**3GPP TSG- Meeting #**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** |  | **rev** | **1** | **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)*.* | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Editorial corrections for tables, figures, clauses, headers, and refernces | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | NBI17 | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Improve quality of the specification by correcting major editorial issues. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The missing hard spaces in table, figures, references, and minor editorial issues are corrected. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Bad specification quality. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2; 5.2.1.2.1; 5.2.1.2.2.2; 5.2.1.2.4.2; 5.2.2; 5.3.1.2.1; 5.3.1.2.2.2; 5.3.1.2.4.2; 5.3.1.2.5.2; 5.3.2; 5.4.1.2.1; 5.4.2; 5.5.1.2.1; 5.5.1.2.5.2; 5.6.1.2.1; 5.6.1.2.2.2; 5.6.1.2.4.2; 5.7.1.2.1; 6.2.2; 6.3; 7.1.1.2.1; 7.1.1.2.2.2; 7.1.1.2.2.3.1; 7.1.1.2.3.2; 7.1.1.2.3.3.1; 7.1.1.2.3.3.2; 7.1.1.2.3.3.3; 7.1.1.4.1; 7.1.1.4.2.2; 7.1.1.5; 7.1.1.6; 7.2.1.2.1; 7.2.1.2.2.2; 7.2.1.2.2.3.1; 7.2.1.2.2.3.2; 7.2.1.2.3.2; 7.2.1.2.3.3.1; 7.2.1.2.3.3.2; 7.2.1.2.3.3.3; 7.2.1.4.1; 7.2.1.5; 7.2.1.6; 7.3.1.2.1; 7.3.1.2.2.2; 7.3.1.2.2.3.1; 7.3.1.5; 7.3.1.6; 7.4.1.2.1; 7.4.1.2.2.3.1; 7.4.1.2.3.3.1; 7.4.1.2.3.3.2; 7.4.1.2.4.3.1; 7.4.1.2.5.3.1; 7.4.1.2.5.3.2; 7.5.1.1; 7.5.1.2.1; 7.5.1.2.2.2; 7.5.1.2.3.2; 7.5.1.4.1; 7.6.1.2.1; 7.6.1.2.2.2; 7.6.1.2.2.3.1; 7.6.1.4.1; 7.6.1.5; 7.6.1.6. | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 does not affect OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

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

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.434: "Service Enabler Architecture Layer for Verticals (SEAL); Functional architecture and information flows".

[3] 3GPP TS 29.122: "T8 reference point for Northbound Application Programming Interfaces (APIs)".

[4] IETF RFC 6455: "The Websocket Protocol".

[5] IETF RFC 7230: "Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing".

[6] IETF RFC 7231: "Hypertext Transfer Protocol (HTTP/1.1): Semantics and Content".

[7] IETF RFC 7232: "Hypertext Transfer Protocol (HTTP/1.1): Conditional Requests".

[8] IETF RFC 7233: "Hypertext Transfer Protocol (HTTP/1.1): Range Requests".

[9] IETF RFC 7234: "Hypertext Transfer Protocol (HTTP/1.1): Caching".

[10] IETF RFC 7235: "Hypertext Transfer Protocol (HTTP/1.1): Authentication".

[11] IETF RFC 5246: "The Transport Layer Security (TLS) Protocol Version 1.2".

[12] IETF RFC 7540: "Hypertext Transfer Protocol Version 2 (HTTP/2)".

[13] IETF RFC 8259: "The JavaScript Object Notation (JSON) Data Interchange Format".

[14] 3GPP TS 29.501: "5G System; Principles and Guidelines for Services Definition; Stage 3".

[15] Open API: "OpenAPI Specification Version 3.0.0", <https://spec.openapis.org/oas/v3.0.0>.

[16] 3GPP TS 29.222: "Common API Framework for 3GPP Northbound APIs; Stage 3”.

[17] 3GPP TS 23.222: "Common API Framework for 3GPP Northbound APIs; Stage 2”.

[18] 3GPP TS 33.122: "Security Aspects of Common API Framework for 3GPP Northbound APIs".

[19] IETF RFC 6749: "The OAuth 2.0 Authorization Framework".

[20] 3GPP TS 29.523: "5G System; Policy Control Event Exposure Service; Stage 3".

[21] 3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces; Stage 3".

[22] 3GPP TS 29.500: "5G System; Technical Realization of Service Based Architecture; Stage 3".

[23] 3GPP TS 29.468: "Group Communication System Enablers for LTE (GCSE\_LTE); MB2 reference point; Stage 3".

[24] 3GPP TR 21.900: "Technical Specification Group working methods".

[25] 3GPP TS 33.210: "3G security; Network Domain Security (NDS); IP network layer security".

[26] 3GPP TS 33.434: "Service Enabler Architecture Layer for Verticals (SEAL); Security Aspects".

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

##### 5.2.1.2.1 Introduction

The service operation defined for SS\_LocationReporting API is shown in the table 5.2.1.2.1-1.

