**3GPP TSG-CT WG3 Meeting #130 *C3-234352\_R2***

**Xiamen, China, 09th – 13th October, 2023**

|  |
| --- |
| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **29.549** | **CR** | **0178** | **rev** | **-** | **Current version:** | **18.3.0** |  |
|  |
| *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:***  | Subscribe/Notify service operation implementation in the SS\_VALServiceAreaConfiguration API |
|  |  |
| ***Source to WG:*** | Ericsson, Samsung |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | SEAL\_Ph3 |  | ***Date:*** | 2023-09-21 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-18 |
|  | *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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
|  |  |
| ***Reason for change:*** | Clauses 9.4.8.6, 9.4.8.7, and 9.4.8.8 of 23.434 (see CR#0228 of 23.434) specify the subscribe/notify service operations for the SS\_VALServiceAreaConfiguration API. Thus, the specified service operations shall be implemented in stage 3. |
|  |  |
| ***Summary of change:*** | This CR introduces the implementation of the subscribe/notify service operations for the SS\_VALServiceAreaConfiguration API. |
|  |  |
| ***Consequences if not approved:*** | Misalignment with stage 2 requirements. |
|  |  |
| ***Clauses affected:*** | 5.1, 7.1.3.2.1, 7.1.3.2.3(new), 7.1.3.3, 7.1.3.4.1, 7.1.3.4.2.6(new), 7.1.3.4.2.7(new), 7.1.3.4.2.8(new), 7.1.3.4.2.9(new), 7.1.3.4.3.2(new) |
|  |  |
|  | **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 does not affect any OpenAPI file.
 |
| ***()*** |  |
| ***This CR's revision history:*** |  |

**Additional discussion(if needed):**

**Proposed changes:**

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

## 5.1 Introduction of SEAL services

The table 5.1-1 lists the SEAL server APIs below the service name. A service description clause for each API gives a general description of the related API.

