**3GPP TSG-CT WG3 Meeting #115eC3-212368**

**E-Meeting, 14th – 23rd April 2021** *(Revision of C3-212267)*

**Source: Samsung**

**Title: Pseudo-CR on Eees\_UELocation API definition**

**Spec: 3GPP TS 29.558, v0.2.0**

**Agenda item: 17.9**

**Document for: Decision**

**1. Introduction**

Eees\_UELocation service and its API is specified by SA6 in TS 23.558. This contribution proposes the API definition of the Eees\_UELocation API.

**2. Reason for Change**

Stage 3 aspects of Eees\_UELocation service API need to be defined aligning to TS 23.558.

**3. Conclusions**

<Conclusion part (optional)>

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 29.558, v0.2.0.

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

## 8.y Eees\_UELocation API

### 8.y.1 API URI

The Eees\_UELocation service shall use the Eees\_UELocation API.

The request URIs used in HTTP requests from the Edge Application Server towards the EES shall have the Resource URI structure as defined in clause 7.5 with the following clarifications:

- The <apiName>shall be "eees-uelocation".

- The <apiVersion> shall be "v1".

- The <apiSpecificResourceUriPart> shall be set as described in clause 8.y.2.

### 8.y.2 Resources

#### 8.y.2.1 Overview



Figure 8.y.2.1-1: Resource URI structure of the Eees\_UELocation API

Table 8.y.2.1-1 provides an overview of the resources and applicable HTTP methods.

Table 8.y.2.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method or custom operation | Description |
| Location Information of UEs | /ue-location | n/a |  |
| /ue-location/fetch | fetch(POST) | Fetch the location information of an UE. |
| Location Information Subscriptions | /subscriptions | POST | Creates a subscription for continuous reporting of UE(s) location information to the EAS. |
| Individual Location Information Subscription | /subscriptions/{subscriptionId} | GET | Retrieves the Individual location information subscription information identified by subscriptionId.  |
| PATCH | Updates the Individual location information subscription identified by subscriptionId. |
| PUT | Updates the Individual location information subscription identified by subscriptionId. |
| DELETE | Removes the Individual location information subscription identified by subscriptionId. |

 Editor’s Note: It is FFS, usage of GET method on Location Information of UEs resource, to fetch the location information of UE, is based on clarification from CT4.

#### 8.y.2.2 Resource: Location Information of UEs

##### 8.y.2.2.1 Description

This resource represents location information of all the UEs at a given EES.

##### 8.y.2.2.2 Resource Definition

Resource URI: **{apiRoot}/eees-uelocation/<apiVersion>/ue-location**

This resource shall support the resource URI variables defined in the table 8.y.2.2.2-1.

Table 8.y.2.2.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 7.5 |
| apiVersion | string | See clause 8.y.1 |

##### 8.y.2.2.3 Resource Standard Methods

None.

##### 8.y.2.2.4 Resource Custom Operations

###### 8.y.2.2.4.1 Overview

Table 8.y.2.2.4.1-1: Custom operations

|  |  |  |  |
| --- | --- | --- | --- |
| Operation name | Custom operaration URI | Mapped HTTP method | Description |
| Fetch | /fetch | POST | Fetch an UE location information. |

###### 8.y.2.2.4.2 Operation: Fetch

8.y.2.2.4.2.1 Description

This custom operation allows the EAS to fetch an UE’s location information from the EES.

8.y.2.2.4.2.2 Operation Definition

This operation shall support the request data structures specified in table 8.y.2.2.4.2.2-1 and the response data structure and response codes specified in table 8.y.2.2.4.2.2-2.

Table 8.y.2.2.4.2.2-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| LocationRequest | M | 1 | Parameters to request to fetch the UE location information. |

Editor’s Note: Details of how the EAS security credentials are submitted in the HTTP POST message is FFS and to be updated based on security aspects defined by SA3.

Table 8.y.2.2.4.2.2-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| LocationInfo | M | 1 | 200 OK | The UE location information returned by the EES. |
| n/a |  |  | 204 No Content | If the requested UE location information is not available, then the EES shall respond with "204 No Content". |
| NOTE: The manadatory HTTP error status code for the POST method listed in the Table 5.2.6-1 of 3GPP TS 29.122 [6] also apply. |

#### 8.y.2.3 Resource: Location Information Subscriptions

##### 8.y.2.3.1 Description

This resource represents all location information subscriptions at a given EES.

##### 8.y.2.3.2 Resource Definition

Resource URI: **{apiRoot}/eees-uelocation/<apiVersion>/subscriptions**

This resource shall support the resource URI variables defined in the table 8.y.2.3.2-1.