Table 5.2.1.2.1-1: Operations of the SS\_LocationReporting API

|  |  |  |
| --- | --- | --- |
| Service operation name | Description | Initiated by |
| Create\_Trigger\_Location\_Reporting | This service operation is used by VAL server to create the trigger to report location information. | VAL server |
| Fetch\_Location\_Report\_Trigger | This service operation is used by VAL server to retrieve the location reporting trigger information. | VAL server |
| Update\_Trigger\_Location\_Reporting | This service operation is used by VAL server to update the trigger to report location information. | VAL server |
| Cancel\_Trigger\_Location\_Reporting | This service operation is used by VAL server to cancel the trigger to report location information. | VAL server |

##### 

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

###### 5.2.1.2.2.2 VAL server providing trigger configuration using Create\_Trigger\_Location\_Reporting service operation

To create the reporting trigger configuration, the VAL server shall send HTTP POST request message to location management server. The body of the HTTP POST message shall include the LocationReportConfiguration data type, as specified in the clause 7.1.1.2.2.3.1.

Upon receiving the HTTP POST message as described above, the location management server shall:

1. verify the identity of the VAL server and check if the VAL server is authorized to provide the trigger;

2. if the VAL server is authorized to provide the triggers, the location management server shall;

a. create a new resource for Individual SEAL Location Reporting Configuration as specified in clause 7.1.1.2.1; and

b. return the SEAL Resource URI in the response message.

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

###### 5.2.1.2.4.2 VAL server providing trigger configuration using Update\_Trigger\_Location\_Reporting service operation

To modify the reporting trigger configuration, the VAL server shall send HTTP PUT message to the location management server to the Resource URI identifying the individual SEAL location reporting configuration resource representation, as specified in the clause 7.1.1.2.3.3.2. Upon receiving the HTTP PUT message, the location management server shall:

1. verify the identity of the VAL server and check if the VAL server is authorized to modify the configuration information;

2. if the VAL server is authorized to modify the information, then the location management server shall;

a. if the configuration information in the request is valid, update the resource identified by the Resource URI of the configuration received in the request;

b. return a 200 OK status code with the updated location reporting configuration information in the response or a 204 No Content status code.

\* \* \* Next 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.

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

##### 5.3.1.2.1 Introduction

The service operation defined for SS\_GroupManagement API is shown in the table 5.3.1.2.1-1.

Table 5.3.1.2.1-1: Operations of the SS\_GroupManagement API

|  |  |  |
| --- | --- | --- |
| Service operation name | Description | Initiated by |
| Query\_Group\_Info | This service operation is used by VAL server to query for VAL group documents, group membership list and configuration information. | VAL Server |
| Update\_Group\_Info | This service operation is used by VAL server to modify group membership and configuration information. | VAL server |
| Create\_Group | This service operation is used by VAL server to configure new VAL group. | VAL server |
| Delete\_Group | This service operation is used by the VAL server to delete the VAL group. | VAL server |

##### 

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

###### 5.3.1.2.2.2 VAL server fetching VAL group documents, group membership and configuration information using Query\_Group\_Info service operation

To obtain membership, configuration information of a VAL group, the VAL server shall send a HTTP GET message to the group management server, on VAL group document’s resource representation URI as specified in clause 7.2.1.2.3.3.1. The GET message may include the following query parameters: membership list, group configuration. To obtain VAL groups information, the VAL server shall send a HTTP GET message to the group management server, on VAL group documents collection resource representation URI as specified in clause 7.2.1.2.2.3.2. The GET message may include the following query parameters: VAL Group ID, VAL Service ID.

Upon receiving the HTTP GET message as described above, the group management server shall:

1. verify the identity of the VAL server and check if the VAL server is authorized to fetch the VAL group information;

2. if the VAL server is authorized to obtain the group information, the group management server shall;

a. if the request to VAL group document’s resource representation URI includes query parameters, then, return in the response message with VAL group information which includes, group membership list information if the request includes membership list query, group configuration information if the request includes group configuration query and VAL group identifier;

b. if the request to VAL group document’s resource representation URI does not include query parameter, then, return the VAL group document resource in the response message;

c. in the request to VAL group documents collection resource representation URI, return the VAL group documents matching the query parameters in the response message.

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

###### 5.3.1.2.4.2 VAL server creating new group using Create\_Group service operation

To create a VAL group, the VAL server shall send a HTTP POST message to the group management server. The body of the POST message shall include VAL group document information as specified in clause 7.2.1.2.2.3.1. Upon receiving HTTP POST message, the group management server shall

1. verify the identity of the VAL server and check if the VAL server is authorized to create VAL group document;

2. if the VAL group document information in the request includes location criteria, shall obtain the list of VAL users or VAL UEs within the requested location criteria information from the Location Management server and include them in VAL group members of the new VAL group;

3. if the VAL server is authorized to create VAL group document, shall create a new resource as defined in 7.2.1.2.2.3.1 and return the VAL group document and its Resource URI in the response message.

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

###### 5.3.1.2.5.2 VAL server deleting VAL group using Delete\_Group service operation

To delete a VAL group, the VAL server shall send a HTTP DELETE message to the Group Management server to its resource representation in the Group Management server as specified in clause 7.2.1.2.3.3.3. Upon receiving HTTP DELETE message, the Group Management server shall:

1. verify the identity of the VAL server and check if the VAL server is authorized to delete the VAL group document;

2. if the VAL server is authorized to delete the VAL group document, the Group Management server shall

a. delete the resource representation pointed by the group document resource identifier.

