**3GPP TSG CT WG3 Meeting #138 *C3-246376***

**Orlando, US, 18 - 22 November, 2024 was C3-246228**

|  |
| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **29.549** | **CR** | **0345** | **rev** | **-** | **Current version:** | **19.0.0** |  |
|  |
| *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:***  | Define SS\_SLPositioningManagement API resources and data model |
|  |  |
| ***Source to WG:*** | Nokia |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | eLSAPP |  | ***Date:*** | 2024-11-11 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-19 |
|  | *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 canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
|  |  |
| ***Reason for change:*** | Stage-2 (SA6) agreed CR S6-244617 (TS 23.434 CR#337) defines new API - SS\_SLPositioningManagement API, where SEAL LMS (SL positioning enabler capability) provides support to the provisioning/delivery of ranging services in an area to the subscribed VAL server (SL Positioning / Ranging Server). |
|  |  |
| ***Summary of change:*** |  SS\_SLPositioningManagement API resources and data model are defined.  |
|  |  |
| ***Consequences if not approved:*** | Stage-2 requirements not supported. |
|  |  |
| ***Clauses affected:*** | 7.1.4 (new) and sub clauses. |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  |  Other core specifications  | TS/TR 23.434 CR 0337  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** | This CR does not impact open API defined in this specification |
|  |  |
| ***This CR's revision history:*** |  |

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

### 7.1.4 SS\_SLPositioningManagement Service API

#### 7.1.4.1 Introduction

The SS\_SLPositioningManagement service shall use the SS\_SLPositioningManagement API.

The API URI of the SS\_SLPositioningManagement API shall be:

**{apiRoot}/<apiName>/<apiVersion>**

The request URIs used in HTTP requests shall have the Resource URI structure as defined in clause 6.5, i.e.:

**{apiRoot}/<apiName>/<apiVersion>/<apiSpecificSuffixes>**

with the following components:

- The {apiRoot} shall be set as described in clause 6.5.

- The <apiName>shall be "ss-slpm".

- The <apiVersion> shall be "v1".

- The <apiSpecificSuffixes> shall be set as described in clause 6.5.

NOTE: When 3GPP TS 29.122 [3] is referenced for the common protocol and interface aspects for API definition in the clauses under clause 7.1.4, the LM Server takes the role of the SCEF and the service consumer takes the role of the SCS/AS.

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

#### 7.1.4.2 Usage of HTTP

The provisions of clause 6.3 shall apply for the SS\_SLPositioningManagement API.

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

#### 7.1.4.3 Resources

##### 7.1.4.3.1 Overview

This clause describes the structure for the Resource URIs and the resources and methods used for the service.

Figure 7.1.4.3.1-1 depicts the resource URIs structure for the SS\_SLPositioningManagement API.



Figure 7.1.4.3.1-1: Resource URI structure of the SS\_SLPositioningManagement API

Table 7.1.4.3.1-1 provides an overview of the resources and applicable HTTP methods for the SS\_SLPositioningManagement API.

Table 7.1.4.3.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method or custom operation | Description |
| SL Positioning Management Subscriptions | /subscriptions | POST | Create a new SL Positioning Management Subscription. |
| Individual SL Positioning Management Subscription | /subscriptions/{subscriptionId} | GET | Retrieve an existing "Individual SL Positioning Management Subscription" resource. |
| PUT | Update an existing "Individual SL Positioning Management Subscription" resource. |
| PATCH | Modify an existing "Individual SL Positioning Management Subscription" resource. |
| DELETE | Delete an existing "Individual SL Positioning Management Subscription" resource. |

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

##### 7.1.4.3.2 Resource: SL Positioning Management Subscriptions

###### 7.1.4.3.2.1 Description

This resource represents the collection of SL Positioning Management Subscriptions managed by the LM Server.

###### 7.1.4.3.2.2 Resource Definition

Resource URI: {**apiRoot**}/**ss-slpm**/<**apiVersion**>/**subscriptions**

This resource shall support the resource URI variables defined in table 7.1.4.3.2.2-1.

Table 7.1.4.3.2.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 7.1.4.1. |

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

###### 7.1.4.3.2.3 Resource Standard Methods

7.1.4.3.2.3.1 POST

The HTTP POST method enables a service consumer to request the creation of a new SL Positioning Management Subscription at the LM Server.

This method shall support the URI query parameters specified in table 7.1.4.3.2.3.1-1.