Table 8.y.2.3.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 7.5 |
| apiVersion | string | See clause 8.y.1 |

##### 8.y.2.3.3 Resource Standard Methods

###### 8.y.2.3.3.1 POST

This method creates the location information subscription at the EES for continuous reporting of UE(s) location information. This method shall support the URI query parameters specified in the table 8.y.2.3.3.1-1.

Table 8.y.2.3.3.1-1: URI query parameters supported by the POST method on this resource

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

This method shall support the request data structures specified in table 8.y.2.3.3.1-2 and the response data structures and response codes specified in table 8.y.2.3.3.1-3.

Table 8.y.2.3.3.1-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| LocationSubscription | M | 1 | Create a new location information subscription. |

Editor’s Note: Details of how the EAS security credentials are submitted in the HTTP POST message is FFS and to be updated based on security aspects defined by SA3

Table 8.y.2.3.3.1-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| LocationSubscription | M | 1 | 201 Created | The individual location information subscription resource created successfully. The information about the confirmed subscription at the EES is provided in the response body.The URI of the created resource shall be retruned in the “Location” HTTP header. |
| NOTE: The manadatory HTTP error status code for the POST method listed in Table 5.2.6-1 of 3GPP TS 29.122 [6] also apply. |

Table 8.y.2.3.3.1-4: Headers supported by the POST method on this resource

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

Table 8.y.2.3.3.1-5: 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}/eees-uelocation/<apiVersion>/subscriptions/{subscriptionId} |

Table 8.y.2.3.3.1-6: Links supported by the 200 Response Code on this endpoint

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Resource name | HTTP method or custom operation | Link parameter(s) | Description |
| n/a |  |  |  |  |

##### 8.y.2.3.4 Resource Custom Operations

None.

#### 8.y.2.4 Resource: Individual Location Information Subscription

##### 8.y.2.4.1 Description

This resource represents the individual location information subscription of an EAS at a given EES.

##### 8.y.2.4.2 Resource Definition

Resource URI: **{apiRoot}/eees-uelocation/<apiVersion>/subscriptions/{subscriptionId}**

This resource shall support the resource URI variables defined in the table 8.y.2.4.2-1.

Table 8.y.2.4.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 7.5 |
| apiVersion | string | See clause 8.y.1 |
| subscriptionId | String | Identifies an individual location information subscription. |

##### 8.y.2.4.3 Resource Standard Methods

###### 8.y.2.4.3.1 GET

This method retrieves the location information subscription information at EES. This method shall support the URI query parameters specified in the table 8.y.2.4.3.1-1.

Table 8.y.2.4.3.1-1: URI query parameters supported by the GET method on this resource

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

Editor’s Note: Details of how the EAS security credentials are submitted in the HTTP GET message is FFS and to be updated based on security aspects defined by SA3

This method shall support the request data structures specified in table 8.y.2.4.3.1-2 and the response data structures and response codes specified in table 8.y.2.4.3.1-3.

Table 8.y.2.4.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 8.y.2.4.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| LocationSubscription | M | 1 | 200 OK | The location information subscription information is returned by the EES. |
| NOTE: The manadatory HTTP error status code for the GET method listed in Table 5.2.6-1 of 3GPP TS 29.122 [6] also apply. |

Table 8.y.2.4.3.1-4: Headers supported by the GET method on this resource

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

Table 8.y.2.4.3.1-5: Headers supported by the 200 response code on this resource

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

Table 8.y.2.4.3.1-6: Links supported by the 200 Response Code on this endpoint

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Resource name | HTTP method or custom operation | Link parameter(s) | Description |
| n/a |  |  |  |  |

###### 8.y.2.4.3.2 PATCH

This method partially updates the location information subscription information at the EES. This method shall support the URI query parameters specified in the table 8.y.2.4.3.2-1.

Table 8.y.2.4.3.2-1: URI query parameters supported by the PATCH method on this resource

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

Editor’s Note: Details of how the EAS security credentials are submitted in the HTTP PATCH message is FFS and to be updated based on security aspects defined by SA3

This method shall support the request data structures specified in table 8.y.2.4.3.2-2 and the response data structures and response codes specified in table 8.y.2.4.3.2-3.