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

### 5.3.2 SS\_GroupManagementEvent API

The SS\_GroupManagementEvent API, as defined 3GPP TS 23.434 [2], allows a VAL server via GM-S reference point to subscribe for and receive notifications from Group Management server on new VAL group creations and on modifications to VAL Group membership and configuration information. The SS\_GroupManagementEvent API supports this via the "GM\_GROUP\_CREATE" and "GM\_GROUP\_INFO\_CHANGE" events of SS\_Events API as specified in clause 7.5. In order to authorize the VAL servers that have to be notified of a GM\_GROUP\_CREATE event, the Group Management server shall identify the VAL services (VAL Service IDs) allowed for the VAL server by the “subscriberId” attribute and shall notify the VAL server if the VAL services enabled for the created VAL group are allowed for the VAL server.

Upon the receipt of the VAL group document from the group management server during Create\_Group service operation, if the VAL server is interested in receiving the notifications about newly registered or de-registered VAL UE IDs to the VAL group, then the VAL server may subscribe to "GM\_GROUP\_INFO\_CHANGE" event using the SS\_Events API as specified in clause 7.5.1, to receive any VAL group membership update notifications.

Upon the receipt of the message filters information in the "GM\_GROUP\_INFO\_CHANGE" event notification from the group management server, the VAL server shall consider the message filters in VAL specific communication.

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

##### 5.4.1.2.1 Introduction

The service operation defined for SS\_UserProfileRetrieval API is shown in the table 5.4.1.2.1-1.

Table 5.4.1.2.1-1: Operations of the SS\_UserProfileRetrieval API

|  |  |  |
| --- | --- | --- |
| Service operation name | Description | Initiated by |
| Obtain\_User\_Profile | This service operation is used by VAL server to obtain user profile. | VAL server |

##### 

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

### 5.4.2 SS\_UserProfileEvent API

The SS\_UserProfileEvent API, as defined in 3GPP TS 23.434 [2], allows a VAL server via CM-S reference point to subscribe for and receive notifications from the Configuration Management server on profile updates to VAL User or VAL UE. The SS\_UserProfileEvent API supports this via the "CM\_USER\_PROFILE\_CHANGE" event in SS\_Events API as specified in clause 7.5.

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

##### 5.5.1.2.1 Introduction

The service operation defined for SS\_NetworkResourceAdaptation API is shown in the table 5.5.1.2.1-1.

Table 5.5.1.2.1-1: Operations of the SS\_NetworkResourceAdaptation API

|  |  |  |
| --- | --- | --- |
| Service operation name | Description | Initiated by |
| Reserve\_Network\_Resource | Requesting for network resource adaptation | VAL server |
| Request\_Unicast\_Resource | Requesting unicast resource | VAL server |
| Update\_Unicast\_Resource | Updating unicast resource | VAL server |
| Request\_Multicast\_Resource | Requesting multicast resource | VAL server |
| Notify\_UP\_Delivery\_Mode | Notifying the user plane delivery mode | NRM server |

##### 

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

###### 5.5.1.2.5.2 VAL server requesting for multicast resource using Request\_Multicast\_Resource service operation

The VAL server shall send a HTTP POST message to the NRM server. The body of the POST message shall include VAL group information, service announcement mode, QoS information, Broadcast area and VAL server notification endpoint address information. Upon receiving HTTP POST message, the NRM server shall

1. verify the identity of the VAL server and check if the VAL server is authorized to request for multicast resource;

2. if the VAL server is authorized, the NRM server decides to establish an MBMS bearer in EPS using the procedures defined in 3GPP TS 29.468 [23];

3. the NRM server creates a multicast subscription as specified in clause 7.4.1.2.2.3.1;

4. the NRM server provides the result in the response message.

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

##### 5.6.1.2.1 Introduction

The service operations defined for the SS\_Events API are shown in the table 5.6.1.2.1-1.

Table 5.6.1.2.1-1: Operations of the SS\_Events API

|  |  |  |
| --- | --- | --- |
| Service operation name | Description | Initiated by |
| Subscribe\_Event | This service operation is used by VAL server to subscribe for events from SEAL servers. | VAL Server |
| Unsubscribe\_Event | This service operation is used by VAL server to unsubscribe for events from SEAL servers. | VAL Server |
| Notify\_Event | This service operation is used by SEAL servers to send the notifications to the VAL server. | SEAL servers (Location Management, Group Management, Configuration Management). |

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

###### 5.6.1.2.2.2 Subscribing to SEAL events using Subscribe\_Event service operation

To subscribe to SEAL events, the VAL server shall send an HTTP POST message to the SEAL server. The body of the HTTP POST message shall include VAL Server Identifier, Event Type, Event Filters, Reporting Requirements and a Notification Destination URI as specified in clause 7.5.1.2.2.3.1.

Upon receiving the above described HTTP POST message, the SEAL server shall:

1. verify the identity of the VAL server and check if the VAL server is authorized to subscribe to the SEAL events mentioned in the HTTP POST message;

2. if the VAL server is authorized to subscribe to the SEAL events, the SEAL server shall:

a. create a new resource as specified in clause 7.5.1.2.1; and

b. return the SEAL Resource URI in the response message.

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

###### 5.6.1.2.4.2 Unsubscribing from SEAL events using Unsubscribe\_Event service operation

To unsubscribe from SEAL events, the VAL server shall send an HTTP DELETE message to the resource representing the event in the SEAL server as specified in clause 7.5.1.2.3.3.1.

