**TSG-CT WG3 Meeting #119bis-e *C3-220171***

**E-Meeting, 17th – 21th January 2022**

**Source: Huawei**

**Title: Support of configuration of PTP port**

**Spec: 3GPP TS 29.565 v1.0.0**

**Agenda item: 17.16**

**Document for: Decision**

**1. Introduction**

<Introduction part (optional)>

**2. Reason for Change**

As defined in Table 4.15.9.3-1 of 23.502, the AF may provide the configuration for each port within the PTP instance.

**3. Conclusions**

Introduce the Add “portConfigs” attribute in the PtpInstance. Define the ConfigForPort data type.

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 29.565.

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

#### 6.1.6.1 General

This clause specifies the application data model supported by the API.

Table 6.1.6.1-1 specifies the data types defined for the Ntsctsf\_TimeSynchronization service based interface protocol.

Table 6.1.6.1-1: Ntsctsf\_TimeSynchronization specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| AccessTimeDistributionData | 6.1.6.1.7 | Contains the parameters for the creation of 5G access stratum time distribution configuration. |  |
| AsTimeDistributionParam | 6.1.6.1.8 | Contains the 5G access stratum time distribution parameters. |  |
| ActiveUe | 6.1.6.2.11 | Contains the UE identifier whose status of the access stratum time distribution is active and the optional requested time synchronization error budget. |  |
| ConfigForPort | 6.1.6.2.x3 | Contains the configuration for a port. |  |
| PtpCapabilitiesPerUe | 6.1.6.2.6 | Contains the PTP capabilities supported by a UE. |  |
| PtpInstance | 6.1.6.2.x2 | Contains the PTP Instance. |  |
| TimeSyncExposureSubsc | 6.1.6.2.2 | Contains the parameters for the subscription to notification of capability of time synchronization service |  |
| TimeSyncCapability | 6.1.6.2.5 | Contains the capability of time synchronization service |  |
| TimeSyncExposureConfig | 6.1.6.2.x1 | Contains the configuration of time synchronization service |  |
| TimeSyncExposureSubsNotif | 6.1.6.2.3 | Contains the notification of time synchronization service. |  |
| StatusRequestData | 6.1.6.2.9 | Contains the parameters for retrieval of the status of the access stratum time distribution for a list of UEs. |  |
| StatusResponseData | 6.1.6.2.10 | Contains the parameters for the status of the access stratum time distribution for a list of UEs. |  |
| SubsEventNotification | 6.1.6.2.4 | Contains the notification of capability of time synchronization for a list of UEs. |  |

Table 6.1.6.1-2 specifies data types re-used by the Ntsctsf\_TimeSynchronization service based interface protocol from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the Ntsctsf\_TimeSynchronization service based interface.

Table 6.1.6.1-2: Ntsctsf\_TimeSynchronization re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| DateTime | 3GPP TS 29.571 [15] | String with format "date-time" as defined in OpenAPI Specification [6]. |  |
| DistributionMethod | 3GPP TS 29.522 [17] | Identifies the time synchronization distribution methods supported by 5GS. |  |
| Dnn | 3GPP TS 29.571 [15] | The DNN the user is connected to. |  |
| DurationSec | 3GPP TS 29.571 [15] | Identifies a period of time in units of seconds. |  |
| EventFilter | 3GPP TS 29.522 [17] | Contains the conditions to match for notifying the event. |  |
| GmCapable | 3GPP TS 29.522 [17] | Indicates separately whether 5GS supports acting as a gPTP or PTP grandmaster. |  |
| GroupId | 3GPP TS 29.571 [15] | Identifies a group of internal globally unique ID. |  |
| Snssai | 3GPP TS 29.571 [15] | Identifies the S-NSSAI. |  |
| SubscribedEvent | 3GPP TS 29.522 [17] | Indicates the subscribed event. |  |
| Supi | 3GPP TS 29.571 [15] | The identification of the user (i.e. IMSI, NAI). |  |
| SupportedFeatures | 3GPP TS 29.571 [15] | Used to negotiate the applicability of the optional features defined in table 5.8-1. |  |
| TimeSyncExposureConfig | 3GPP TS 29.522 [17] | Contains the parameters of time synchronization configuration. |  |
| Uinteger | 3GPP TS 29.571 [15] | Unsigned integer. |  |
| Uint64 | 3GPP TS 29.571 [15] |  |  |
| Uri | 3GPP TS 29.571 [15] | Identifies a referenced resource. |  |

