**3GPP TSG-CT WG3 Meeting #117eC3-214152**

**E-Meeting, 18th – 27th August 2021**

**Source: Huawei, Nokia, Nokia Shanghai Bell**

**Title: Resource Structure of Ntsctsf\_TimeSynchronization Service**

**Spec: 3GPP TS 29.abc**

**Agenda item: 17.16**

**Document for: Decision**

**1. Introduction**

<Introduction part (optional)>

**2. Reason for Change**

Resource Structure needs to be specified.

**3. Conclusions**

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 29.abc.

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

#### 6.1.3.1 Overview



Figure 6.1.3.1-1: Resource URI structure of the Ntsctsf\_TimeSynchronization API

Table 6.1.3.1-1 provides an overview of the resources and applicable HTTP methods.

Table 6.1.3.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method or custom operation | Description |
| Time Synchronization Exposure Subscriptions | /subscriptions | POST | Create a new subscription to notification of capability of time synchronization service. |
| Individual Time Synchronization Exposure Subscription | /subscriptions/{subscriptionId} | GET | Read a subscription to notification of capability of time synchronization service. |
| DELETE | Delete a subscription to notification of capability of time synchronization service. |
| Time Synchronization Exposure Configurations | /subscriptions/{subscriptionId}/configurations | POST | Create a new configuration to time synchronization exposure. |
| Individual Time Synchronization Exposure Configuration | /subscriptions/{subscriptionId}/configurations/{configurationId} | GET | Read a configuration to time synchronization exposure. |
| PUT | Modify all of the properties of an existing configuration to time synchronization exposure. |
| DELETE | Delete a configuration to time synchronization exposure. |

#### 6.1.3.2 Resource: Time Synchronization Exposure Subscriptions

##### 6.1.3.2.1 Description

This resource allows a NF service consumer to create a new subscription to notification of the capability for time synchronization service.

##### 6.1.3.2.2 Resource Definition

Resource URI: **{apiRoot}/ntsctsf-time-sync/<apiVersion>/subscriptions**

This resource shall support the resource URI variables defined in table 6.1.3.2.2-1.

Table 6.1.3.2.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| apiRoot | string | See clause 6.1.1 |
| apiVersion | string | See clause 6.1.1 |

##### 6.1.3.2.3 Resource Standard Methods

###### 6.1.3.2.3.1 POST

The POST method creates a new subscription resource to time synchronization exposure subscription. The NF service consumer shall initiate the HTTP POST request message and the TSCTSF shall respond to the message. The TSCTSF shall construct the URI of the created resource.

This method shall support the URI query parameters specified in table 6.1.3.2.3.1-1.

Table 6.1.3.2.3.1-1: URI query parameters supported by the POST method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description | Applicability |
| n/a |  |  |  |  |  |

This method shall support the request data structures specified in table 6.1.3.2.3.1-2 and the response data structures and response codes specified in table 6.1.3.2.3.1-3.

Table 6.1.3.2.3.1-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| TimeSyncExposureSubsc | M | 1 | Parameters to request a subscription to notification of the capability for time synchronization service. |

Table 6.1.3.2.3.1-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| TimeSyncExposureSubsc | M | 1 | 201 Created | The subscription was created successfully.  The URI of the created resource shall be returned in the "Location" HTTP header. |
| NOTE: The manadatory HTTP error status code for the POST method listed in Table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply. | | | | |

Editor's Note: Error responses are FFS.



Table 6.1.3.2.3.1-4: 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}/ntsctsf-time-sync/{apiVersion}/ subscriptions/{subscriptionId} |



##### 6.1.3.2.4 Resource Custom Operations

None.











#### 6.1.3.3 Resource: Individual Time Synchronization Exposure Subscription

##### 6.1.3.3.1 Description

This resource allows a NF service consumer to read, modify or delete an existing subscription to notification of the capability for time synchronization service..