Upon receiving the HTTP DELETE message, the SEAL sever shall:

1. verify the identity of the VAL server and check if the VAL server is authorized to Unsubscribe from the SEAL event associated with the SEAL Resource URI; and

2. if the VAL server is authorized to unsubscribe from the SEAL events, the SEAL server shall delete the resource pointed by the SEAL Resource URI

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

##### 5.7.1.2.1 Introduction

The service operation defined for SS\_KeyInfoRetrieval API is shown in the table 5.7.1.2.1-1.

Table 5.7.1.2.1-1: Operations of the SS\_ KeyInfoRetrieval API

|  |  |  |
| --- | --- | --- |
| Service operation name | Description | Initiated by |
| Obtain\_Key\_Info | This service operation is used by VAL server to obtain key management information. | VAL server |

##### 

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

### 6.2.2 Referenced structured data types

Table 6.2.2-1 lists structured data types defined in this specification referenced by multiple services:

Table 6.2.2-1: Referenced Structured Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Reference | Description |
| VALGroupDocument | Clause 7.2.1.4.2.2 | VAL Group document information. |
| ProfileDoc | Clause 7.3.1.4.2.2 | VAL User or VAL UE profile information. |

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

## 6.3 Usage of HTTP

For SEAL APIs, support of HTTP/1.1 (IETF RFC 7230 [5], IETF RFC 7231 [6], IETF RFC 7232 [7], IETF RFC 7233 [8], IETF RFC 7234 [9] and IETF RFC 7235 [10]) over TLS (IETF RFC 5246 [11]) is mandatory and support of HTTP/2 (IETF RFC 7540 [12]) over TLS (IETF RFC 5246 [11]) is recommended.

A functional entity desiring to use HTTP/2 shall use the HTTP upgrade mechanism to negotiate applicable HTTP version as described in IETF RFC 7540 [12].

Usage of HTTP over TLS and the TLS profiles shall be as specified in clause 5.1.1.4 of 3GPP TS 33.434 [26].

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

##### 7.1.1.2.1 Overview



Figure 7.1.1.2.1-1: Resource URI structure of the SS\_LocationReporting API

Table 7.1.1.2.1-1 provides an overview of the resources and applicable HTTP methods.

Table 7.1.1.2.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method or custom operation | Description |
| SEAL Location Reporting Configurations | /trigger-configurations | POST | Creates a new Individual SEAL Location Reporting Configuration information. |
| Individual SEAL Location Reporting Configuration | /trigger-configurations/{configurationId} | GET | Retrieves an Individual SEAL Location Reporting Configuration information identified by {configurationId}. |
| PUT | Updates an Individual SEAL Location Reporting Configuration information identified by {configurationId}. |
| DELETE | Delete an Individual SEAL Location Reporting Configuration information identified by {configurationId}. |

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

###### 7.1.1.2.2.2 Resource Definition

Resource URI: **{apiRoot}/ss-lr/<apiVersion>/trigger-configurations**

This resource shall support the resource URI variables defined in the table 7.1.1.2.2.2-1.

Table 7.1.1.2.2.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 6.5 |
| apiVersion | string | See clause 7.1.1.1 |

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

7.1.1.2.2.3.1 POST

Table 7.1.1.2.2.3.1-1: 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 7.1.1.2.2.3.1-2 and the response data structures and response codes specified in table 7.1.1.2.2.3.1-3.

Table 7.1.1.2.2.3.1-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| LocationReportConfiguration | M | 1 | Location reporting configuration information. |

Table 7.1.1.2.2.3.1-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| LocationReportConfiguration | M | 1 | 201 Created | Location reporting configuration is created successfully. |
| 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 7.1.1.2.2.3.1-4: 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-lr/<apiVersion>/trigger-configurations/{configurationId} |

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

###### 7.1.1.2.3.2 Resource Definition

Resource URI: **{apiRoot}/ss-lr/<apiVersion>/trigger-configurations/{configurationId}**

This resource shall support the resource URI variables defined in the table 7.1.1.2.3.2-1.

Table 7.1.1.2.3.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 6.5 |
| apiVersion | string | See clause 7.1.1.1 |
| configurationId | string | Represents an individual SEAL location reporting configuration resource. |

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

7.1.1.2.3.3.1 GET

This operation retrieves an individual SEAL location reporting configuration information. This method shall support the URI query parameters specified in table 7.1.1.2.3.3.1-1.

Table 7.1.1.2.3.3.1-1: URI query parameters supported by the GET method on this resource

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

This method shall support the request data structures specified in table 7.1.1.2.3.3.1-2 and the response data structures and response codes specified in table 7.1.1.2.3.3.1-3.

Table 7.1.1.2.3.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 7.1.1.2.3.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| LocationReportConfiguration | M | 1 | 200 OK | The location reporting configuration information. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during resource retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative location management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during resource retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative location management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] also apply. | | | | |

Table 7.1.1.2.3.3.1-4: 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 location management server. |

Table 7.1.1.2.3.3.1-5: 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 location management server. |

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

7.1.1.2.3.3.2 PUT

This operation updates the individual SEAL location reporting configuration. This method shall support the URI query parameters specified in table 7.1.1.2.3.3.2-1.

Table 7.1.1.2.3.3.2-1: URI query parameters supported by the PUT method on this resource

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

This method shall support the request data structures specified in table 7.1.1.2.3.3.2-2 and the response data structures and response codes specified in table 7.1.1.2.3.3.2-3.