Table 7.1.4.3.2.3.1-1: URI query parameters supported by the POST method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
|  |  |  |  |  |

This method shall support the request data structures specified in table 7.1.4.3.2.3.1-2 and the response data structures and response codes specified in table 7.1.4.3.2.3.1-3.

Table 7.1.4.3.2.3.1-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| SlPositionMgmtSubsc | M | 1 | Represents the parameters to request the creation of an SL Positioning Management Subscription. |

Table 7.1.4.3.2.3.1-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| SlPositiongMgmtSubsc | M | 1 | 201 Created | Successful case. The SL Position Management Subscription is successfully created, and a representation of the created "Individual SL Positioning Management Subscription" resource is returned in the response body.An HTTP "Location" header that contains the URI of the created resource shall also be included. |
| NOTE: The mandatory HTTP error status codes for the HTTP POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] shall also apply. |

Table 7.1.4.3.2.3.1-4: 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}/ss-slpm/<apiVersion>/subscriptions{subscriptionId} |

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

###### 7.1.4.3.2.4 Resource Custom Operations

There are no resource custom operations defined for this resource in this release of the specification.

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

##### 7.1.4.3.3 Resource: Individual SL Positioning Management Subscription

###### 7.1.4.3.3.1 Description

###### 7.1.4.3.3.2 Resource Definition

Resource URI: {**apiRoot**}/**ss-slpm**/<**apiVersion**>/**subscriptions**/{**subscriptionId**}

This resource shall support the resource URI variables defined in table 7.1.4.3.3.2-1.

Table 7.1.4.3.3.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 7.1.4.1. |
| subscriptionId | string | Represents the identifier of an "Individual SL Positioning Management Subscription" resource. |

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

###### 7.1.4.3.3.3 Resource Standard Methods

7.1.4.3.3.3.1 GET

The HTTP GET method allows a service consumer to retrieve an existing "Individual SL Positioning Management Subscription" resource at the LM Server.

This method shall support the URI query parameters specified in table 7.1.4.3.3.3.1-1.

Table 7.1.4.3.3.3.1-1: 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 7.1.4.3.3.3.1-2 and the response data structures and response codes specified in table 7.1.4.3.3.3.1-3.

Table 7.1.4.3.3.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 7.1.4.3.3.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| SlPositionMgmtSubsc | M | 1 | 200 OK | Successful case. The requested "Individual SL Positioning Management Subscription" resource shall be returned. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.The response shall include a Location header field containing an alternative URI of the resource located in an alternative LM Server.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.The response shall include a Location header field containing an alternative URI of the resource located in an alternative LM Server.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the HTTP GET method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] shall also apply. |

Table 7.1.4.3.3.3.1-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative LM Server. |

Table 7.1.4.3.3.3.1-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative LM Server. |

7.1.4.3.3.3.2 PUT

The HTTP PUT method allows a service consumer to request the update of an existing "Individual SL Positioning Management Subscription" resource.

This method shall support the URI query parameters specified in table 7.1.4.3.3.3.2-1.

Table 7.1.4.3.3.3.2-1: URI query parameters supported by the PUT method on this resource

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

This method shall support the request data structures specified in table 7.1.4.3.3.3.2-2 and the response data structures and response codes specified in table 7.1.4.3.3.3.2-3.

Table 7.1.4.3.3.3.2-2: Data structures supported by the PUT Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| SlPositionMgmtSubsc | M | 1 | Represents the updated representation of the "Individual SL Positioning Management Subscription" resource. |

Table 7.1.4.3.3.3.2-3: Data structures supported by the PUT Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| SlPositionMgmtSubsc | M | 1 | 200 OK | Successful case. The "Individual SL Positioning Management Subscription" resource is updated successfully, and a representation of the updated resource is returned in the response body. |
| n/a |  |  | 204 No Content | Successful case. The "Individual SL Positioning Management Subscription" resource is updated successfully, and no content is returned in the response body. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.The response shall include a Location header field containing an alternative URI representing the end point of an alternative LM Server.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.The response shall include a Location header field containing an alternative URI representing the end point of an alternative LM Server.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the HTTP PUT method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] shall also apply. |

Table 7.1.4.3.3.3.2-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative LM Server. |

Table 7.1.4.3.3.3.2-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative LM Server. |

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

7.1.4.3.3.3.3 PATCH

The HTTP PATCH method allows a service consumer to request the modification of an existing "Individual SL Positioning Management Subscription" resource.