Table 5.1-1: List of SEAL Service APIs

|  |  |  |  |
| --- | --- | --- | --- |
| Service Name | Service Operations | Operation Semantics | Consumer(s) |
| SS\_LocationReporting | Create\_Trigger\_Location\_Reporting | Request/ Response | VAL server |
| Fetch\_Location\_Report\_Trigger | Request/Response | VAL server |
| Update\_Trigger\_Location\_Reporting | Request/ Response | VAL server |
| Cancel\_Trigger\_Location\_Reporting | Request/ Response | VAL server |
| SS\_LocationInfoEvent | Subscribe\_Location\_Info | Subscribe/Notify | VAL server |
| Unsubscribe\_Location\_Info | VAL server |
| Notify\_Location\_Info | VAL server |
| SS\_LocationInfoRetrieval | Obtain\_Location\_Info | Request/ Response | VAL server |
| SS\_LocationAreaInfoRetrieval | Obtain\_UEs\_Info | Request/ Response | VAL server |
| SS\_LocationMonitoring | Subscribe\_Location\_Monitoring | Subscribe/Notify | VAL server |
| Unsubscribe\_Location\_Monitoring |
| Notify\_Location\_Monitoring\_Events |
| SS\_LocationAreaMonitoring | Subscribe\_Location\_Area\_Monitoring | Subscribe/Notify | VAL server |
| Notify\_Location\_Area\_Monitoring\_Events |
| Update\_Location\_Area\_Monitoring\_Subscribe |
| Unsubscribe\_Location\_Area\_Monitoring |
| SS\_VALServiceAreaConfiguration | Configure\_VAL\_Service\_Area | Request/Response | VAL server |
| Obtain\_VAL\_Service\_Area | Request/Response | VAL server |
| Update\_VAL\_Service\_Area | Request/Response | VAL server |
| Delete\_VAL\_Service\_Area | Request/Response | VAL server |
| Subscribe\_VAL\_Service\_Area\_Change\_Event | Subscribe/Notify | SEAL server |
| Notify\_VAL\_Service\_Area\_Change\_Event |
| Unsubscribe\_VAL\_Service\_Area\_Change\_Event |
| SS\_GroupManagement | Query\_Group\_Info | Request/ Response | VAL server |
| Update\_Group\_Info | Request/ Response | VAL server |
| Create\_Group | Request/ Response | VAL server |
| Delete\_Group | Request/Response | VAL server |
| SS\_GroupManagementEvent | Subscribe\_Group\_Info\_Modification | Subscribe/Notify | VAL server |
| Notify\_Group\_Info\_Modification | VAL server |
| Notify\_Group\_Creation | VAL server |
| SS\_UserProfileRetrieval | Obtain\_User\_Profile | Request/ Response | VAL server |
| SS\_VALServiceData | Obtain\_VAL\_Service\_Data | Request/Response | SEAL server |
| SS\_UserProfileEvent | Subscribe\_User\_Profile\_Update | Subscribe/Notify | VAL server |
| Notify\_User\_Profile\_Update | VAL server |
| SS\_NetworkResourceAdaptation(NOTE 3) | Reserve\_Network\_Resource | Request/Response | VAL server |
| Request\_Unicast\_Resource | Request/Response | VAL server |
| Update\_Unicast\_Resource | Request/Response | VAL server |
| Request\_Multicast\_Resource | Request/Response | VAL server |
| Notify\_UP\_Delivery\_Mode | Subscribe/Notify | VAL server |
| Discover\_TSC\_Stream\_Availability | Request/Response | VAL server |
| Create\_TSC\_Stream | Request/Response | VAL server |
| Delete\_TSC\_Stream | Request/Response | VAL server |
| Create\_MBS\_Resource | Request/Response | VAL server |
| Update\_MBS\_Resource | Request/Response | VAL server |
| Delete\_MBS\_Resource | Request/Response | VAL server |
| Activate\_MBS\_Resource | Request/Response | VAL server |
| Deactivate\_MBS\_Resource | Request/Response | VAL server |
| SS\_EventsMonitoring | Subscribe\_Monitoring\_Events | Subscribe/Notify | VAL server |
| Notify\_Monitoring\_Events |
| SS\_Events | Subscribe\_Event | Subscribe/Notify | VAL server |
| Notify\_Event | VAL server |
| Unsubscribe\_Event | VAL server |
| Update\_Subscription | VAL server |
| SS\_KeyInfoRetrieval | Obtain\_Key\_Info | Request/Response | VAL server |
| SS\_NetworkSliceAdaptation | Request\_Network\_Slice\_Adaptation | Request/Response | VAL server |
| SS\_NetworkResourceMonitoring | Subscribe\_Unicast\_QoS\_Monitoring\_Data | Subscribe/Notify | VAL server |
| Unsubscribe\_Unicast\_QoS\_Monitoring\_Data | VAL server |
| Notify\_Unicast\_QoS\_Monitoring\_Data | VAL server |
| Obtain\_Unicast\_QoS\_Monitoring\_Data | Request/Response | VAL server |
| Update\_Unicast\_QoS\_Monitoring\_Subscription | VAL server |
| SS\_IdmParameterProvisioning | Provide\_Configuration | Request/Response | VAL server |
| NOTE 1: The service operations of SS\_Events API are reused by the SS\_LocationInfoEvent, SS\_LocationMonitoring, SS\_LocationAreaMonitoring, SS\_GroupManagementEvent, SS\_UserProfileEvent and SS\_EventsMonitoring for events related services.NOTE 2: The service APIs exposed by the SEALDD Server and the corresponding service operations, operation semantics and service consumers are specified in clause 5 of 3GPP TS 29.548 [35].NOTE 3: The "Create\_MBS\_Resource", "Update\_MBS\_Resource", "Delete\_MBS\_Resource", "Activate\_MBS\_Resource" and "Deactivate\_MBS\_Resource" service operations correspond to the stage 2 "Request\_Multicast/Broadcast\_Resource", "Update\_Multicast/Broadcast\_Resource", "Delete\_Multicast/Broadcast\_Resource", "Activate\_Multicast\_Resource" and "Deactivate\_Multicast\_Resource" service operations defined in clause 14.4.2 of 3GPP TS 23.434 [2]. |

Editor's Note: The Update\_VAL\_Service\_Area\_Change\_Event service operation is FFS.

Table 5.1-2 summarizes the corresponding APIs defined in this specification.