Table 7.1.1.2.3.3.2-2: Data structures supported by the PUT Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| LocationReportConfiguration | M | 1 | Updated details of the location reporting configuration. |

Table 7.1.1.2.3.3.2-3: Data structures supported by the PUT Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| LocationReportConfiguration | M | 1 | 200 OK | The configuration is updated successfully and the updated configuration information returned in the response. |
| n/a |  |  | 204 No Content | The location reporting configuration updated successfully. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during resource modification. The response shall include a Location header field containing an alternative URI of the resource located in an alternative location management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during resource modification. The response shall include a Location header field containing an alternative URI of the resource located in an alternative location management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the PUT method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] also apply. | | | | |

Table 7.1.1.2.3.3.2-4: 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 location management server. |

Table 7.1.1.2.3.3.2-5: 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 location management server. |

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

7.1.1.2.3.3.3 DELETE

This operation deletes the individual SEAL location reporting configuration. This method shall support the URI query parameters specified in table 7.1.1.2.3.3.3-1.

Table 7.1.1.2.3.3.3-1: 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 7.1.1.2.3.3.3-2 and the response data structures and response codes specified in table 7.1.1.2.3.3.3-3.

Table 7.1.1.2.3.3.3-2: Data structures supported by the DELETE Request Body on this resource

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

Table 7.1.1.2.3.3.3-3: Data structures supported by the DELETE Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| n/a |  |  | 204 No Content | The individual configuration matching the configurationId is deleted. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during resource termination. The response shall include a Location header field containing an alternative URI of the resource located in an alternative location management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during resource termination. The response shall include a Location header field containing an alternative URI of the resource located in an alternative location management server.  Redirection handling is described in subclause 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 7.1.1.2.3.3.3-4: 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 location management server. |

Table 7.1.1.2.3.3.3-5: 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 location management server. |

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

##### 7.1.1.4.1 General

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

Table 7.1.1.4.1-1 specifies the data types defined specifically for the SS\_LocationReporting API service.

Table 7.1.1.4.1-1: SS\_LocationReporting API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Section defined | Description | Applicability |
| LocationReportConfiguration | 7.1.1.4.2.2 |  |  |

Table 7.1.1.4.1-2 specifies data types re-used by the SS\_LocationReporting API service.

Table 7.1.1.4.1-2: SS\_LocationReporting API Re-used Data Types

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Data type | | Reference | | Comments | | Applicability | |
| Accuracy | | 3GPP TS 29.122 [3] | |  | |  | |
| DateTime | | 3GPP TS 29.571 [21] | |  | |  | |
| DurationSec | | 3GPP TS 29.571 [21] | |  | |  | |
| SupportedFeatures | | 3GPP TS 29.571 [21] | | Used to negotiate the applicability of optional features defined in table 7.1.1.6-1. | |  | |
| ValTargetUe | | Clause 7.3.1.4.2.3 | | Used to indicate either VAL User ID or VAL UE ID, to which location reporting applies. | |  | |

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

###### 7.1.1.4.2.2 Type: LocationReportConfiguration

Table 7.1.1.4.2.2-1: Definition of type LocationReportConfiguration

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| valServerId | string | M | 1 | Represents the VAL server identifier. |  |
| valTgtUe | ValTargetUe | M | 1 | Represents the VAL User ID or VAL UE ID to which the location reporting applies. |  |
| immRep | boolean | O | 0..1 | Indication of immediate reporting. If included, when it is set to true it indicates immediate reporting of the subscribed events, if available. Otherwise, reporting will occur when the event is met. |  |
| monDur | DateTime | O | 0..1 | Represents the time at which the subscription ceases to exist (i.e the reporting trigger becomes invalid). If omitted, there is no time limit. |  |
| repPeriod | DurationSec | O | 0..1 | Indicates the time interval between successive location reports. |  |
| accuracy | Accuracy | O | 0..1 | Represents the desired level of accuracy of the requested location information. |  |
| suppFeat | SupportedFeatures | O | 0..1 | Used to negotiate the supported features of the API as defined in clause 7.1.1.6.  This attribute shall be provided in the HTTP POST request and in the response of successful resource creation. |  |

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

#### 7.1.1.5 Error Handling

General error responses are defined in clause 6.7.

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

#### 7.1.1.6 Feature negotiation

General feature negotiation procedures are defined in clause 6.8.

Table 7.1.1.6-1: Supported Features

|  |  |  |
| --- | --- | --- |
| **Feature number** | **Feature Name** | **Description** |
|  |  |  |

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

##### 7.2.1.2.1 Overview



Figure 7.2.1.2.1-1: Resource URI structure of the SS\_GroupManagement API

Table 7.2.1.2.1-1 provides an overview of the resources and applicable HTTP methods.

Table 7.2.1.2.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method or custom operation | Description |
| VAL Group Documents | /group-documents | POST | Create a new VAL group document. |
| GET | Retrieve VAL group documents according to the query parameters. If there are no query parameters, do not fetch any VAL group document. |
| Individual VAL Group Document | /group-documents/{groupDocId} | GET | Retrieve an individual VAL group’s membership and configuration information according to query parameter on the resource identified by {groupDocId}. If there are no query parameter, fetch the whole VAL group document resource identified by {groupDocId}. |
| PUT | Update an individual VAL group’s membership and configuration information identified by {groupDocId}. |

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

###### 7.2.1.2.2.2 Resource Definition

Resource URI: **{apiRoot}/ss-gm/<apiVersion>/group-documents**

This resource shall support the resource URI variables defined in the table 7.2.1.2.2.2-1.