##### 6.1.3.3.2 Resource Definition

Resource URI: **{apiRoot}/ntsctsf-time-sync/<apiVersion>/subscriptions/{subscriptionId}**

This resource shall support the resource URI variables defined in table 6.1.3.3.2-1.

Table 6.1.3.3.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| apiRoot | string | See clause 6.1.1 |
| apiVersion | string | See clause 6.1.1 |
| subscriptionId | string | See clause 6.1.1 |

##### 6.1.3.3.3 Resource Standard Methods

###### 6.1.3.3.3.1 GET

This method shall support the URI query parameters specified in table 6.1.3.3.3.1-1.

Table 6.1.3.3.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description | Applicability |
| n/a |  |  |  |  |  |

This method shall support the request data structures specified in table 6.1.3.3.3.1-2 and the response data structures and response codes specified in table 6.1.3.3.3.1-3.

Table 6.1.3.3.3.1-2: Data structures supported by the GET Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| n/a |  |  |  |

Table 6.1.3.3.3.1-3: Data structures supported by the <method 1> Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| TimeSyncExposureSubsc | M | 1 | 200 OK | An Individual Time Synchronization Exposure Subscription resource is returned successfully. |
| NOTE: The manadatory HTTP error status code for the GET method listed in Table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply. | | | | |

Editor's Note: Error and redirect responses are FFS.

###### 6.1.3.3.3.2 DELETE

This method shall support the URI query parameters specified in table 6.1.3.3.3.2-1.

Table 6.1.3.3.3.2-1: URI query parameters supported by the DELETE method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description | Applicability |
| n/a |  |  |  |  |  |

This method shall support the request data structures specified in table 6.1.3.3.3.2-2 and the response data structures and response codes specified in table 6.1.3.3.3.2-3.

Table 6.1.3.3.3.2-2: Data structures supported by the PUT Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| n/a |  |  |  |

Table 6.1.3.3.3.2-3: Data structures supported by the PUT Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| n/a |  |  | 204 No Content | The subscription was deleted successfully. |
| NOTE: The manadatory HTTP error status code for the GET method listed in Table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply. | | | | |

Editor's Note: Error/Redirect responses are FFS.

##### 6.1.3.3.4 Resource Custom Operations

None.

#### 6.1.3.4 Resource: Time Synchronization Exposure Configurations

##### 6.1.3.4.1 Description

This resource allows a NF service consumer to create a new subscription to notification of the capability for time synchronization service.

##### 6.1.3.4.2 Resource Definition

Resource URI: **{apiRoot}/ntsctsf-time-sync/<apiVersion>/subscriptions/{subscriptionId}/configurations**

This resource shall support the resource URI variables defined in table 6.1.3.4.2-1.

Table 6.1.3.4.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| apiRoot | string | See clause 6.1.1 |
| apiVersion | string | See clause 6.1.1 |
| subscriptionId | string | See clause 6.1.1 |

##### 6.1.3.4.3 Resource Standard Methods

###### 6.1.3.4.3.1 POST

The POST method creates a new configuration resource to activate time synchronization service. The NF service consumer shall initiate the HTTP POST request message and the TSCTSF shall respond to the message. The TSCTSF shall construct the URI of the created resource.

This method shall support the URI query parameters specified in table 6.1.3.4.3.1-1.

Table 6.1.3.4.3.1-1: URI query parameters supported by the POST method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description | Applicability |
| n/a |  |  |  |  |  |

This method shall support the request data structures specified in table 6.1.3.4.3.1-2 and the response data structures and response codes specified in table 6.1.3.4.3.1-3.

Table 6.1.3.4.3.1-2: Data structures supported by the POST Request Body on this resource

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

Table 6.1.3.4.3.1-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| TimeSyncExposureConfig | M | 1 | 201 Created | The configuration was created successfully.  The URI of the created resource shall be returned in the "Location" HTTP header. |
| NOTE: The manadatory HTTP error status code for the POST method listed in Table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply. | | | | |

Editor's Note: Error and redirect responses are FFS.