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

##### 5.15.4.3.x1 Type: TimeSyncExposureConfig

Table 5.15.4.3.x1-1: Definition of type TimeSyncExposureConfig

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| upNodeId | Uint64 | M | 1 | Identifies the applicable NW-TT. Contains a TSC user plane node Id. If integrated with TSN, the user plane node Id is a bridge Id defined in IEEE 802.1Q [41] clause 14.2.5. |  |
| reqPtpIns | PtpInstance | M | 1 | Identifies the PtP instance configuration and activation requested by the AF. |  |
| gmEnable | boolean | C | 0..1 | Indicates that the AF requests 5GS to act as a grandmaster for PTP or gPTP if it is included and set to true. The default value "false" shall apply, if the attribute is not present. |  |
| gmPrio | Uinteger | C | 0..1 | Indicates a priority used as defaultDS.priority1 when generating Announce message when 5GS acts as (g)PTP GM. It may be present if the "gmEnable" is set to true. |  |
| timeDom | Uinteger | M | 1 | Indicate the (g)PTP domain that the (TSN)AF is located in. |  |
| timeSyncErrBdgt | Uinteger | O | 0..1 | Indicates the time synchronization budget for the time synchronization service in units of microseconds.  Minimum = 1. |  |
| tempValidity | TemporalValidity | O | 0..1 | Indicates the time period when the time synchronization service for a PTP instance is active. |  |
| configNotifUri | Uri | M | 1 | Notification URI for configuration state reporting. |  |
| configNotifId | string | M | 1 | Notification Correlation ID assigned by the NF service consumer. |  |

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

##### 5.15.4.3.x2 Type: PtpInstance

Table 5.15.4.3.x2-1: Definition of type PtpInstance

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| instanceType | InstanceType | M | 1 | Indicates the PTP instance type. |  |
| protocol | Protocol | M | 1 | Indicates the protocol type. |  |
| ptpProfile | string | M | 1 | Identifies the PTP profile. |  |
| portConfigs | arrary(ConfigForPort) | O | 1..N | Contains the configurations for the PTP port(s) in the PTP instance. |  |

##### 5.15.4.3.x3 Type: ConfigForPort

Table 5.15.4.3.x3-1: Definition of type ConfigForPort

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| supi | supi | C | 0..1 | Identifies the UE/DS-TT which the parameters below apply. |  |
| n6Ind | boolean | C | 0..1 | Indicates the N6 termination which the parameters below apply. |  |
| ptpEnable | boolean | O | 0..1 | This is used to set the portDS.portEnable. If omitted, the default value as described in the PTP Profile is used |  |
| logSyncInter | integer | O | 0..1 | Specifies the mean time interval between successive Sync messages. This is applicable for IEEE Std 1588 [45] Boundary Clock or IEEE Std 802.1AS [46] operation. If omitted, the default value as described in the PTP Profile is used. |  |
| logSyncInterInd | boolean | O | 0..1 | 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].  If omitted, the default value as described in the IEEE Std 802.1AS [46] is used. |  |
| logAnnouInter | integer | O | 0..1 | Specifies the mean time interval between successive Announce messages. This is applicable for IEEE Std 1588 [45] Boundary Clock or IEEE Std 802.1AS [46] operation. If omitted, the default value as described in the PTP Profile is used. |  |
| logAnnouInterInd | boolean | O | 0..1 | 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].  If omitted, the default value as described in the IEEE Std 802.1AS [46 is used. |  |
| NOTE: Either "supi" or "n6Ind" attribute shall be included. | | | | | |

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

## A.2 Ntsctsf\_TimeSynchronization API

openapi: 3.0.0

info:

title: Ntsctsf\_TimeSynchronization Service API

version: 1.0.0-alpha.1

description: |

TSCTSF Time Synchronization Service.

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externalDocs:

description: 3GPP TS 29.565 V1.0.0; 5G System; Time Sensitive Communication and Time Synchronization Function Services; Stage 3.

