**3GPP TSG-CT WG3 Meeting #140 *C3-251116***

**Wuhan, CN, 7 - 11 April 2025**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.549** | **CR** | **0384** | **rev** | **1** | **Current version:** | **19.2.0** |  |
|  | | | | | | | | |
| *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:*** | Resolve the ENs in SS\_SLPositioningManagement Service API | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | CATT | | | | | | | | | |
| ***Source to TSG:*** | C3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eLSAPP | | | | |  | ***Date:*** | | | 2025-04-07 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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 can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | ENs are left in the SS\_SLPositioningManagement Service API.  The data type for attribute valUeSel is proposed to contain the indications for different UE types. Based on the indications, the SEAL server notifies the VAL UEs with roles to VAL server. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1/ Define new data type for the attribute valUeSel.  2/ Update the related data types.  3/ Update the OpenAPI. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | SS\_SLPositioningManagement Service API is not completed and stage 2 requirements cannot be fulfilled. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.1.6.6.2.2, 7.1.6.6.2.3, 7.1.6.6.2.4, 7.1.6.6.3.4, 7.1.6.6.3.5(new), A.27 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | This CR introduces backward compatible correction to the following APIs:  TS29549\_SS\_SLPositioningManagement.yaml | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

###### 7.1.6.6.2.2 Type: SlPositionMgmtSubsc

Table 7.1.6.6.2.2-1: Definition of type SlPositionMgmtSubsc

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| valSvcId | string | M | 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 | array(ValUeSel) | O | 1..N | 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 \* \* \* \*

###### 7.1.6.6.2.3 Type: SlPositionMgmtSubscPatch

Table 7.1.6.6.2.3-1: 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 | array(ValUeSel) | O | 1..N | 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 \* \* \* \*

###### 7.1.6.6.2.4 Type: SlPositionMgmtNotif

Table 7.1.6.6.2.4-1: 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) | C | 1..N | Val UE(s) that are identified as the Reference UE(s).  This attribute shall be present if reference UE is subscribed and discovered by the LMS. |  |
| tgtUes | array(ValUeInfo) | C | 1..N | Val UE(s) that are identified as the Target UE(s).  This attribute shall be present if target UE is subscribed and discovered by the LMS. |  |
| clientUes | array(ValUeInfo) | C | 1..N | Val UE(s) that are identified as the Client UE(s).  This attribute shall be present if client UE is subscribed and discovered by the LMS. |  |
| failCause | array(Cause) | C | 0..1 | Notification from the LM server regarding the criteria that is matched.  This attribute shall be present if reference UE and/or target UE and/or client UE are not discovered. |  |

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

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

###### 7.1.6.6.3.4 Enumeration: Cause

Table 7.1.6.6.3.4-1: Enumeration Cause

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| 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. |  |

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

###### 7.1.6.6.3.5 Enumeration: ValUeSel

Table 7.1.6.6.3.5-1: Enumeration ValUeSel

|  |  |  |
| --- | --- | --- |
| Enumeration value | Description | Applicability |
| REF\_UE | Indicate the selection criteria of UE role is reference UE. |  |
| TARGET\_UE | Indicate the selection criteria of UE role is target UE. |  |
| CLIENT\_UE | Indicate the selection criteria of UE role is client UE. |  |

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

# A.27 SS\_SLPositioningManagement API

openapi: 3.0.0

info:

title: SS\_SLPositioningManagement

version: 1.0.0-alpha.1

description: |

API for SEAL SL Positioning management Service.

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externalDocs:

description: >

3GPP TS 29.549 V19.1.0 Service Enabler Architecture Layer for Verticals (SEAL);

Application Programming Interface (API) specification; Stage 3.

url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.549/

servers:

- url: '{apiRoot}/ss-slpm/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in clause 6.5 of 3GPP TS 29.549

security:

- {}

- oAuth2ClientCredentials: []

paths:

/subscriptions:

post:

summary: Create individual SL Positioning Management subscription.

operationId: SubscribeSlPositionMgmt

tags:

- SL Positioning Management Subscriptions (Collection)

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'201':

description: >

The requested individual SL Positioning MAnagement subscription

resource is successfully created and a representation of the created

resource is returned in the response body.

content:

application/json:

schema:

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

headers:

Location:

description: Contains the URI of the newly created resource.

required: true

schema:

type: string

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

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

'404':

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

'411':

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

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

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

callbacks:

SlPositionMgmtNotif:

'{$request.body#/notifUri}':

post:

summary: Notify on changes of the SL Positioning Management according to the

requested reporting settings.

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: The notification is successfully received.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

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

'404':

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

'411':

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

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

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

/subscriptions/{subscriptionId}:

get:

summary: Read an existing individual SL Positioning Management subscription resource

according to the subscriptionId.

operationId: ReadSlPositioningMgmtSubscription

tags:

- Individual SL Positioning Management Subscription (Document)

parameters:

- name: subscriptionId

in: path

description: >

Represents the identifier of an individual SL Positioning Management

subscription resource.

required: true

schema:

type: string

responses:

'200':

description: The requested individual SL Positioning Management subscription returned.

content:

application/json:

schema:

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

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

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

'404':

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

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

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

put:

summary: >

Update an individual SL Positioning Management subscription identified by the

subscriptionId.

operationId: UpdateSlPositionMgmt

tags:

