**3GPP TSG-CT3 Meeting #119bis-e *C3-220161***

**E-Meeting, 17th – 21st January 2022 (Revision of C3-22xxxx)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.522** | **CR** | 0488 | **rev** | **-** | **Current version:** | **17.4.0** |  |
|  | | | | | | | | |
| *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:*** | State of time synchronization Configuration | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | IIoT | | | | |  | ***Date:*** | | | 2022-01-21 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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 clause 4.15.9.3.2 of 23.502,   1. The TSCTSF constructs PMIC(s) and UMIC to NW-TT to activate the time synchronization service in NW-TT in respect to the service parameters 2. Upon reception of responses from each DS-TT and NW-TT, the TSCTSF determines the state of the time synchronization configuration. 3. The TSCTSF constructs a PMIC to each DS-TT/UE to subscribe for the port management information changes in the DS-TT. The TSCTSF constructs PMIC(s) and UMIC to NW-TT to subscribe for the port management and user-plane management information changes in NW-TT. 4. The TSCTSF notifies the NEF (or AF) with the Ntsctsf\_TimeSynchronization\_ConfigUpdateNotify service operation, containing the time synchronization configuration Id and the current state of the time synchronization service configuration. 5. The NEF notifies the AF with the Ntsctsf\_TimeSynchronization\_ConfigUpdateNotify service operation, containing the time synchronization configuration Id and the current state of the time synchronization service configuration. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | NEF reports the state of configurations to the AF. If NW-TT port and all of the DS-TTs are active, then the state of configuration is active; else if the NW-TT or at least one the DS-TT is inactive, then the state of configuration is inactive. And the inactve NW-TT port and inactive DS-TT ports are reported. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The state of configuration can’t be reported | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.15.4.3.9, 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 introduces backward compatible feature to the OpenAPI file of TimeSyncExposure API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

\*\*\* 1st Change \*\*\*

##### 5.15.4.3.9 Type: TimeSyncExposureConfigNotif

Table 5.15.4.3.9-1: Definition of type TimeSyncExposureConfigNotif

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| configNotifId | string | M | 1 | Notification Correlation ID assigned by the NF service consumer. |  |
| stateOfConfig | StageOfConfiguration | M | 1 | Indicates the current state of time synchroniztion service configuration |  |

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

##### 5.15.4.3.x Type: StageOfConfiguration

Table 5.15.4.3.x-1: Definition of type TimeSyncExposureConfigNotif

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| state | boolean | M | 1 | When it is set to true, it indicates the states of configurations for NW-TT port and all DS-TT port are active.  When it is set to false, it indicates the state of configurations for NW-TT port or at least one of the DS-TT port are inactive. |  |
| inactiveNwtt | boolean | C | 0..1 | When it is included and set to true, it indicates the state of configuration for NW-TT port is inactive. It may be included when the "state" attribute is set to false. Default value is false. |  |
| inactiveDstts | array(Gpsi) | C | 1..N | Contains the UE identities. The states of configurations for DS-TT ports corresponding to these UEs are inactive. It may be included when the "state" attribute is set to false. |  |

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

# A.13 TimeSyncExposure API

openapi: 3.0.0

info:

title: 3gpp-time-sync-exposure

version: 1.0.0-alpha.3

description: |

API for time synchronization exposure.

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externalDocs:

description: 3GPP TS 29.522 V17.4.0; 5G System; Network Exposure Function Northbound APIs.

url: 'http://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'

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

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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'

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

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

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$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:

gpsis:

type: array

items:

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

minItems: 1

description: Contains a list of UEs associated with the user plane node.

upNodeId:

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

gmCapables:

type: array

items:

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

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

- ptpCapForUes

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'

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/StageOfConfiguration'

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

required:

- instanceType

- protocol

- ptpProfile

StageOfConfiguration:

description: Contains the state of the time synchronization configuration.

type: object

properties:

state:

type: boolean

description: When it is set to true, it indicates the states of configurations for NW-TT port and all DS-TT port are active. When it is set to false, it indicates the state of configurations for NW-TT port or at least one of the DS-TT port are inactive

inactiveNwtt:

type: boolean

description: When it is included and set to true, it indicates the state of configuration for NW-TT port is inactive. It may be included when the "state" attribute is set to false. Default value is false.

inactiveDstts:

description: Contains the UE identities. The states of configurations for DS-TT ports corresponding to these UEs are inactive. It may be included when the "state" attribute is set to false.

type: array

items:

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

minItems: 1

required:

- 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.

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.

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