This method shall support the URI query parameters specified in table 7.1.4.3.3.3.3-1.

Table 7.1.4.3.3.3.3-1: URI query parameters supported by the PATCH method on this resource

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

This method shall support the request data structures specified in table 7.1.4.3.3.3.3-2 and the response data structures and response codes specified in table 7.1.4.3.3.3.3-3.

Table 7.1.4.3.3.3.3-2: Data structures supported by the PATCH Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| SlPositionMgmtSubscPatch | M | 1 | Represents the requested modifications to the "Individual SL Positioning Management Subscription" resource. |

Table 7.1.4.3.3.3.3-3: Data structures supported by the PATCH Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| SlPositionMgmtSubsc | M | 1 | 200 OK | Successful case. The "Individual SL Positioning Management Subscription" resource is modified successfully, and the representation of the updated resource is returned in the response body. |
| n/a |  |  | 204 No Content | Successful case. The "Individual SL Positioning Management Subscription" resource is modified successfully, and no content is returned in the response body. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.The response shall include a Location header field containing an alternative URI of the resource located in an alternative LM Server.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.The response shall include a Location header field containing an alternative URI of the resource located in an alternative LM Server.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the HTTP PATCH method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] shall also apply. |

Table 7.1.4.3.3.3.3-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative LM Server. |

Table 7.1.4.3.3.3.3-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative LM Server. |

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

7.1.4.3.3.3.4 DELETE

The HTTP PATCH method allows a service consumer to request the deletion of an existing "Individual SL Positioning Management Subscription" resource.

Table 7.1.4.3.3.3.4-1: URI query parameters supported by the DELETE method on this resource

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

This method shall support the request data structures specified in table 7.1.4.3.3.3.4-2 and the response data structures and response codes specified in table 7.1.4.3.3.3.4-3.

Table 7.1.4.3.3.3.4-2: Data structures supported by the DELETE Request Body on this resource

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

Table 7.1.4.3.3.3.4-3: Data structures supported by the DELETE Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| n/a |  |  | 204 No Content | Successful case. The "Individual SL Positioning Management Subscription" resource is successfully deleted. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.The response shall include a Location header field containing an alternative URI of the resource located in an alternative LM Server.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.The response shall include a Location header field containing an alternative URI of the resource located in an alternative LM Server.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the HTTP DELETE method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] shall also apply. |

Table 7.1.4.3.3.3.4-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative LM server. |

Table 7.1.4.3.3.3.4-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI of the resource located in an alternative LM server. |

###### 7.1.4.3.3.4 Resource Custom Operations

There are no resource custom operations defined for this resource in this release of the specification.

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

#### 7.1.4.4 Custom Operations without associated resources

There are no custom Operations without associated resources defined for this resource in this release of the specification.

7.1.4.5 Notifications

7.1.4.5.1 General

Notifications shall comply to clause 6.6.

Table 7.1.4.5.1-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description(service operation) |
| SL Positioning Management Event Notification | {notifUri} | POST | This service operation enables an LM Server to notify a previously subscribed service consumer on SL Positioning related event(s). |

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

##### 7.1.4.5.2 SL Positioning Management Event Notification

###### 7.1.4.5.2.1 Description

The SL Positioning Management Event Notification is used by the LM Server to notify a previously subscribed service consumer on SL Positioning related event(s).

###### 7.1.4.5.2.2 Target URI

The Callback URI **"{notifUri}"** shall be used with the callback URI variables defined in table 7.1.4.5.2.2-1.

Table 7.1.4.5.2.2-1: Callback URI variables

|  |  |
| --- | --- |
| Name | Definition |
| notifUri | Represents the callback URI encoded as a string formatted as a URI. |

###### 7.1.4.5.2.3 Standard Methods

7.1.4.5.2.3.1 POSTThis method shall support the request data structures specified in table 7.1.4.5.2.3-1 and the response data structures and response codes specified in table 7.1.4.5.2.3-2.