Table 7.2.1.2.2.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 6.5 |
| apiVersion | string | See clause 7.2.1.1 |

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

7.2.1.2.2.3.1 POST

This method shall support the URI query parameters specified in table 7.2.1.2.2.3.1-1.

Table 7.2.1.2.2.3.1-1: 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 7.2.1.2.2.3.1-2 and the response data structures and response codes specified in table 7.2.1.2.2.3.1-3.

Table 7.2.1.2.2.3.1-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| VALGroupDocument | M | 1 | Details of the VAL group that needs to be created, |

Table 7.2.1.2.2.3.1-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| VALGroupDocument | M | 1 | 201 Created | VAL group created successfully.  The URI of the created resource shall be returned in the “Location” HTTP header. |
| 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 7.2.1.2.2.3.1-4: 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-gm/<apiVersion>/group-documents/{groupDocId} |

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

7.2.1.2.2.3.2 GET

This operation retrieves VAL group documents satisfying filter criteria. This method shall support the URI query parameters specified in table 7.2.1.2.2.3.2-1.

Table 7.2.1.2.2.3.2-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| val-group-id | string | O | 0..1 | String identifying the VAL group. |
| val-service-id | string | O | 0..1 | String identifying the VAL service. |

This method shall support the request data structures specified in table 7.2.1.2.2.3.2-2 and the response data structures and response codes specified in table 7.2.1.2.2.3.2 -3.

Table 7.2.1.2.2.3.2-2: Data structures supported by the GET Request Body on this resource

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

Table 7.2.1.2.2.3.2-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| array(VALGroupDocument) | M | 0..N | 200 OK | List of VAL group documents. This response shall include VAL group documents matching the query parameters provided in the request. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during resource retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative group management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during resource retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative group management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] also apply. | | | | |

Table 7.2.1.2.2.3.2-4: 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 group management server. |

Table 7.2.1.2.2.3.2-5: 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 group management server. |

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

###### 7.2.1.2.3.2 Resource Definition

Resource URI: **{apiRoot}/ss-gm/<apiVersion>/group-documents/{groupDocId}**

This resource shall support the resource URI variables defined in the table 7.2.1.2.3.2-1.

Table 7.2.1.2.3.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 6.5 |
| apiVersion | string | See clause 7.2.1.1 |
| groupDocId | string | Represents an individual group document resource. |

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

7.2.1.2.3.3.1 GET

This operation retrieves VAL group information satisfying filter criteria. This method shall support the URI query parameters specified in table 7.2.1.2.3.3.1-1.

Table 7.2.1.2.3.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| group-members | boolean | O | 0..1 | When set to 'true', it indicates the group management server to send the members list information of the VAL group. Set to false or omitted otherwise. |
| group-configuration | boolean | O | 0..1 | When set to 'true', it indicates the group management server to send the configuration information of the VAL group. Set to false or omitted otherwise. |

This method shall support the request data structures specified in table 7.2.1.2.3.3.1-2 and the response data structures and response codes specified in table 7.2.1.2.3.3.1-3.

Table 7.2.1.2.3.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 7.2.1.2.3.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| VALGroupDocument | M | 1 | 200 OK | The VAL group information based on the request from the VAL server.  This response shall include VAL group members list if group-members flag is set to true in the request, VAL group configuration information if the group-configuration flag is set to true in the request, VAL group identifier, whole VAL group document resource if both group-members and group-configuration flags are omitted/set to false in the request. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during resource retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative group management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during resource retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative group management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] also apply. | | | | |

Table 7.2.1.2.3.3.1-4: 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 group management server. |

Table 7.2.1.2.3.3.1-5: 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 group management server. |

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

7.2.1.2.3.3.2 PUT

This operation updates the VAL group document. This method shall support the URI query parameters specified in table 7.2.1.2.3.3.2-1.

Table 7.2.1.2.3.3.2-1: URI query parameters supported by the PUT method on this resource

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

This method shall support the request data structures specified in table 7.2.1.2.3.3.2-2 and the response data structures and response codes specified in table 7.2.1.2.3.3.2-3.

Table 7.2.1.2.3.3.2-2: Data structures supported by the PUT Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| VALGroupDocument | M | 1 | Updated details of the VAL group document. |

Table 7.2.1.2.3.3.2-3: Data structures supported by the PUT Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| VALGroupDocument | M | 1 | 200 OK | The VAL group document updated successfully and the updated VAL group document returned in the response. |
| n/a |  |  | 204 No Content | The VAL group document updated successfully. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during resource modification. The response shall include a Location header field containing an alternative URI of the resource located in an alternative group management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during resource modification. The response shall include a Location header field containing an alternative URI of the resource located in an alternative group management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the PUT method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] also apply. | | | | |

Table 7.2.1.2.3.3.2-4: 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 group management server. |

Table 7.2.1.2.3.3.2-5: 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 group management server. |

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

7.2.1.2.3.3.3 DELETE

This operation deletes the VAL group document. This method shall support the URI query parameters specified in table 7.2.1.2.3.3.3-1.

Table 7.2.1.2.3.3.3-1: 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 7.2.1.2.3.3.3-2 and the response data structures and response codes specified in table 7.2.1.2.3.3.3-3.

