**3GPP TSG CT WG3 134 C3-242233\_R1**

**Changsha, China, 15 - 19 April, 2024**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.522** | **CR** | **1239** | **rev** | **-** | **Current version:** | **18.5.0** |  |
|  | | | | | | | | |
| *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:*** | Redirection of Time Synchronization Configuration Creation | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NBI18 | | | | |  | ***Date:*** | | | 2024-03-24 |
|  |  | | | |  | |  | | |  |
| ***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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19) Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | This creation of a time synchronization service configuration is performed over a subset of UEs reported during the UE exposure capability procedure for a given subscription, that is, the target of time synchronization configuration creation request is an existing Individual Time Synchronization Exposure Subscription resource. 5.15.1.4.2 Resource Definition Resource URI: **{apiRoot}/3gpp-time-sync/v1/{afId}/subscriptions/{subscriptionId}/configurations**  Therefore, the configuration creation request may need redirection to the server where the Individual Time Synchronization Exposure Subscription resource may have been moved (as it occurs with the PUT or GET operations over the Individual Time Synchronization Exposure Subscription resource) (please, see TS 29.565, clause 6.1.3.4.3.1). | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Definition of 307 and 308 redirection codes | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | It is not specified the support of redirection for the configuration request | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.15.1.4.3.3, 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 impacts the TimeSyncExposure API OpenAPI specification with a backwards compatible correction. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

###### 5.15.1.4.3.3 POST

The POST method creates a new configuration resource to activate time synchronization service for a given AF. The AF shall initiate the HTTP POST request message and the NEF shall respond to the message. The NEF shall construct the URI of the created resource.

This method shall support the request data structures specified in table 5.15.1.4.3.3-1 and the response data structures and response codes specified in table 5.15.1.4.3.3-2.

Table 5.15.1.4.3.3-1: Data structures supported by the POSTRequest Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| TimeSyncExposureConfig | M | 1 | Parameters to create a configuration and to activate time synchronization service. |

Table 5.15.1.2.4.3-2: Data structures supported by thePOST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| TimeSyncExposureConfig | M | 1 | 201 Created | The subscription was created successfully.  The URI of the created resource shall be returned in the "Location" HTTP header. |
| N/A |  |  | 307 Temporary Redirect | Temporary redirection, during configuration creation. The Individual Time Synchronization Exposure Subscription resource holding the Time Synchronization Exposure Configurations resource collection is located in an alternative NEF.  The response shall include a Location header field containing an alternative URI of the resource located in an alternative NEF.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| N/A |  |  | 308 Permanent Redirect | Permanent redirection, during configuration creation. The Individual Time Synchronization Exposure Subscription resource holding the Time Synchronization Exposure Configurations resource collection is located in an alternative NEF.  The response shall include a Location header field containing an alternative URI of the resource located in an alternative NEF.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] also apply. | | | | |

Table 5.15.1.4.3.3-3: Headers supported by the 201 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains the URI of the newly created resource, according to the structure: {apiRoot}/3gpp-time-sync/v1/{afId}/subscriptions/{subscriptionId}/configurations/{instanceReference} |

Table 5.15.1.4.3.3-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the Time Synchronization Exposure Configurations resource collection located in an alternative NEF. |

Table 5.15.1.4.3.3-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the Time Synchronization Exposure Configurations resource collection located in an alternative NEF. |

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

# A.13 TimeSyncExposure API

openapi: 3.0.0

info:

title: 3gpp-time-sync-exposure

version: 1.1.0-alpha.6

description: |

API for time synchronization exposure.

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externalDocs:

description: >

3GPP TS 29.522 V18.5.0; 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 clause 5.2.4 of 3GPP TS 29.122.

paths:

/{afId}/subscriptions:

get:

summary: read all of the active subscriptions for the AF

operationId: ReadAllSubscriptions

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

operationId: CreateNewSubscription

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

operationId: ReadAnSubscription

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'

put:

summary: Fully updates/replaces an existing subscription resource

operationId: FullyUpdateAnSubscription

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

requestBody:

description: Parameters to update/replace the existing subscription

required: true

content:

application/json:

schema:

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

responses:

'200':

description: OK (Successful deletion of the existing subscription)

content:

application/json:

schema:

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

'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 subscription

operationId: DeleteAnSubscription

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

operationId: ReadAllConfirguations

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

operationId: CreateNewConfirguation

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

'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'

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

operationId: ReadTimeSynSubscription

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: Fully updates/replaces an existing configuration resource

operationId: FullyUpdateAnConfiguration

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

operationId: DeleteAnConfiguration

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'

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: 'TS29122\_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: 'TS29122\_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 clause 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

oneOf:

- required: [gpsis]

- required: [anyUeInd]

- required: [externalGroupId]

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'

description: >

Indicates whether user plane node supports acting as a gPTP and/or PTP grandmaster.

