**3GPP TSG-CT3 Meeting #121e C3-222385**

**E-Meeting, 6th – 12th April 2022**

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** | **0083** | **rev** | - | **Current version:** |  |  |
|  |
| *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:***  | Supplementary location information to verticals |
|  |  |
| ***Source to WG:*** | Samsung |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | eSEAL, UASAPP |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** | B |  | ***Release:*** | Rel-17 |
|  | *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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | As agreed (S6-210921) in stage 2, the SS\_LocationInfoEvent API needs to be updated to support supplementary location information. |
|  |  |
| ***Summary of change:*** | 1. Service description of SS\_LocationInfoEvent updated to fetch the UE location information from the 3GPP core network, based on indication from VAL server
2. SS\_Events API updated to include an indication in Event subscription request.
 |
|  |  |
| ***Consequences if not approved:*** | Stage 2 aspects of VAL server indicating the supplementary location is not specified |
|  |  |
| ***Clauses affected:*** | 5.2.2, 7.5.1.4.2.7, 7.5.1.6, A.6 |
|  |  |
|  | **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 proposes backward compatible feature for SS\_Events API. |
|  |  |
| ***This CR's revision history:*** |  |

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

### 5.2.2 SS\_LocationInfoEvent API

The SS\_LocationInfoEvent API, as defined 3GPP TS 23.434 [2], allows a VAL server via LM-S reference point to subscribe for and receive notifications of location information from the location management server. The SS\_LocationInfoEvent API supports this via the event "LM\_LOCATION\_INFO\_CHANGE" of the SS\_Events API as specified in clause 7.5. If the event subscription includes an indication for supplementary location information, then the location management server obtains the UE location information from the 3GPP core network.

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

###### 7.5.1.4.2.7 IdentityFilter

Table 7.5.1.4.2.7-1: Definition of type IdentityFilter

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| valSvcId | string | O | 0..1 | Identity of the VAL Service that the subscriber is interested in. |  |
| valTgtUes | array(ValTargetUe) | C | 1..N | VAL User IDs or VAL UE IDs that the event subscriber wants to know in the interested event. This parameter shall be present if the event subscribed is “CM\_USER\_PROFILE\_CHANGE” or “LM\_LOCATION\_INFO\_CHANGE”. |  |
| suppLoc | boolean | O | 0..1 | Indication to request for supplementary location information of the VAL UE IDs. Set to true by Subscriber to request the SEAL server to send supplementary location information from the 3GPP core network. Set to false or omitted otherwise. | LM\_SuppLoc |

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

#### 7.5.1.6 Feature Negotiation

General feature negotiation procedures are defined in clause 6.8. Table 7.5.1.6-1 lists the supported features for SS\_Events API.

Table 7.5.1.6-1: Supported Features

|  |  |  |
| --- | --- | --- |
| Feature number | Feature Name | Description |
| 1 | Notification\_test\_event | Testing of notification connection is supported according to clause 6.6. |
| 2 | Notification\_websocket | The delivery of notifications over Websocket is supported according to clause 6.6. This feature requires that the Notification\_test\_event feature is also supported. |
| 3 | LM\_LocationInfoChange | This feature supports the location information change event. |
| 4 | GM\_GroupInfoChange | This feature supports the group information change event. |
| 5 | CM\_UserProfileChange | This feature supports the user profile change event. |
| 6 | GM\_GroupCreate | This feature supports the group creation event. |
| 7 | GM\_MessageFilter | This feature supports the message filter information in group information change event. |
| 8 | NRM\_EventMonitor | This feature supports the monitoring of events related to VAL UEs or Users. |
| 9 | LM\_LocationDeviation | This feature supports the monitoring of VAL UE / User’s deviation from a given area of interest. |
| 10 | GM\_TempGroup | This feature supports the functionality of temporary VAL group formation within a VAL system. |
| 11 | LM\_LocationAreaMonitor | This feature supports the monitoring of VAL UEs which are moving in or moving out from a given area of interest. |
| 12 | SubscUpdate | Indicates the support for updating an SEAL event subscription resource. |
| X | LM\_SuppLoc | Indicates the support of supplementary location information. |

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

## A.6 SS\_Events API

openapi: 3.0.0

info:

 title: SS\_Events

 description: |

 API for SEAL Events management.

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 version: "1.1.0-alpha.5"

externalDocs:

 description: >

 3GPP TS 29.549 V17.4.0 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-events/v1'

 variables:

 apiRoot:

 default: https://example.com

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

paths:

 /subscriptions:

 post:

 description: Creates a new individual SEAL Event Subscription.