Table 7.1.4.5.2.3-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| SlPositionMgmtNotif | M | 1 | Represents the SL Positioning Management Event Notification. |

Table 7.1.4.5.2.3-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| n/a |  |  | 204 No Content | Successful case. The SL Positioning Management Event Notification is successfully received and acknowledged. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.The response shall include a Location header field containing an alternative URI representing the end point of an alternative service consumer where the notification should be sent.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.The response shall include a Location header field containing an alternative URI representing the end point of an alternative service consumer where the notification should be sent.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the HTTP POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] shall also apply. |

Table 7.1.4.5.2.3-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI representing the end point of an alternative service consumer towards which the notification should be redirected. |

Table 7.1.4.5.2.3-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative URI representing the end point of an alternative service consumer towards which the notification should be redirected. |

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

#### 7.1.4.6 Data Model

##### 7.1.4.6.1 General

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

Table 7.1.4.6.1-1 specifies the data types defined for the SS\_SLPositioningManagement API.

Table 7.1.4.6.1-1: SS\_SLPositioningManagement API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Section defined | Description | Applicability |
| SlPositionMgmtSubsc | 7.1.4.6.2.2 | Represents the SL Positioning Management subscription information. |  |
| SlPositionMgmtSubscPatch | 7.1.4.6.2.3 | Represents the update in the SL Positioning Management subscription. |  |
| SlPositionMgmtNotif | 7.1.4.6.2.4 | Represents the SL Positioning Management notification. |  |
| ValUeInfo | 7.1.4.6.2.5 | Represents the Val UE and its address information. |  |

Table 7.1.4.6.1-2 specifies data types re-used by the SS\_SLPositioningManagement API service.

Table 7.1.4.6.1-2: SS\_SLPositioningManagement API re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| LocationArea5G | 3GPP TS 29.122 [3] | Represents location information. |  |
| ReportingInformation | 3GPP TS 29.523 [20] | Used to indicate the reporting requirement, only the following information are applicable for LM Server. |  |
| SupportedFeatures | 3GPP TS 29.571 [21] | Used to negotiate the applicability of optional features defined in table 7.1.4.6-1. |  |
| Uri | 3GPP TS 29.122 [3] | Used to indicate the notification URI. |  |
| ValServiceArea | Clause 7.1.3.4.2.2 | Represents the VAL service area. |  |
| ValTargetUe | Clause 7.3.1.4.2.3 | Used to indicate either VAL User ID or VAL UE ID, to which location reporting applies. |  |
| ValUeAddrInfo | Clause 7.4.1.4.2.30 | Represents VAL UE address information. |  |

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

##### 7.1.4.6.2 Structured data types

###### 7.1.4.6.2.1 Introduction

This clause defines the data structures to be used in resource representations.

###### 7.1.4.6.2.2 Type: SlPositionMgmtSubsc

Table 7.1.4.6.2.2-1: Definition of type SlPositionMgmtSubsc

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| valSvcId | string | M | 0..1 | The VAL service ID of the VAL application for which the SL Positioning change event(s) is subscribed. |  |
| tgtUes | array(ValTargetUe) | C | 1..N | List of VAL User(s) or UE ID(s) for which SL Positioning management monitoring is requested for the given location information.(NOTE) |  |
| valServArea | LocationArea5G | C | 0..1 | Represents the VAL Service Area for which the subscription applies. |  |
| slPosMgmtParams | FFS | M | 0..1 | Represents the SL Positioning parameters. |  |
| valUeSel | FFS | O | 0..1 | List of VAL UE(s) selection criteria for SL Positioning Management which when satisfied requires the LM server to send the notification. |  |
| eventReport | ReportingInformation | M | 1 | Represents the reporting requirements of the event subscription. |  |
| notifUri | Uri | M | 1 | Indicates the URI towards which the notification should be delivered. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Represents the supported features.This attribute shall be provided when feature negotiation needs to take place. |  |
| NOTE: At least one of the "tgtUes" attribute and the “valServArea” attribute shall be present. |

Editor's Note: The content of this data type is FFS.

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

###### 7.1.4.6.2.3 Type: SlPositionMgmtSubscPatch

Table 7.1.4.6.2.3-1: Definition of type SlPositionMgmtSubscPatch

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| tgtUes | array(ValTargetUe) | O | 1..N | List of VAL User(s) or UE ID(s) for which SL Positioning management monitoring is requested for the given location information.(NOTE) |  |
| valServArea | LocationArea5G | O | 0..1 | Represents the VAL Service Area for which the subscription update applies. |  |
| slPosMgmtParams | FFS | O | 0..1 | Represents the SL Positioning parameters that LMS has to configure the identified VAL UE(s). |  |
| valUeSel | FFS | O | 0..1 | List of VAL UE(s) selection criteria for SL Positioning Management which when satisfied requires the LM server to send the notification. |  |
| eventReport | ReportingInformation | O | 1 | Represents the reporting requirements of the event subscription. |  |
| notifUri | Uri | O | 1 | Indicates the URI towards which the notification should be delivered. |  |

Editor's Note: The content of this data type is FFS.