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'

timeSyncErrBdgt:

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

configNotifId:

type: string

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

configNotifUri:

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

tempValidity:

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

coverageArea:

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

clkQltDetLvl:

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

clkQltAcptCri:

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

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

description: >

Notifications about subscribed Individual Events.

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

description: >

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

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

description: >

Contains the reported PTP capabilities for the UE.

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

description: >

Indicates the PTP instance type(s).

transProtocols:

type: array

items:

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

minItems: 1

description: >

Indicates the transport protocol type(s).

ptpProfiles:

type: array

items:

type: string

minItems: 1

description: >

Identifies the supported PTP profiles.

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

description: Identifies the PTP profile.

portConfigs:

type: array

items:

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

minItems: 1

description: >

Contains the configurations for the PTP port(s) in the PTP instance.

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

description: >

Indicates the N6 termination which the parameters below apply.

ptpEnable:

type: boolean

description: >

This is used to set the portDS.portEnable. If omitted, the default value as described

in the PTP Profile is used.

logSyncInter:

type: integer

description: >

Specifies the mean time interval between successive Sync messages.

logSyncInterInd:

type: boolean

description: >

When set to "false", the value of "logSyncInter" attribute is used to set the

initialLogSyncInterval as described in IEEE Std 802.1AS [46]. When set to "true",

the value of "logSyncInter" attribute is used to set the mgtSettableLogSyncInterval

as described in IEEE Std 802.1AS [46].

logAnnouInter:

type: integer

description: >

Specifies the mean time interval between successive Announce messages.

logAnnouInterInd:

type: boolean

description: >

When set to "false", the value of "logAnnouInter" attribute is used to set the

initialLogAnnounceInterval as described in IEEE 802.1AS [46]. When set to "true",

the value of "logAnnouInter" attribute is used to set the

mgtSettableLogAnnounceInterval as described in IEEE Std 802.1AS [46].

oneOf:

- required: [gpsi]

- required: [n6Ind]

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.

clkQltIndOfNwtt:

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

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.

clkQltIndOfDstt:

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

required:

- gpsi

- state

Protocol:

anyOf:

- type: string

enum:

- ETH

- IPV4

- IPV6

- type: string

description: >

This string provides forward-compatibility with future extensions to the enumeration

and is not used to encode content defined in the present version of this API.

description: |

Identifies the supported protocol.

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.

GmCapable:

anyOf:

- type: string

enum:

- GPTP

- PTP

- type: string

description: >

This string provides forward-compatibility with future extensions to the enumeration

and is not used to encode content defined in the present version of this API.

description: |

Identifies the supported grandmaster.

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 provides forward-compatibility with future extensions to the enumeration

and is not used to encode content defined in the present version of this API.

description: |

Identifies the supported PTP instance type.

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 provides forward-compatibility with future extensions to the enumeration

and is not used to encode content defined in the present version of this API.

description: |

Identifies the supported event.

Possible values are:

- AVAILABILITY\_FOR\_TIME\_SYNC\_SERVICE: 5GS and/or UE availability and capability 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 provides forward-compatibility with future extensions to the enumeration

and is not used to encode content defined in the present version of this API.

description: |

Identifies the supported 5G clock quality.

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.

AcceptanceCriteriaResultIndication:

anyOf:

- type: string

enum:

- ACCEPTABLE

- NON\_ACCEPTABLE

- type: string

description: >

Contains the acceptable/not acceptable indication of the clock quality acceptance criteria

result information.

description: |

Identifies the supported acceptable / not acceptable indication.

Possible values are:

- ACCEPTABLE: PTP port in (g)PTP service meets the clock quality acceptance criteria.

- NON\_ACCEPTABLE: PTP port in (g)PTP service does not meet the clock quality acceptance

criteria.

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