**3GPP TSG CT WG3 Meeting #138 *C3-246119***

**Orlando, US, 18 - 22 November, 2024**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.549** | **CR** | **0343** | **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)*.* | | | | | | | | |
|  | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Define SS\_SLPositioningManagement open API | | | | | | | | | |
|  |  | | | | | | | | | |
| ***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 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:*** | | 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:*** | | New SS\_SLPositioningManagement API is defined. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Stage-2 requirements not supported. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | A.23 (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 provides a new backward compatible feature enhancement to the newly defined API – SS\_SLPositioningManagement API | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

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

# A.23 SS\_SLPositioningManagement API

openapi: 3.0.0

info:

title: SS\_SLPositioningManagement

description: |

API for SEAL SL Positioning management Service.

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version: "1.0.0"

externalDocs:

description: >

3GPP TS 29.549 V19.0.0 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/

security:

- {}

- oAuth2ClientCredentials: []

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

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}:

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'

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'

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: 'TS29549\_SS\_VALServiceAreaConfiguration#/components/schemas/ValServiceArea'

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: 'TS29549\_SS\_VALServiceAreaConfiguration#/components/schemas/ValServiceArea'

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:

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

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\_CRITERIA\_MATCHED

- 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\_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 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.

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