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 callbacks:

 notificationDestination:

 '{request.body#/notificationDestination}':

 post:

 requestBody: # contents of the callback message

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '204':

 description: No Content (successful notification)

 '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'

 responses:

 '201':

 description: SEAL Events subscription resource created successfully.

 content:

 application/json:

 schema:

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

 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'

 /subscriptions/{subscriptionId}:

 delete:

 description: Deletes an individual SEAL Event Subscription.

 parameters:

 - name: subscriptionId

 in: path

 description: Identifier of an individual Events Subscription

 required: true

 schema:

 type: string

 responses:

 '204':

 description: The individual SEAL Events Subscription 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'

 patch:

 description: Modify an existing SEAL Event Subscription.

 parameters:

 - name: subscriptionId

 in: path

 description: Identifier of an individual Events Subscription

 required: true

 schema:

 type: string

 requestBody:

 required: true

 content:

 application/merge-patch+json:

 schema:

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

 responses:

 '200':

 description: The definition SEAL event subscription is modified successfully and a representation of the updated service API is returned in the request body.

 content:

 application/json:

 schema:

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

 '204':

 description: No Content. The SEAL Event Subscription is modified successfully.

 '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'

 put:

 description: Replace an existing SEAl event subscription.

 parameters:

 - name: subscriptionId

 in: path

 description: Identifier of an individual Events Subscription

 required: true

 schema:

 type: string

 requestBody:

 description: Individual SEAL events subscription to be replaced.

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '200':

 description: SEAL Event subscription updated successfully.

 content:

 application/json:

 schema:

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

 '204':

 description: No Content. Individual SEAL event subscription was updated successfully.

 '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:

 SEALEventSubscription:

 description: Represents an individual SEAL Event Subscription resource.

 type: object

 properties:

 subscriberId:

 type: string

 description: String identifying the subscriber of the event.

 eventSubs:

 type: array

 items:

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

 minItems: 1

 description: Subscribed events.

 eventReq:

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

 notificationDestination:

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

 requestTestNotification:

 type: boolean

 description: Set to true by Subscriber to request the SEAL server to send a test notification. Set to false or omitted otherwise.

 websockNotifConfig:

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

 eventDetails:

 type: array

 items:

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

 minItems: 1

 suppFeat:

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

 required:

 - subscriberId

 - eventSubs

 - eventReq

 - notificationDestination

 SEALEventSubscriptionPatch:

 description: Represents the partial update of individual SEAL Event Subscription resource.

 type: object

 properties:

 eventSubs:

 type: array

 items:

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

 minItems: 1

 description: Subscribed events.

 eventReq:

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

 notificationDestination:

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

 SEALEventNotification:

 description: Represents notification information of a SEAL Event.

 type: object

 properties:

 subscriptionId:

 type: string

 description: Identifier of the subscription resource.

 eventDetails:

 type: array

 items:

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

 minItems: 1

 description: Detailed notifications of individual events.

 required:

 - subscriptionId

 - eventDetails

 EventSubscription:

 description: Represents the subscription to a single SEAL event.

 type: object

 properties:

 eventId:

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

 valGroups:

 type: array

 items:

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

 minItems: 1

 description: Each element of the array represents the VAL group identifier(s) of a VAL service that the subscriber wants to know in the interested event.

 identities:

 type: array

 items:

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

 minItems: 1

 description: Each element of the array represents the VAL User / UE IDs of a VAL service that the event subscriber wants to know in the interested event.

 monFltr:

 type: array

 items:

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

 minItems: 1

 description: List of event monitoring details that the subscriber wishes to mmonitor the VAL UEs, VAL group and/or VAL service.

 areaInt:

 type: array

 items:

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

 minItems: 1

 description: Represents the list of VAL User / UE IDs and the area of interest information which the subscriber wishes to monitor the location deviation of VAL User / UEs.

 locAreaMon:

 type: array

 items:

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

 minItems: 1

 description: Each element represents the location area monitoring details to monitor the VA UEs moving in and out of the provided location area.

 required:

 - eventId

 SEALEventDetail:

 description: Represents the SEAL event details.

 type: object

 properties:

 eventId:

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

 lmInfos:

 type: array

 items:

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

 minItems: 1

 valGroupDocuments:

 type: array

 items:

 $ref: 'TS29549\_SS\_GroupManagement.yaml#/components/schemas/VALGroupDocument'

 minItems: 1

 description: The VAL groups documents with modified membership and configuration information.

 profileDocs:

 type: array

 items:

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

 minItems: 1

 description: Updated profile information associated with VAL Users or VAL UEs.

 msgFltrs:

 type: array

 items:

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

 minItems: 1

 description: The message filter information for various member VAL User or UEs of the VAL group.

 monRep:

 type: array

 items:

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

 minItems: 1

 description: The events reports with details of the events related to the VAL UE(s).

 locAdhr:

 type: array

 items:

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

 minItems: 1

 description: The location deviation information for the interested VAL User ID or UE IDs in a given location.

 tempGroupInfo:

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

 locAreaMonRep:

 type: array

 items:

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

 minItems: 1

 description: The location area monitoring of the given area of interest.

 required:

 - eventId

 VALGroupFilter:

 description: Represents a filter of VAL group identifiers belonging to a VAL service.

 type: object

 properties:

 valSvcId:

 type: string

 description: Identity of the VAL service

 valGrpIds:

 type: array

 items:

 type: string

 minItems: 1

 description: VAL group identifiers that event subscriber wants to know in the interested event.

 required:

 - valGrpIds

 IdentityFilter:

 description: Represents a filter of VAL User / UE identities belonging to a VAL service.

 type: object

 properties:

 valSvcId:

 type: string

 description: Identity of the VAL service

 valTgtUes:

 type: array

 items:

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

 minItems: 1

 description: VAL User IDs or VAL UE IDs that the event subscriber wants to know in the interested event.

 suppLoc:

 type: boolean

 description: Set to true by Subscriber to request the supplementary location information.

 LMInformation:

 description: Represents the location information for a VAL User ID or a VAL UE ID.

 type: object

 properties:

 valTgtUe:

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

 locInfo:

 $ref: 'TS29122\_MonitoringEvent.yaml#/components/schemas/LocationInfo'

 timeStamp:

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

 valSvcId:

 type: string

 description: Identity of the VAL service

 required:

 - locInfo

 - valTgtUe

 MessageFilter:

 description: Represents the message filters applicable to a VAL User ID or VAL UE ID.

 type: object

 properties:

 reqUe:

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

 tgtUe:

 type: array

 items:

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

 minItems: 1

 description: List of VAL User or UE IDs whose message to be sent.

 maxMsgs:

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

 scheds:

 type: array

 items:

 $ref: 'TS29122\_CpProvisioning.yaml#/components/schemas/ScheduledCommunicationTime'

 minItems: 1

 description: Time frame associated with total number of messages.

 msgTypes:

 type: array

 items:

 type: string

 minItems: 1

 description: List of message types to be sent to VAL UE.

 required:

 - reqUe

 MonitorFilter:

 description: Represents the event monitoring filters applicable to a VAL User ID or VAL UE ID.

 type: object

 properties:

 idnts:

 type: array

 items:

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

 minItems: 1

 description: List of VAL User or UE IDs whose events monitoring is requested.

 valSvcId:

 type: string

 description: Identity of the VAL service.

 valGrpId:

 type: string

 description: Identity of the group of the target UEs.

 profId:

 type: string

 description: The monitoring profile ID identifying a list of monitoring, analytics events.

 valCnds:

 type: array

 items:

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

 minItems: 1

 description: The temporal,spatial conditions for the events to be considered valid.

 evntDets:

 type: array

 items:

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

 minItems: 1

 description: List of monitoring, analytics events to be monitored.

 MonitorEvents:

 description: List of event types to be monitored in the context of events monitoring service.

 type: object

 properties:

 cnEvnts:

 type: array

 items:

 $ref: 'TS29122\_MonitoringEvent.yaml#/components/schemas/MonitoringType'

 minItems: 1

 description: List of monitoring events related to VAL UE.

 anlEvnts:

 type: array

 items:

 $ref: 'TS29522\_AnalyticsExposure.yaml#/components/schemas/AnalyticsEvent'

 minItems: 1

 description: List of analytics events related to VAL UE.

 MonitorEventsReport:

 description: List of monitoring and/or analytics events related to VAL UE.

 type: object

 properties:

 tgtUe:

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

 evnts:

 type: array

 items:

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

 minItems: 1

 description: List of monitoring and analytics events related to VAL UE.

 required:

 - tgtUe

 - evnts

 ValidityConditions:

 description: List of monitoring and/or analytics events related to VAL UE.

 type: object

 properties:

 locArea:

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

 tmWdws:

 type: array

 items:

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

 minItems: 1

 description: Time window validity conditions.