Table 5.1-2: API Descriptions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Service Name** | **Clause** | **Description** | **OpenAPI Specification File** | **apiName** | **Annex** |
| SS\_LocationReporting | 7.1 | Report Location Information Service. | TS29549\_SS\_LocationReporting.yaml | ss-lr | A.2 |
| SS\_GroupManagement | 7.2 | Group Management Service | TS29549\_SS\_GroupManagement.yaml | ss-gm | A.3 |
| SS\_UserProfileRetrieval | 7.3 | User Profile Retrieval Service | TS29549\_SS\_UserProfileRetrieval.yaml | ss-upr | A.4 |
| SS\_NetworkResourceAdaptation | 7.4 | Network Resource Adaptation Service | TS29549\_SS\_NetworkResourceAdaptation.yaml | ss-nra | A.5 |
| SS\_Events | 7.5 | Events Notify Service | TS29549\_SS\_Events.yaml | ss-events | A.6 |
| SS\_KeyInfoRetrieval | 7.6 | Key Information Retrieval Service | TS29549\_SS\_KeyInfoRetrieval.yaml | ss-kir | A.7 |
| SS\_LocationAreaInfoRetrieval | 7.1 | Location Area Info Retrieval Service | TS29549\_SS\_LocationAreaInfoRetrieval.yaml | ss-lair | A.8 |
| SS\_NetworkSliceAdaptation | 7.7 | Network Slice Adaptation Service | TS29549\_SS\_NetworkSliceAdaptation.yaml | ss-nsa | A.9 |
| SS\_NetworkResourceMonitoring | 7.4 | Network Resource Monitoring | TS29549\_SS\_NetworkResourceMonitoring.yaml | ss-nrm | A.10 |
| SS\_VALServiceData | 7.3 | VAL Service Data Service | TS29549\_SS\_VALServiceData.yaml | ss-vsd | A.11 |
| SS\_VALServiceAreaConfiguration | 7.1 | VAL Service Area Configuration Service | TS29549\_SS\_VALServiceAreaConfiguration.yaml | ss-vsac | A.12 |
| NOTE: The APIs exposed by the SEALDD Server are specified in clause 5 of 3GPP TS 29.548 [35]. |

\* \* \* Next change \* \* \* \*

##### 7.1.3.2.1 Overview

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

Figure 7.1.3.2.1-1 depicts the resource URIs structure for the SS\_VALServiceAreaConfiguration API.



Figure 7.1.3.2.1-1: Resource URI structure of the SS\_VALServiceAreaConfiguration API

Table 7.1.3.2.1-1 provides an overview of the resources and applicable HTTP methods.

Table 7.1.3.2.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method or custom operation | Description |
| VAL Service Areas | /areas | GET | Obtain the VAL service area(s) according to the provided filtering criteria. |
| /areas/configure | Configure | Configure VAL service area(s). |
| /areas/update | Update | Update existing VAL service area(s). |
| /areas/delete | Delete | Delete existing VAL service area(s). |
| VAL Service Area Change Subscriptions | /subscriptions | POST | Create a new VAL service area change event(s) subscription. |
| Individual VAL Service Area Change Subscription | /subscriptions/{subscriptionId} | DELETE | Delete an existing VAL service area change event(s) subscription resource according to the subscriptionId. |
| GET | Retrieve the individual VAL service area change event(s) subscription resource according to the subscriptionId. |

\* \* \* Next change \* \* \* \*

##### 7.1.3.2.3 Resource: VAL Service Area Change Subscriptions

###### 7.1.3.2.3.1 Description

###### 7.1.3.2.3.2 Resource Definition

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

This resource shall support the resource URI variables defined in table 7.1.3.2.3.2-1.

Table 7.1.3.2.3.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 7.1.3.1. |

###### 7.1.3.2.3.3 Resource Standard Methods

7.1.3.2.3.3.1 POST

This method enables a SEAL Server to request the creation of the individual VAL service area change subscription at the LM Server. This method shall support the URI query parameters specified in table 7.1.3.2.3.3.1-1.

Table 7.1.3.2.3.3.1-1: 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 7.1.3.2.3.3.1-2 and the response data structures and response codes specified in table 7.1.3.2.3.3.1-3.

Table 7.1.3.2.3.3.1-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| ValServiceAreaSubsc | M | 1 | Represents the requested VAL service area change subscription parameters. |

Table 7.1.3.2.3.3.1-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| ValServiceAreaSubsc | M | 1 | 201 Created | Successful case. The requested individual VAL service area change event(s) subscription resource is successfully created and a representation of the created resource 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 POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] shall also apply. |

Table 7.1.3.2.3.3.1-4: 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-vsac/<apiVersion>/subscriptions{subscriptionId} |

Table 7.1.3.2.3.3.1-5: Headers supported by the 307 Response Code on this resource

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

Table 7.1.3.2.3.3.1-6: Headers supported by the 308 Response Code on this resource

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

###### 7.1.3.2.3.4 Resource Custom Operations

None.