Table 7.2.1.2.3.3.3-2: Data structures supported by the DELETE Request Body on this resource

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

Table 7.2.1.2.3.3.3-3: Data structures supported by the DELETE Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| n/a |  |  | 204 No Content | The individual VAL group document matching the groupDocId is deleted. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during resource termination. The response shall include a Location header field containing an alternative URI of the resource located in an alternative group management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during resource termination. The response shall include a Location header field containing an alternative URI of the resource located in an alternative group management server.  Redirection handling is described in subclause 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 7.2.1.2.3.3.3-4: 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 group management server. |

Table 7.2.1.2.3.3.3-5: 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 group management server. |

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

##### 7.2.1.4.1 General

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

Table 7.2.1.4.1-1 specifies the data types defined specifically for the SS\_GroupManagement API service.

Table 7.2.1.4.1-1: SS\_GroupManagement API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Section defined | Description | Applicability |
| VALGroupDoument | 7.2.1.4.2.2 | VAL group document details. |  |

Table 7.2.1.4.1-2 specifies data types re-used by the SS\_GroupManagement API service.

Table 7.2.1.4.1-2: Re-used Data Types

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Data type | | Reference | | Comments | | Applicability | |
| SupportedFeatures | | 3GPP TS 29.571 [21] | | Used to negotiate the applicability of optional features defined in table 7.2.1.6-1. | |  | |
| LocationInfo | | 3GPP TS 29.122 [3] | | The location information related to VAL group. | |  | |
| ValTargetUe | | Clause 7.3.1.4.2.3 | | Used to indicate either VAL User ID or VAL UE ID, to which location reporting applies. | |  | |
| LocationArea5G | | 3GPP TS 29.122 [3] | | The locations information related to the VAL group. | |  | |
| ExternalGroupId | | 3GPP TS 29.122 [3] | | Used to represent the the external group identifier related to the member UEs of the group. | |  | |

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

#### 7.2.1.5 Error Handling

General error responses are defined in clause 6.7.

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

#### 7.2.1.6 Feature negotiation

General feature negotiation procedures are defined in clause 6.8.

Table 7.2.1.6-1: Supported Features

|  |  |  |
| --- | --- | --- |
| **Feature number** | **Feature Name** | **Description** |
|  |  |  |

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

##### 7.3.1.2.1 Overview



Figure 7.3.1.2.1-1: Resource URI structure of the SS\_UserProfileRetrieval API

Table 7.3.1.2.1-1 provides an overview of the resources and applicable HTTP methods.

Table 7.3.1.2.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method or custom operation | Description |
| VAL Services | /val-services | GET | Retrieve VAL User or VAL UE's profile information. |

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

###### 7.3.1.2.2.2 Resource Definition

Resource URI: **{apiRoot}/ss-upr/<apiVersion>/val-services**

This resource shall support the resource URI variables defined in the table 7.3.1.2.2.2-1.

Table 7.3.1.2.2.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 6.5 |
| apiVersion | string | See clause 7.3.1.1 |

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

7.3.1.2.2.3.1 GET

This operation retrieves VAL User or VAL UE profile information satisfying the filter criteria. This method shall support the URI query parameters specified in table 7.3.1.2.2.3.1-1.

Table 7.3.1.2.2.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| val-tgt-ue | ValTargetUe | M | 1 | Identifying a VAL target UE. |
| val-service-id | string | O | 0..1 | String identifying a VAL service. |

This method shall support the request data structures specified in table 7.3.1.2.2.3.1-2 and the response data structures and response codes specified in table 7.3.1.2.2.3.1-3.

Table 7.3.1.2.2.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 7.3.1.2.2.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| array(ProfileDoc) | M | 0..N | 200 OK | List of VAL User / VAL UE profile documents. This response shall include user profile information matching the query parameters provided in the request. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during resource retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative configuration management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during resource retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative configuration management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] also apply. | | | | |

Table 7.3.1.2.2.3.1-4: 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 configuration management server. |

Table 7.3.1.2.2.3.1-5: 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 configuration management server. |

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

#### 7.3.1.5 Error Handling

General error responses are defined in clause 6.7.

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

#### 7.3.1.6 Feature negotiation

General feature negotiation procedures are defined in clause 6.8.

Table 7.3.1.6-1: Supported Features

|  |  |  |
| --- | --- | --- |
| **Feature number** | **Feature Name** | **Description** |
|  |  |  |

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

##### 7.4.1.2.1 Overview



Figure 7.4.1.2.1-1: Resource URI structure of the SS\_NetworkResourceAdaptation API

Table 7.4.1.2.1-1 provides an overview of the resources and applicable HTTP methods.

Table 7.4.1.2.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method or custom operation | Description |
| Multicast Subscriptions | /multicast-subscriptions | POST | Create a new Individual Multicast Subscription resource. |
| Individual Multicast Subscription | /multicast-subscriptions/{multiSubId} | GET | Read an Individual Multicast Subscription resource. |
| DELETE | Remove an Individual Multicast Subscription resource. |
| Unicast Subscriptions | /unicast-subscriptions | POST | Create a new Individual Unicast Subscription resource. |
| Individual Unicast Subscription | /unicast-subscriptions/{uniSubId} | GET | Read an Individual Unicast Subscription resource. |
| DELETE | Remove an Individual Unicast Subscription resource. |

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

7.4.1.2.2.3.1 POST

Table 7.4.1.2.2.3.1-1: 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 7.4.1.2.2.3.1-2 and the response data structures and response codes specified in table 7.4.1.2.2.3.1-3.