 MonitorLocationInterestFilter:

 description: Represents the location monitoring filter information.

 type: object

 properties:

 tgtUes:

 type: array

 items:

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

 minItems: 1

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

 locInt:

 $ref: 'TS29122\_MonitoringEvent.yaml#/components/schemas/LocationInfo'

 notInt:

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

 required:

 - tgtUes

 - locInt

 - notInt

 LocationDevMonReport:

 description: Location deviation monitoring report.

 type: object

 properties:

 tgtUes:

 type: array

 items:

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

 minItems: 1

 description: List of VAL Users or UE IDs for which report is related to.

 locInfo:

 $ref: 'TS29122\_MonitoringEvent.yaml#/components/schemas/LocationInfo'

 notifType:

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

 required:

 - tgtUes

 - locInfo

 - notifType

 TempGroupInfo:

 description: Represents the created temporary VAL group information.

 type: object

 properties:

 valGrpIds:

 type: array

 items:

 type: string

 minItems: 1

 tempValGrpId:

 type: string

 valServIds:

 type: array

 items:

 type: string

 minItems: 1

 required:

 - valGrpIds

 - tempValGrpId

 MonLocAreaInterestFltr:

 description: Filter information indicate the area of interest and triggering events.

 type: object

 properties:

 locInfoCri:

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

 trigEvnts:

 type: array

 items:

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

 minItems: 1

 description: Triggering events when to send information.

 required:

 - locInfoCri

 LocationInfoCriteria:

 description: Geographic location and reference UE details, where the UEs moving in and out to be monitored.

 type: object

 properties:

 geoArea:

 $ref: 'TS29572\_Nlmf\_Location.yaml#/components/schemas/GeographicArea'

 refUe:

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

 ReferenceUEDetail:

 description: Reference UE details, where the UEs moving in and out to be monitored.

 type: object

 properties:

 valTgtUe:

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

 proxRange:

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

 required:

 - valTgtUe

 - proxRange

 LocationAreaMonReport:

 description: Event report to notify the VAL UEs moving in or out from a given location.

 type: object

 properties:

 curPreUEs:

 type: array

 items:

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

 minItems: 1

 description: List of identities of all VAL UEs present in the given location area.

 moveInOutUEs:

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

 trigEvnt:

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

 MoveInOutUEDetails:

 description: List of UEs moved in and out.

 type: object

 properties:

 moveInUEs:

 type: array

 items:

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

 minItems: 1

 description: List of identities of VAL UEs who moved in to given location area since previous notification.

 moveOutUEs:

 type: array

 items:

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

 minItems: 1

 description: List of identities of VAL UEs who moved out of the given location area since previous notification.

 SEALEvent:

 anyOf:

 - type: string

 enum:

 - LM\_LOCATION\_INFO\_CHANGE

 - GM\_GROUP\_INFO\_CHANGE

 - CM\_USER\_PROFILE\_CHANGE

 - GM\_GROUP\_CREATE

 - NRM\_MONITOR\_UE\_USER\_EVENTS

 - LM\_LOCATION\_DEVIATION\_MONITOR

 - GM\_TEMP\_GROUP\_FORMATION

 - LM\_LOCATION\_AREA\_MONITOR

 - 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

 - LM\_LOCATION\_INFO\_CHANGE: Events related to the location information of VAL Users or VAL UEs from the Location Management Server.

 - GM\_GROUP\_INFO\_CHANGE: Events related to the modification of VAL group membership and configuration information from the Group Management Server.

 - CM\_USER\_PROFILE\_CHANGE: Events related to update of user profile information from the Configuration Management Server.

 - GM\_GROUP\_CREATE: Events related to creation of new VAL groups from the Group Mananagement Server.

 - NRM\_MONITOR\_UE\_USER\_EVENTS: Monitoring and analytic events related to VAL UEs, users or VAL group, from the Network Resource Management Server.

 - LM\_LOCATION\_DEVIATION\_MONITOR: Events from Location Management server, related to the deviation of the VAL User(s) / UE(s) location from an area of interest.

 - GM\_TEMP\_GROUP\_FORMATION: Events related to the formation of new temporary VAL groups from the Group Management Server.

 - LM\_LOCATION\_AREA\_MONITOR: Events from Location Management server, related to the list of UEs moving in or moving out of the specific location.

 LocDevNotification:

 anyOf:

 - type: string

 enum:

 - NOTIFY\_MISMATCH\_LOCATION

 - NOTIFY\_ABSENCE

 - NOTIFY\_PRESENCE

 - 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

 - NOTIFY\_MISMATCH\_LOCATION: This value indicates that the location information of the VAL UE(s) from the SEAL LM client and the core network are not matching.

 - NOTIFY\_ABSENCE: This value indicates that the current location information of the VAL UE(s)is deviating from the VAL server’s area of interest.

 - NOTIFY\_PRESENCE: This value indicates that the current location information of the VAL UE(s) is within the VAL server’s area of interest.

 MonLocTriggerEvent:

 anyOf:

 - type: string

 enum:

 - DISTANCE\_TRAVELLED

 - 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

 - DISTANCE\_TRAVELLED: This value indicates the trigger event for the location area monitoring based on the distance travelled by the reference UE.

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