**3GPP TSG-CT3 Meeting #122e C3-223111**

**E-Meeting, 12th – 20th May 2022 *(revision of C3-222421)***

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **29.522** | **CR** | **0568** | **rev** | **2** | **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:*** | 2022-05-20 |
|  |  |  |  |  |
| ***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 canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-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.S2-2203237 clarify that PTP port state is active when PTP port state is Leader, Follower or Passive; in any other case state, PTP port state is 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  | TS23.502 ... CR#3448 |
| ***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:*** | C3-222421 agreed in CT3#121e meeting is revised to:Clarify that PTP port state is active when PTP port state is Leader, Follower or Passive; in any other case state, PTP port state is inactive. |

\* \* \* \* 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 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. (NOTE) |  |
| stateOfDstts | array(SateOfDstt) | O | 1..N | Contains the PTP port states of the DS-TT(s). |  |
| NOTE: Leader and Follower terms in this specification are aligned with NOTE 2 in clause 5.27.1.2.2.1 of TS 23.501 [3]. |

\* \* \* \* 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 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. |  |
| NOTE: Leader and Follower terms in this specification are aligned with NOTE 2 in clause 5.27.1.2.2.1 of TS 23.501 [3]. |

\* \* \* \* 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'

 '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}/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 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:

 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 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 \* \* \* \*