Table 6.1.3.4.3.1-4: 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}/ntsctsf-time-sync/{apiVersion}/ subscriptions/{subscriptionId}/configuration/{configurationId} |

##### 6.1.3.4.4 Resource Custom Operations

None.

#### 6.1.3.5 Resource: Individual Time Synchronization Exposure Configuration

##### 6.1.3.5.1 Description

This resource allows a NF service consumer to modify/cancel a configuration to modify/deactivate Time Synchronization service with the TSCTSF

##### 6.1.3.5.2 Resource Definition

Resource URI: **{apiRoot}/ntsctsf-time-sync/<apiVersion>/subscriptions/{subscriptionId}/configurations/{configurationId}**

This resource shall support the resource URI variables defined in table 6.1.3.5.2-1.

Table 6.1.3.5.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| apiRoot | string | See clause 6.1.1 |
| apiVersion | string | See clause 6.1.1 |
| subscriptionId | string | See clause 6.1.1 |
| configurationId | string | See clause 6.1.1 |

##### 6.1.3.5.3 Resource Standard Methods

###### 6.1.3.5.3.1 GET

This method shall support the URI query parameters specified in table 6.1.3.5.3.1-1.

Table 6.1.3.5.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description | Applicability |
| n/a |  |  |  |  |  |

This method shall support the request data structures specified in table 6.1.3.5.3.1-2 and the response data structures and response codes specified in table 6.1.3.5.3.1-3.

Table 6.1.3.5.3.1-2: Data structures supported by the GET Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| n/a |  |  |  |

Table 6.1.3.5.3.1-3: Data structures supported by the <method 1> Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| TimeSyncExposureConfig | M | 1 | 200 OK | The configuration information in the request URI are returned. |
| NOTE: The manadatory HTTP error status code for the GET method listed in Table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply. | | | | |

Editor's Note: Error/Redirect responses are FFS.

###### 6.1.3.5.3.2 PUT

This method shall support the URI query parameters specified in table 6.1.3.5.3.2-1.

Table 6.1.3.5.3.2-1: URI query parameters supported by the PUT method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description | Applicability |
| n/a |  |  |  |  |  |

This method shall support the request data structures specified in table 6.1.3.5.3.2-2 and the response data structures and response codes specified in table 6.1.3.5.3.2-3.

Table 6.1.3.5.3.2-2: Data structures supported by the PUT Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| TimeSyncExposureConfig | M | 1 | Modify an existing Time Synchronization Exposure Configuration. |

Table 6.1.3.5.3.2-3: Data structures supported by the PUT Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| TimeSyncExposureConfig | M | 1 | 200 OK | The subscription was updated successfully. |
| n/a |  |  | 204 No Content | The subscription was updated successfully. |
| NOTE: The manadatory HTTP error status code for the GET method listed in Table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply. | | | | |

Editor's Note: Error/Redirect responses are FFS.

###### 6.1.3.5.3.3 DELETE

This method shall support the URI query parameters specified in table 6.1.3.5.3.3-1.

Table 6.1.3.5.3.3-1: URI query parameters supported by the DELETE method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description | Applicability |
| n/a |  |  |  |  |  |

This method shall support the request data structures specified in table 6.1.3.5.3.3-2 and the response data structures and response codes specified in table 6.1.3.5.3.3-3.

Table 6.1.3.5.3.3-2: Data structures supported by the PUT Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| n/a |  |  |  |

Table 6.1.3.35.3.3-3: Data structures supported by the PUT Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| n/a |  |  | 204 No Content | The configuration was deleted successfully. |
| NOTE: The manadatory HTTP error status code for the GET method listed in Table 5.2.7.1-1 of 3GPP TS 29.500 [4] also apply. | | | | |

Editor's Note: Error/Redirect responses are FFS.

##### 6.1.3.5.4 Resource Custom Operations

None.

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