- Individual Unicast SL Positioning Management Subscription (Document)

parameters:

- name: subscriptionId

in: path

description: >

Represents the identifier of an individual unicast monitoring subscription resource.

required: true

schema:

type: string

requestBody:

description: Updated details of the unicast QoS monitoring subscription.

required: true

content:

application/json:

schema:

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

responses:

'200':

description: >

The subscription is updated successfully, and the updated subscription

information returned in the response.

content:

application/json:

schema:

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

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

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

'404':

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

'411':

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

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

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

patch:

summary: >

Modify an individual SL Positioning Management subscription identified

by the subscriptionId.

operationId: ModifySlPositionMgmt

tags:

- Individual SL Positioning Management Subscription (Document)

parameters:

- name: subscriptionId

in: path

description: >

Represents the identifier of an individual SL Positioning Management

subscription resource.

required: true

schema:

type: string

requestBody:

required: true

content:

application/merge-patch+json:

schema:

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

responses:

'200':

description: >

Individual individual SL Position Management resource is modified

successfully and representation of the modified individual SL Positioning Management

resource

subscription resource is returned.

content:

application/json:

schema:

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

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

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

'404':

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

'411':

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

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

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

delete:

summary: Remove an existing individual SL Positioning Management resource according to

the subscriptionId.

operationId: UnsubscribeSlPositionMgmt

tags:

- Individual SL Positioning Management Subscription (Document)

parameters:

- name: subscriptionId

in: path

description: >

Represents the identifier of an individual SL Positioning Management

subscription resource.

required: true

schema:

type: string

responses:

'204':

description: >

The Individual SL Positioning Management Subscription resource matching the

subscriptionId is deleted.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

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

'404':

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

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

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

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{tokenUrl}'

scopes: {}

schemas:

SlPositionMgmtSubsc:

description: Indicate the SL Positioning Management subscription.

type: object

properties:

valSvcId:

type: string

description: Identity of the VAL service

tgtUes:

type: array

items:

$ref: 'TS29549\_SS\_UserProfileRetrieval.yaml#/components/schemas/ValTargetUe'

minItems: 1

description: List of VAL Users or UE IDs for which SL location management is requested.

valServArea:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'

valUeSel:

type: array

items:

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

minItems: 1

eventReport:

$ref: 'TS29523\_Npcf\_EventExposure.yaml#/components/schemas/ReportingInformation'

notifUri:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Uri'

suppFeat:

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

required:

- notifUri

- eventReport

- valSvcId

SlPositionMgmtSubscPatch:

description: Indicate the SL Positioning Management subscription update.

type: object

properties:

valSvcId:

type: string

description: Identity of the VAL service

tgtUes:

type: array

items:

$ref: 'TS29549\_SS\_UserProfileRetrieval.yaml#/components/schemas/ValTargetUe'

minItems: 1

description: List of VAL Users or UE IDs for which SL location management is requested.

valServArea:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'

valUeSel:

type: array

items:

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

minItems: 1

eventReport:

$ref: 'TS29523\_Npcf\_EventExposure.yaml#/components/schemas/ReportingInformation'

notifUri:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Uri'

SlPositionMgmtNotif:

description: SL Positioning Management notification.

type: object

properties:

subscId:

type: string

description: Subscription Identifier

refUes:

type: array

items:

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

minItems: 1

description: List of VAL UE(s) identified as Reference UE(s).

tgtUes:

type: array

items:

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

minItems: 1

description: List of VAL UE(s) identified as Target UE(s).

clientUes:

type: array

items:

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

minItems: 1

description: List of VAL UE(s) identified as Client UE(s).

failCause:

type: array

items:

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

minItems: 1

required:

- subscId

- refUes

- tgtUes

ValUeInfo:

description: Indicate the Val UE Information.

type: object

properties:

valUeId:

type: string

description: Identity of the VAL UE ID.

valUeAddr:

$ref: 'TS29549\_SS\_NetworkResourceAdaptation.yaml#/components/schemas/ValUeAddrInfo'

# Simple data types and Enumerations

Cause:

anyOf:

- type: string

enum:

- NOTIFY\_NO\_REFERENCE\_UE\_FOUND

- NOTIFY\_NO\_TARGET\_UE\_FOUND

- NOTIFY\_NO\_CLIENT\_UE\_FOUND

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration but is not used to encode

content defined in the present version of this API.

description: |

Possible values are:

Enumeration of SL Positioning management failure cause.

- NOTIFY\_NO\_REFERENCE\_UE\_FOUND: This value indicates that the none of the VAL UE matches

the criteria for the Reference UE.

- NOTIFY\_NO\_TARGET\_UE\_FOUND: This value indicates that the none of the VAL UE matches

the criteria for the Target UE.

- NOTIFY\_NO\_CLIENT\_UE\_FOUND: This value indicates that the none of the VAL UE matches

the criteria for the Client UE.

ValUeSel:

anyOf:

- type: string

enum:

- REF\_UE

- TARGET\_UE

- CLIENT\_UE

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration but is not used to encode

content defined in the present version of this API.

description: |

Possible values are:

Enumeration of VAL UE(s) selection criteria for SL Positioning management.

- REF\_UE: Indicates the selection criteria of UE role is reference UE.

- TARGET\_UE: Indicates the selection criteria of UE role is target UE.

- CLIENT\_UE: Indicates the selection criteria of UE role is client UE.

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