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

###### 7.1.4.6.2.4 Type: SlPositionMgmtNotif

Table 7.1.4.6.2.4-1: Definition of type SlPositionMgmtNotif

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| subscId | string | M | 0..1 | Subscription Identifier of the SL Position Management subscription. |  |
| refUes | array(ValUeInfo) | M | 1..N | Val UE(s) that are identified as the Reference UE(s). |  |
| tgtUes | array(ValUeInfo) | M | 1..N | Val UE(s) that are identified as the Target UE(s). |  |
| clientUes | array(ValUeInfo) | O | 1..N | Val UE(s) that are identified as the Client UE(s). |  |
| failCause | Cause | O | 0..1 | Notification from the LM server regarding the criteria that is matched.  |  |

Editor's Note: The content of this data type is FFS.

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

###### 7.1.4.6.2.5 Type: ValUeInfo

Table 7.1.4.6.2.5-1: Definition of type ValUeInfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| valUeId | string | C | 0..1 | Contains the unique identifier of the concerned VAL UE. (NOTE) |  |
| valUeAddr | ValUeAddrInfo | C | 0..1 | Contains the address information of the concerned VAL UE. (NOTE) |  |
| NOTE: At least one of these attributes shall be present. |

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

##### 7.1.4.6.3 Simple data types and enumerations

###### 7.1.4.6.3.1 Introduction

This clause defines simple data types and enumerations that can be referenced from data structures defined in the previous clauses.

###### 7.1.4.6.3.2 Simple data types

The simple data types defined in table 7.1.4.6.3.2-1 shall be supported.

Table 7.1.4.6.3.2-1: Simple data types

|  |  |
| --- | --- |
| Type name | Description |
|  |  |

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

###### 7.1.4.6.3.4 Enumeration: Cause

Table 7.1.4.6.3.4-1: Enumeration Cause

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| NOTIFY\_CRITERIA\_MATCHED | This value indicates that the VAL UE in the report matches to the criteria indicated in the subscription. |  |
| NOTIFY\_NO\_REFERENCE\_UE\_FOUND | This value indicates that the none of the VAL UE matched the criteria for the Reference UE. |  |
| NOTIFY\_NO\_TARGET\_UE\_FOUND | This value indicates that the none of the VAL UE matched the criteria for Target UE. |  |
| NOTIFY\_NO\_CLIENT\_UE\_FOUND | This value indicates that the none of the VAL UE matched the criteria for Client UE. |  |

##### 7.1.4.6.4 Data types describing alternative data types or combinations of data types

There are no data types describing alternative data types or combinations of data types defined for this API in this release of the specification.

##### 7.1.4.6.5 Binary data

###### 7.1.4.6.5.1 Binary Data Types

Table 7.1.4.6.5.1-1: Binary Data Types

|  |  |  |
| --- | --- | --- |
| Name | Clause defined | Content type |
|  |  |  |

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

#### 7.1.4.7 Error Handling

##### 7.1.4.7.1 General

For the SS\_SLPositioningManagement API, error handling shall be supported as specified in clause 6.7.

In addition, the requirements in the following clauses are applicable for the SS\_SLPositioningManagement API.

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

##### 7.1.4.7.2 Protocol Errors

No specific protocol errors for the SS\_SLPositioningManagement API are specified.

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

##### 7.1.4.7.3 Application Errors

The application errors defined for SS\_SLPositioningManagement API are listed in table 7.1.4.6.3-1.

Table 7.1.4.7.3-1: Application errors

|  |  |  |  |
| --- | --- | --- | --- |
| Application Error | HTTP status code | Description | Applicability |
| n/a |  |  |  |

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

#### 7.1.4.8 Feature negotiation

The optional features in table 7.1.4.8-1 are defined for the SS\_SLPositioningManagement API. They shall be negotiated using the extensibility mechanism defined in clause 6.8.

Table 7.1.4.8-1: Supported Features

|  |  |  |
| --- | --- | --- |
| **Feature number** | **Feature Name** | **Description** |
|  |  |  |

#### 7.1.4.9 Security

The provisions of clause 9 shall apply for the SS\_SLPositioningManagement API.

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