Table 8.y.2.4.3.2-2: Data structures supported by the PATCH Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| LocationSubscriptionPatch | M | 1 | Request to partially update the individual location information subscription matching the subscriptionId at the EES. |

Table 8.y.2.4.3.2-3: Data structures supported by the PATCH Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| LocationSubscription | M | 1 | 200 OK | The individual Location information subscription matching the subscriptionId was modified successfully and the updated Location subscription information is returned in the response. |
| n/a |  |  | 204 No Content | The individual Location information subscription matching the subscriptionId was modified successfully. |
| NOTE: The manadatory HTTP error status code for the PATCH method listed in Table 5.2.6-1 of 3GPP TS 29.122 [6] also apply. |

Table 8.y.2.4.3.2-4: Headers supported by the PATCH method on this resource

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

Table 8.y.2.4.3.2-5: Headers supported by the PATCH response code on this resource

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

Table 8.y.2.4.3.2-6: Links supported by the 200 Response Code on this endpoint

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Resource name | HTTP method or custom operation | Link parameter(s) | Description |
| n/a |  |  |  |  |

###### 8.y.2.4.3.3 PUT

This method updates the location information subscription information at the EES by completely replacing the existing subscription data (except easId, ueId, groupId). This method shall support the URI query parameters specified in the table 8.y.2.4.3.3-1.

Table 8.y.2.4.3.3-1: URI query parameters supported by the PUT method on this resource

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

Editor’s Note: Details of how the EAS security credentials are submitted in the HTTP PUT message is FFS and to be updated based on security aspects defined by SA3

This method shall support the request data structures specified in table 8.y.2.4.3.3-2 and the response data structures and response codes specified in table 8.y.2.4.3.3-3.

Table 8.y.2.4.3.3-2: Data structures supported by the PUT Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| LocationSubscription | M | 1 | Details of individual location information subscription matching the subscriptionId to be updated at the EES. |

Table 8.y.2.4.3.3-3: Data structures supported by the PUT Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| LocationSubscription | M | 1 | 200 OK | The individual Location information subscription matching the subscriptionId was modified successfully and the updated Location subscription information is returned in the response. |
| n/a |  |  | 204 No Content | The individual Location information subscription matching the subscriptionId was modified successfully. |
| NOTE: The manadatory HTTP error status code for the PUT method listed in Table 5.2.6-1 of 3GPP TS 29.122 [6] also apply. |

Table 8.y.2.4.3.3-4: Headers supported by the PUT method on this resource

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

Table 8.y.2.4.3.3-5: Headers supported by the PUT response code on this resource

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

Table 8.y.2.4.3.3-6: Links supported by the 200 Response Code on this endpoint

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Resource name | HTTP method or custom operation | Link parameter(s) | Description |
| n/a |  |  |  |  |

###### 8.y.2.4.3.4 DELETE

This method removes the location information subscription information from the EES. This method shall support the URI query parameters specified in the table 8.y.2.4.3.4-1.

Table 8.y.2.4.3.4-1: URI query parameters supported by the DELETE method on this resource

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

Editor’s Note: Details of how the EAS security credentials are submitted in the HTTP DELETE message is FFS and to be updated based on security aspects defined by SA3

This method shall support the request data structures specified in table 8.y.2.4.3.4-2 and the response data structures and response codes specified in table 8.y.2.4.3.4-3.

Table 8.y.2.4.3.4-2: Data structures supported by the DELETE Request Body on this resource

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

Table 8.y.2.4.3.4-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| n/a | M | 1 | 204 No Content | The individual Location information subscription matching the subscriptionId is deleted. |
| NOTE: The manadatory HTTP error status code for the DELETE method listed in Table 5.2.6-1 of 3GPP TS 29.122 [6] also apply. |

Table 8.y.2.4.3.4-4: Headers supported by the DELETE method on this resource

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

Table 8.y.2.4.3.4-5: Headers supported by the DELETE response code on this resource

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

Table 8.y.2.4.3.4-6: Links supported by the 200 Response Code on this endpoint

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Resource name | HTTP method or custom operation | Link parameter(s) | Description |
| n/a |  |  |  |  |

##### 8.y.2.4.4 Resource Custom Operations

None.

### 8.y.3 Custom Operations without associated resources

None.

### 8.y.4 Notifications

#### 8.y.4.1 General

Table 8.y.4.1-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description(service operation) |
| Location Information Notification | {notificationDestination} | POST | Notifies the subscriber EAS the UE(s) location information. |

#### 8.y.4.2 Location Information Notification

##### 8.y.4.2.1 Description

Location Information Notification is used by the EES to notify an EAS with location information of UE(s). The EES shall subscribe to the location information for UE(s) via the Individual Location Information Subscription resource.

##### 8.y.4.2.2 Notification definition

The POST method shall be used by the EES for the notification and the callback URI shall be the one provided by the EAS during the Location Information subscription.