##### 7.1.3.2.4 Resource: Individual VAL Service Area Change Subscription

###### 7.1.3.2.4.1 Description

###### 7.1.3.2.4.2 Resource Definition

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

This resource shall support the resource URI variables defined in table 7.1.3.2.4.2-1.

Table 7.1.3.2.4.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 7.1.3.1. |
| subscriptionId | string | Represents the identifier of an individual VAL service area change event(s) subscription resource. |

###### 7.1.3.2.4.3 Resource Standard Methods

7.1.3.2.4.3.1 DELETE

This operation deletes the Individual VAL Service Area Change Subscription resource. This method shall support the URI query parameters specified in table 7.1.3.2.4.3.1-1.

Table 7.1.3.2.4.3.1-1: 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 7.1.3.2.4.3.1-2 and the response data structures and response codes specified in table 7.1.3.2.4.3.1-3.

Table 7.1.3.2.4.3.1-2: Data structures supported by the DELETE Request Body on this resource

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

Table 7.1.3.2.4.3.1-3: Data structures supported by the DELETE Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| n/a |  |  | 204 No Content | The individual VAL service area change event(s) subscription resource matching the subscriptionId is 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 DELETE method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] also apply. |

Table 7.1.3.2.4.3.1-4: Headers supported by the 307 Response Code on this resource

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

Table 7.1.3.2.4.3.1-5: Headers supported by the 308 Response Code on this resource

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

7.1.3.2.4.3.2 GET

This operation reads the Individual VAL Service Area Change Subscription resource. This method shall support the URI query parameters specified in table 7.1.3.2.4.3.2-1.

Table 7.1.3.2.3.3.2-1: URI query parameters supported by the GET method on this resource

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

This method shall support the request data structures specified in table 7.1.3.2.4.3.2-2 and the response data structures and response codes specified in table 7.1.3.2.4.3.2-3.

Table 7.1.3.2.4.3.2-2: Data structures supported by the GET Request Body on this resource

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

Table 7.1.3.2.4.3.2-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| ValServiceAreaSubsc | M | 1 | 200 OK | The requested individual VAL service area change event(s) subscription is 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 NRM 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 GET method listed in table 5.2.7.1-1 of 3GPP TS 29.122 [3] shall also apply. |

Table 7.1.3.2.4.3.2-4: Headers supported by the 307 Response Code on this resource

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

Table 7.1.3.2.4.3.2-5: Headers supported by the 308 Response Code on this resource

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

\* \* \* Next change \* \* \* \*

7.1.3.3 Notifications

7.1.3.3.1 General

Table 7.1.3.3.1-1: Notifications overview

|  |  |  |  |
| --- | --- | --- | --- |
| Notification | Callback URI | HTTP method or custom operation | Description(service operation) |
| VAL Service Area Change Notification | {notifUri} | POST | Notify on changes of the VAL service area(s). |

##### 7.1.3.3.2 Individual Unicast Monitoring Notification

###### 7.1.3.3.2.1 Description

###### 7.1.3.3.2.2 Notification definition

Callback URI: {**notifUri**}

This method shall support the URI query parameters specified in table 7.1.3.3.2.2-1.

Table 7.1.3.3.2.2-1: URI query parameters supported by the POST method on this resource

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

This method shall support the request data structures specified in table 7.1.3.3.2.2-2 and the response data structures and response codes specified in table 7.1.3.3.2.2-3.

Table 7.1.3.3.2.2-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| ValServiceAreaNotif | M | 1 | Represents the reported VAL service area data. |

Table 7.1.3.3.2.2-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| n/a |  |  | 204 No Content | The notification is successfully received. |
| 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 VAL server 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 VAL server 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 POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] also apply. |

Table 7.1.3.3.2.2-4: Headers supported by the 307 Response Code on this resource

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

Table 7.1.3.3.2.2-5: Headers supported by the 308 Response Code on this resource

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

\* \* \* Next change \* \* \* \*

##### 7.1.3.4.1 General

This clause specifies the application data model supported by the API. Data types listed in clause 6.2 apply to this API

Table 7.1.3.4.1-1 specifies the data types defined specifically for the SS\_VALServiceAreaConfiguration API service.

