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

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

|  |
| --- |
| *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** |

|  |
| --- |
|  |
| ***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 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:*** | 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 \*\*\*