Callback URI: **{notificationDestination}**

This method shall support the URI query parameters specified in table 8.y.4.2.2-1.

Table 8.y.4.2.2-1: URI query parameters supported by the POST method on this resource

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

This method shall support the request data structures specified in table 8.y.4.2.2-2 and the response data structures and response codes specified in table 8.y.4.2.2-3.

Table 8.y.4.2.2-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| LocationNotification | M | 1 | Notification of UE(s) location information. |

Table 8.y.4.2.2-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| n/a |  |  | 204 No Content | The receipt of the Notification is acknowledged. |
| NOTE: The manadatory HTTP error status code for the POST method listed in Table 5.2.6-1 of 3GPP TS 29.122 [6] also apply. |

### 8.y.5 Data Model

#### 8.y.5.1 General

This clause specifies the application data model supported by the API. Data types listed in clause 7.2 apply to this API

Table 8.y.5.1-1 specifies the data types defined specifically for the Eees\_UELocation API service.

Table 8.y.5.1-1: Eees\_UELocation API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Section defined | Description | Applicability |
| LocationFormat | 8.y.5.2.2 | The granularity of the location information requested by the EAS.  |  |
| LocationSubscription | 8.y.5.2.3 | Represents the location information subscription. |  |
| LocationSubscriptionPatch | 8.y.5.2.4 | Used to request the partial update of location information subscription.  |  |
| LocationNotification | 8.y.5.2.5 | UE location information notification from EES to EAS.  |  |
| LocationEvent | 8.y.5.2.6 | Location information related an Individual UE. |  |
| LocationRequest | 8.y.5.2.7 | UE location information request.  |  |

Table 8.y.5.1-2 specifies data types re-used by the Eees\_UELocation API service.

Table 8.y.5.1-2: Re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| Gpsi | 3GPP TS 29.571 [8] | Used to identify the UE in the query parameter, for which location information is queried.  |  |
| LocationQoS | 3GPP TS 29.572 [r29572] | Used to indicate the location quality of service, of the location information queried.  |  |
| LocationInfo | 3GPP TS 29.122 [6] | The location information related to the UE . |  |
| DateTime | 3GPP TS 29.122 [6] | Used to capture the expiration time of EAS subscription for location information reporting. |  |
| ReportingInformation | 3GPP TS 29.523 [r29523] | Used to indicate the reporting requirement, only the following information are applicable:- immRep- notifMethod- maxReportNbr- monDur- repPeriod |  |
| SupportedFeatures | 3GPP TS 29.571 [8] | Used to negotiate the applicability of optional features. |  |
| TestNotification | 3GPP TS 29.122 [6] | Following differences apply:- The SCEF is the EES; and- The SCS/AS is the subscribing EAS. |  |
| Uri | 3GPP TS 29.122 [6] |  |  |
| WebsockNotifConfig | 3GPP TS 29.122 [6] | Following differences apply:- The SCEF is the EES; and- The SCS/AS is the subscribing EAS. |  |
| UeMobilityExposure | 3GPP TS 29.522 [r29522] | The predictive location information related to the UE, |  |

#### 8.y.5.2 Structured data types

##### 8.y.5.2.1 Introduction

##### 8.y.5.2.2 Type: LocationFormat

Table 8.y.5.2.2-1: Definition of type LocationFormat

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| nwArea | boolean | O | 0..1 | Set to TRUE if the EAS understands the location information in network area (Cell ID, Tracking Area ID etc.) format, and set to FALSE or omitted otherwise. |  |
| cvcAddr | boolean | O | 0..1 | Set to TRUE if the EAS understands the location information in civic address (e.g. streets, districts, etc) format as specified in clause 6.1.6.2.14, 3GPP TS 29.572 [r29572], and set to FALSE or omitted otherwise. |  |
| geoArea | Boolean | O | 0..1 | Set to TRUE if the EAS understands the location information in Geographic address (e.g. GPS) format as specified in clause 6.1.6.2.5, 3GPP TS 29.572 [r29572], and set to FALSE or omitted otherwise. |  |