Table 7.1.3.4.1-1: SS\_VALServiceAreaConfiguration API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Section defined | Description | Applicability |
| ValServiceArea | 7.1.3.4.2.2 | Represents the VAL service area. |  |
| ValServiceAreaReq | 7.1.3.4.2.3 | Represents the VAL service area configuration/update/delete request. |  |
| ValServiceAreaData | 7.1.3.4.2.4 | Represents the VAL service area retrieval information. |  |
| ValServiceAreaResp | 7.1.3.4.2.5 | Represents the VAL service area configuration/update/delete response. |  |
| ValServiceAreaSubsc | 7.1.3.4.2.6 | Represents the VAL service area change event(s) subscription. |  |
| ValServiceAreaEventType | 7.1.3.4.2.7 | Represents the VAL service area change event type. |  |
| ValServiceAreaNotif | 7.1.3.4.2.8 | Represents the VAL service area change event(s) notifcation. |  |
| ValServiceAreaEventInfo | 7.1.3.4.2.9 | Represents the VAL service area change event(s) content. |  |
| ValServiceAreaEvent | 7.1.3.4.3.2 | Represents the VAL service area change event. |  |

Table 7.1.3.4.1-2 specifies data types re-used by the SS\_VALServiceAreaConfiguration API service.

Table 7.1.3.4.1-2: Re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| DurationSec | 3GPP TS 29.571 [21] | Used to indicate the subscription duration. |  |
| LocationArea5G | 3GPP TS 29.122 [3] | Used to indicate the location information. |  |
| SupportedFeatures | 3GPP TS 29.571 [21] | Used to negotiate the applicability of optional features defined in table 7.1.3.6-1. |  |
| Uri | 3GPP TS 29.571 [21] | Used to indicate the notification URI. |  |

\* \* \* Next change \* \* \* \*

###### 7.1.3.4.2.6 Type: ValServiceAreaSubsc

Table 7.1.3.4.2.6-1: Definition of type ValServiceAreaSubsc

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| events | array(ValServiceAreaEventType) | M | 1..N | Represents the subscribed VAL service area change event(s). |  |
| notifUri | Uri | M | 1 | Indicates the URI towards which the notification should be delivered. |  |
| subscDur | DurationSec | O | 0..1 | Indicates the subscription duration. If omitted, there is no time limit. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Represents the supported features.This attribute shall be provided when feature negotiation needs to take place. |  |

\* \* \* Next change \* \* \* \*

###### 7.1.3.4.2.7 Type: ValServiceAreaEventType

Table 7.1.3.4.2.7-1: Definition of type ValServiceAreaEventType

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| event | ValServiceAreaEvent | M | 1 | Represents the requested VAL service area change event. |  |
| valSvcAreaIds | array(string) | M | 1..N | Represents the VAL service area ID(s) associated with the event. |  |

\* \* \* Next change \* \* \* \*

###### 7.1.3.4.2.8 Type: ValServiceAreaNotif

Table 7.1.3.4.2.8-1: Definition of type ValServiceAreaNotif

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| valSvcAreaConts | array(ValServiceAreaEventInfo) | M | 1..N | Represents the VAL service area change event(s) content. |  |

\* \* \* Next change \* \* \* \*

###### 7.1.3.4.2.9 Type: ValServiceAreaEventContentInfo

Table 7.1.3.4.2.9-1: Definition of type ValServiceAreaEventInfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| event | ValServiceAreaEvent | M | 1 | Represents the VAL service area change event. |  |
| valSvcAreas | array(ValServiceArea) | C | 1..N | Represents the VAL service area(s) associated with the event.This attribute shall be provided if the "event" is "UPDATE". |  |
| valSvcAreaIds | array(string) | C | 1..N | Represents the VAL service area ID(s) associated with the event.This attribute shall be provided if the "event" is "DELETE". |  |

\* \* \* Next change \* \* \* \*

###### 7.1.3.4.3.2 Enumeration: ValServiceAreaEvent

Table 7.1.3.4.3.2-1: Enumeration ValServiceAreaEvent

|  |  |  |
| --- | --- | --- |
| **Enumeration value** | **Description** | **Applicability** |
| UPDATE | Indicates that the VAL service area change event is VAL service area update. |  |
| DELETE | Indicates that the VAL service area change event is VAL service area delete. |  |

\* \* \* End of changes \* \* \* \*