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

#

servers:

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

variables:

apiRoot:

default: https://example.com

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

security:

- {}

- oAuth2ClientCredentials:

- ntsctsf-timesynchronization

paths:

/subscriptions:

post:

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

operationId: TimeSynchronizationExposureSubscriptions

tags:

- Time Synchronization Exposure Subscriptions (Collection)

requestBody:

description: Contains the information for the creation the resource

required: true

content:

application/json:

schema:

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

responses:

'201':

description: Successful creation of the resource

content:

application/json:

schema:

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

headers:

Location:

description: 'Contains the URI of the created individual time synchronization exposure subscription resource, according to the structure: {apiRoot}/ntsctsf-time-sync/{apiVersion}/subscriptions/{subscriptionId}'

required: true

schema:

type: string

'400':

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

'401':

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

'403':

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

callbacks:

subsEventNotification:

'{$request.body#/subsNotifUri':

post:

requestBody:

description: Notification of an event occurrence in the TSCTSF.

required: true

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is acknowledged

'307':

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

'308':

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

'400':

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

'401':

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

'403':

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

'404':

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

'411':

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

'413':

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

'415':

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

'429':

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

'500':

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

'503':

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

default:

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

/subscriptions/{subscriptionId}:

get:

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

operationId: GetIndividualTimeSynchronizationExposureSubscription

tags:

- Individual Time Synchronization Exposure Subscription (Document)

parameters:

- name: subscriptionId

description: string identifying an Individual Time Synchronization Exposure Subscription

in: path

required: true

schema:

type: string

responses:

'200':

description: A representation of the resource is returned.

content:

application/json:

schema:

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

'307':

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

'308':

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

'400':

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

'401':

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

'403':

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

'404':

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

'406':

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

'429':

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

'500':

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

'503':

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

default:

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

delete:

operationId: DeleteIndividualTimeSynchronizationExposureSubscription

summary: Delete an Individual TimeSynchronization Exposure Subscription

tags:

- Individual Time Synchronization Exposure Subscription (Document)

parameters:

- name: subscriptionId

in: path

description: string identifying an Individual Time Synchronization Exposure Subscription

required: true

schema:

type: string

responses:

'204':

description: No Content. Resource was successfully deleted

'307':

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

'308':

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

'400':

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

'401':

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

'403':

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

'404':

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

'429':

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

'500':

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

'503':

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

default:

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

/subscriptions/{subscriptionId}/configurations:

post:

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

operationId: CreateIndividualTimeSynchronizationExposureConfiguration

tags:

- Individual Time Synchronization Exposure Configuration (Document)

parameters:

- name: subscriptionId

description: string identifying an Individual Time Synchronization Exposure Subscription

in: path

required: true

schema:

type: string

requestBody:

description: Contains the information for the creation the resource

required: true

content:

application/json:

schema:

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

responses:

'201':

description: Successful creation of the resource

content:

application/json:

schema:

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

headers:

Location:

description: 'Contains the URI of the created individual time synchronization exposure configuration resource, according to the structure: {apiRoot}/ntsctsf-time-sync/{apiVersion}/subscriptions/{subscriptionId}/configurations/{configurationId}'

required: true

schema:

type: string

'307':

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

'308':

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

'400':

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

'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'

callbacks:

configEventNotification:

'{$request.body#/configNotifUri':

post:

requestBody:

description: Notification of an event occurrence in the TSCTSF.

required: true

content:

application/json:

schema:

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

responses:

'204':

description: The receipt of the notification is acknowledged

'307':

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

'308':

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

'400':

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

'401':

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

'403':

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

'404':

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

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'415':

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

'429':

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

'500':

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

'503':

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

default:

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

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

get:

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

operationId: GetIndividualTimeSynchronizationExposureConfiguration

tags:

- Individual Time Synchronization Exposure Configuration (Document)

parameters:

- name: subscriptionId

description: string identifying an Individual Time Synchronization Exposure Subscription

in: path

required: true

schema:

type: string

- name: configurationId

description: string identifying an Individual Time Synchronization Exposure Configuration

in: path

required: true

schema:

type: string

responses:

'200':

description: A representation of the resource is returned.

content:

application/json:

schema:

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

'307':

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

'308':

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

'400':

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

'401':

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

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

'404':

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

'406':

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

'429':

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

'500':

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

'503':

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

default:

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

put:

operationId: ReplaceIndividualTimeSynchronizationExposureConfiguration

summary: Replace an individual Time Synchronization Exposure Configuration

tags:

- IndividualTimeSynchronizationExposureConfiguration (Document)

requestBody:

required: true

content:

application/json:

schema:

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

parameters:

- name: subscriptionId

description: string identifying an Individual Time Synchronization Exposure Subscription

in: path

required: true

schema:

type: string

- name: configurationId

description: string identifying an Individual Time Synchronization Exposure Configuration

in: path

required: true

schema:

type: string

responses:

'200':

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

content:

application/json:

schema:

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

'204':

description: No Content. Resource was successfully modified

'307':

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

'308':

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

'400':

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

'401':

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

'403':

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

'404':

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

'411':

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

'413':

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

'415':

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

'429':

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

'500':

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

'503':

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

default:

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

delete:

operationId: DeleteIndividualTimeSynchronizationExposureConfiguration

summary: Delete an Individual TimeSynchronization Exposure Configuration

tags:

- Individual Time Synchronization Exposure Configuration (Document)

parameters:

- name: subscriptionId

in: path

description: string identifying an Individual Time Synchronization Exposure Subscription

required: true

schema:

type: string

- name: configurationId

description: string identifying an Individual Time Synchronization Exposure Configuration

in: path

required: true

schema:

type: string

responses:

'204':

description: No Content. Resource was successfully deleted

'307':

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

'308':

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

'400':

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

'401':

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

'403':

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

'404':

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

'429':

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

'500':

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

'503':

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

default:

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

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{nrfApiRoot}/oauth2/token'

scopes:

ntsctsf-timesynchronization: Access to the Ntsctsf\_TimeSynchronization API

schemas:

TimeSyncExposureSubsc:

description: Contains the parameters for the subscription to notification of capability of time synchronization service.

type: object

properties:

supis:

type: array

items:

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

minItems: 1

interGrpId:

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

anyUeInd:

type: boolean

description: Identifies whether the request applies to any UE. This attribute shall set to "true" if applicable for any UE, otherwise, set to "false".

notifMethod:

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

dnn:

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

snssai:

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

subscribedEvents:

type: array

items:

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

minItems: 1

eventFilters:

type: array

items:

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

minItems: 1

subsNotifUri:

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

subsNotifId:

type: string

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

maxReportNbr:

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

expiry:

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

repPeriod:

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

suppFeat:

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

required:

- subsNotifUri

- subsNotifId

TimeSyncExposureSubsNotif:

description: Contains the notification of time synchronization service.

type: object

properties:

subsNotifId:

type: string

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

eventNotifs:

type: array

items:

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

minItems: 1

SubsEventNotification:

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

type: object

properties:

event:

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

timeSyncCapas:

type: array

items:

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

minItems: 1

TimeSyncCapability:

description: Contains the capability of time synchronization service

type: object

properties:

upNodeId:

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

gmCapables:

type: array

items:

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

minItems: 1

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 supi.

required:

- upNodeId

- ptpCapForUes

PtpCapabilitiesPerUe:

description: Contains the supported PTP capabilities per UE.

type: object

properties:

supi:

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

ptpCaps:

type: array

items:

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

minItems: 1

required:

- supi

- ptpCaps

TimeSyncExposureConfig:

description: Contains the Time Synchronization Configuration parameters.

type: object

properties:

upNodeId:

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

reqPtpIns:

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

gmEnable:

type: boolean

description: Indicates that the AF requests 5GS to act as a grandmaster for PTP or gPTP if it is included and set to true.

gmPrio:

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

timeDom:

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

timeSyncErrBdgt:

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

configNotifId:

type: string

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

configNotifUri:

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

tempValidity:

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

required:

- upNodeId

- reqPtpIns

- timeDom

- configNotifId

- configNotifUri

PtpInstance:

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

type: object

properties:

instanceType:

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

protocol:

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

ptpProfile:

type: string

portConfigs:

type: array

items:

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

minItems: 1

required:

- instanceType

- protocol

- ptpProfile

ConfigForPort:

description: Contains configuration for each port.

type: object

properties:

supi:

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

n6Ind:

type: boolean

ptpEnable:

type: boolean

logSyncInter:

type: integer

logSyncInterInd:

type: boolean

logAnnouInter:

type: integer

logAnnouInterInd:

type: boolean

oneOf:

- required: [supi]

- required: [n6Ind]

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