##### 8.y.5.2.3 Type: LocationSubscription

Table 8.y.5.2.3-1: Definition of type LocationSubscription

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| easId | string | M | 1 | Identifier of the EAS subscribing for location information report. |  |
| ueId | Gpsi | O | 0..1 | Identifier of the UE for which the location information reporting is subscribed for. (NOTE) |  |
| groupId | string | O | 0..1 | Identifies the group of UEs for which the location information reporting is subscribed for. The value of this attribute may be external group Id defined as ExtGroupId or an internal group Id defined as GroupId in 3GPP TS 29.571 [8]. (NOTE) |  |
| expTime | DateTime | O | 0..1 | Indicates the expiration time of the subscription. If the expiration time is not present, then it indicates that the EAS subscription never expires. |  |
| locGran | LocationFormat | O | 0..1 | Indicates the format of the location information that the EAS supports. EAS wishes to receive the location information report from the EES in the indicated format. |  |
| locQos | LocationQoS | O | 0..1 | Indicates the location QoS as specified in 3GPP TS 29.572 [r29572]. |  |
| eventReq | ReportingInformation | O | 0..1 | Represents the reporting requirements of the location information event subscription. |  |
| notificationDestination | Uri | O | 1 | URI where the location information notification should be delivered to. This attribute shall be present in HTTP POST message to EES. |  |
| requestTestNotification | boolean | O | 0..1 | Set to true by Subscriber to request the EES to send a test notification as defined in clause 7.6. Set to false or omitted otherwise. | Notification\_test\_event |
| websockNotifConfig | WebsockNotifConfig | O | 0..1 | Configuration parameters to set up notification delivery over Websocket protocol as defined in clause 7.6. | Notification\_websocket |
| suppFeat | SupportedFeatures | O | 0..1 | Used to negotiate the supported optional features of the API as described in clause 7.8.This attribute shall be provided in the HTTP POST request and in the response of successful resource creation. |  |
| NOTE: One of UE Identifier (ueId), Group Identifier (groupId) shall be included. |

Editor’s Note: The format of GPSI for ueId attribute is FFS and to be updated based on security aspects defined by SA3.

##### 8.y.5.2.4 Type: LocationSubscriptionPatch

Table 8.y.5.2.4-1: Definition of type LocationSubscriptionPatch

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| eventReq | ReportingInformation | O | 0..1 | The reporting requirements of the location information event subscription to be updated. (NOTE) |  |
| expTime | DateTime | O | 0..1 | Indicates the proposed expiration time of the subscription. (NOTE) |  |
| notificationDestination | Uri | O | 1 | Updated URI where the location information notification should be delivered to. (NOTE) |  |
| locGran | LocationFormat | O | 0..1 | Updated format of the location information that the EAS supports. (NOTE) |  |
| locQos | LocationQoS | O | 0..1 | Updated location QoS, as specified in 3GPP TS 29.572 [r29572]. (NOTE) |  |
| NOTE: Atleast one of the attributes shall be included. |

##### 8.y.5.2.5 Type: LocationNotification

Table 8.y.5.2.5-1: Definition of type LocationNotification

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| subId | string | M | 1 | String identifying the individual Location information subscription for which the location notification is delivered. |  |
| locEvs | Array(LocationEvent) | M | 1..N | List of notifications that include the location information of the UE(s).  |  |

##### 8.y.5.2.6 Type: LocationEvent

Table 8.y.5.2.6-1: Definition of type LocationEvent

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| ueId | Gpsi | M | 1 | Identifier of the UE for which the location information is reported. |  |
| locInf | LocationInfo | C | 0..1 | Actual Location information of the UE. (NOTE) |  |
| locInfPred | UeMobilityExposure | C | 0..1 | Predictive location information of the UE. (NOTE) |  |
| NOTE: Only one of “locInf” or “locInfPred” shall be included. |

##### 8.y.5.2.7 Type: LocationRequest

Table 8.y.5.2.7-1: Definition of type LocationRequest

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| ueId | Gpsi | M | 1 | Identifier of the UE for which the location information is requested. |  |
| gran | LocationFormat | O | 0..1 | Format in which the location information is requested by the EAS. |  |
| locQos | LocationQoS | O | 0..1 | Indicates the location quality of service of the requested location information. |  |

#### 8.y.5.3 Simple data types and enumerations

None.

### 8.y.6 Error Handling

General error responses are defined in clause 7.7.

### 8.y.7 Feature negotiation

General feature negotiation procedures are defined in clause 7.8. Table 8.y.7-1 lists the supported features for Eees\_UELocation API.

Table 8.y.7-1: Supported Features

|  |  |  |
| --- | --- | --- |
| **Feature number** | **Feature Name** | **Description** |
| 1 | Notification\_test\_event | Testing of notification connection is supported according to clause 7.6. |
| 2 | Notification\_websocket | The delivery of notifications over Websocket is supported according to clause 7.6. This feature requires that the Notification\_test\_event feature is also supported. |

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