

type: object

properties:

instanceTypes:

type: array

items:

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

minItems: 1

transProtocols:

type: array

items:

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

minItems: 1

ptpProfiles:

type: array

items:

type: string

minItems: 1

PtpInstance:

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

type: object

properties:

instanceType:

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

protocol:

$ref: '#/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:

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

StateOfConfiguration:

description: Contains the state of the time synchronization configuration.

type: object

properties:

stateOfNwtt:

type: boolean

description: >

When it is included and set to true, it indicates the state of configuration for NW-TT

port is active. When it is included and set to false, it indicates 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:

gpsi:

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

state:

type: boolean

description: >

When it is included and set to true, it indicates the state of configuration for DS-TT

port is active. When it is included and set to false, it indicates the state of

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

required:

- gpsi

- state

Protocol:

anyOf:

- type: string

enum:

- ETH

- IPV4

- IPV6

- type: string

description: >

This string identifies supported protocol.

description: |

Possible values are:

- ETH: Indicates Ethernet as defined in IEEE Std 1588 [45] Annex E is supported.

- IPV4: Indicates IPv4 as defined in IEEE Std 1588 [45] Annex C is supported.

- IPV6: Indicates IPv6 as defined in IEEE Std 1588 [45] Annex D is supported.

AccessTimeDistributionData:

description: Contains the parameters for the creation of 5G access stratum time distribution configuration..

type: object

properties:

gpsis:

type: array

items:

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

minItems: 1

exterGroupId:

$ref: 'TS29122\_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".

dnn:

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

snssai:

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

asTimeDisParam:

$ref: 'TS29565\_Ntsctsf\_TimeSynchronization.yaml#/components/schemas/AsTimeDistributionParam'

suppFeat:

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

required:

- asTimeDisParam

oneOf:

- required: [gpsis]

- required: [interGrpId]

- required: [anyUeInd]

StatusRequestData:

description: Contains the parameters for retrieval of the status of the access stratum time distribution for a list of UEs.

type: object

properties:

gpsis:

type: array

items:

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

minItems: 1

dnn:

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

snssai:

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

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/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:

gpsi:

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

timeSyncErrBdgt:

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

GmCapable:

anyOf:

- type: string

enum:

- GPTP

- PTP

- type: string

description: >

This string identifies supported grandmaster.

description: |

Possible values are:

- GPTP: gPTP grandmaster is supported.

- PTP: PTP grandmaste is supported.

InstanceType:

anyOf:

- type: string

enum:

- BOUNDARY\_CLOCK

- E2E\_TRANS\_CLOCK

- P2P\_TRANS\_CLOCK

- P2P\_RELAY\_INSTANCE

- type: string

description: >

This string identifies supported PTP instance type.

description: |

Possible values are:

- BOUNDARY\_CLOCK: Indicates Boundary Clock as defined in IEEE Std 1588.

- E2E\_TRANS\_CLOCK: Indicates End-to-End Transparent Clock as defined in IEEE Std 1588.

- P2P\_TRANS\_CLOCK: Indicates Peer-to-Peer Transparent Clock as defined in IEEE Std 1588.

- P2P\_RELAY\_INSTANCE: Indicates PTP Relay instance as defined in IEEE Std 802.1AS.

SubscribedEvent:

anyOf:

- type: string

enum:

- AVAILABILITY\_FOR\_TIME\_SYNC\_SERVICE

- type: string

description: >

This string identifies supported event.

description: |

Possible values are:

- AVAILABILITY\_FOR\_TIME\_SYNC\_SERVICE: The UE is availability for time synchronization service.

AsTimeResource:

anyOf:

- type: string

enum:

- ATOMIC\_CLOCK

- GNSS

- TERRESTRIAL\_RADIO

- SERIAL\_TIME\_CODE

- PTP

- NTP

- HAND\_SET

- INTERNAL\_OSCILLATOR

- OTHER

- type: string

description: >

This string identifies the supported 5G clock quality.

description: |

Possible values are:

- ATOMIC\_CLOCK: Indicates atomic clock is supported.

- GNSS: Indicates Global Navigation Satellite System is supported.

- TERRESTRIAL\_RADIO: Indicates terrestrial radio is supported.

- SERIAL\_TIME\_CODE: Indicates serial time code is supported.

- PTP: Indicates PTP is supported.

- NTP: Indicates NTP is supported.

- HAND\_SET: Indicates hand set is supported.

- INTERNAL\_OSCILLATOR: Indicates internal oscillator is supported.

- OTHER: Indicates other source of time is supported.

\* \* \* \* End of change \* \* \* \*