Table 7.4.1.2.2.3.1-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| MulticastSubscription | M | 1 |  |

Table 7.4.1.2.2.3.1-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| MulticastSubscription | M | 1 | 201 Created |  |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [22] shall also apply. | | | | |

Table 7.4.1.2.2.3.1-4: 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-nra/<apiVersion>/multicast-subscriptions/{multiSubId} |

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

7.4.1.2.3.3.1 GET

Table 7.4.1.2.3.3.1-1: URI query parameters supported by the GET method on this resource

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

This method shall support the request data structures specified in table 7.4.1.2.3.3.1-2 and the response data structures and response codes specified in table 7.4.1.2.3.3.1-3.

Table 7.4.1.2.3.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 7.4.1.2.3.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| MulticastSubscription | M | 1 | 200 OK |  |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during resource retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative network resource management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during resource retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative network resource management server.  Redirection handling is described in subclause 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 29.500 [22] shall also apply. | | | | |

Table 7.4.1.2.3.3.1-4: 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 network resource management server. |

Table 7.4.1.2.3.3.1-5: 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 network resource management server. |

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

7.4.1.2.3.3.2 DELETE

Table 7.4.1.2.3.3.2-1: 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 7.4.1.2.3.3.2-2 and the response data structures and response codes specified in table 7.4.1.2.3.3.2-3.

Table 7.4.1.2.3.3.2-2: Data structures supported by the DELETE Request Body on this resource

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

Table 7.4.1.2.3.3.2-3: Data structures supported by the DELETE Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| n/a |  |  | 204 No Content | Successful case. The Individual Multicast Subscription resource was deleted. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during resource termination. The response shall include a Location header field containing an alternative URI of the resource located in an alternative network resource management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during resource termination. The response shall include a Location header field containing an alternative URI of the resource located in an alternative network resource management server.  Redirection handling is described in subclause 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 29.500 [22] shall also apply. | | | | |

Table 7.4.1.2.3.3.2-4: 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 network resource management server. |

Table 7.4.1.2.3.3.2-5: 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 network resource management server. |

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

7.4.1.2.4.3.1 POST

Table 7.4.1.2.4.3.1-1: 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 7.4.1.2.4.3.1-2 and the response data structures and response codes specified in table 7.4.1.2.4.3.1-3.

Table 7.4.1.2.4.3.1-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| UnicastSubscription | M | 1 |  |

Table 7.4.1.2.4.3.1-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| UnicastSubscription | M | 1 | 201 Created |  |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [22] shall also apply. | | | | |

Table 7.4.1.2.4.3.1-4: 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-nra/<apiVersion>/unicast-subscriptions/{uniSubId} |

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

7.4.1.2.5.3.1 GET

Table 7.4.1.2.5.3.1-1: URI query parameters supported by the GET method on this resource

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

This method shall support the request data structures specified in table 7.4.1.2.5.3.1-2 and the response data structures and response codes specified in table 7.4.1.2.5.3.1-3.

Table 7.4.1.2.5.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 7.4.1.2.5.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| UnicastSubscription | M | 1 | 200 OK |  |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during resource retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative network resource management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during resource retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative network resource management server.  Redirection handling is described in subclause 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 29.500 [22] shall also apply. | | | | |

Table 7.4.1.2.5.3.1-4: 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 network resource management server. |

Table 7.4.1.2.5.3.1-5: 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 network resource management server. |

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

7.4.1.2.5.3.2 DELETE

Table 7.4.1.2.5.3.2-1: 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 7.4.1.2.5.3.2-2 and the response data structures and response codes specified in table 7.4.1.2.5.3.2-3.

Table 7.4.1.2.5.3.2-2: Data structures supported by the DELETE Request Body on this resource

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

Table 7.4.1.2.5.3.2-3: Data structures supported by the DELETE Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| n/a |  |  | 204 No Content | Successful case. The Individual Unicast Subscription resource was deleted. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during resource termination. The response shall include a Location header field containing an alternative URI of the resource located in an alternative network resource management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during resource termination. The response shall include a Location header field containing an alternative URI of the resource located in an alternative network resource management server.  Redirection handling is described in subclause 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 29.500 [22] shall also apply. | | | | |

Table 7.4.1.2.5.3.2-4: 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 network resource management server. |

Table 7.4.1.2.5.3.2-5: 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 network resource management server. |

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

#### 7.5.1.1 API URI

The SS\_Events service shall use the SS\_Events API.

The request URIs use in HTTP requests from the VAL server towards the SEAL server shall have the Resource URI structure as defined in clause 6.5 with the following clarifications:

- The <apiName>shall be "ss-events".

- The <apiVersion> shall be "v1".

- The <apiSpecificSuffixes> shall be set as described in clause 7.5.1.2.

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

##### 7.5.1.2.1 Overview



Figure 7.5.1.2.1-1: Resource URI structure of the SS\_Events API

Table 7.5.1.2.1-1 provides an overview of the resources and applicable HTTP methods.

Table 7.5.1.2.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method or custom operation | Description |
| SEAL Events Subscriptions | /subscriptions | POST | Creates a new individual SEAL Event Subscription. |
| Individual SEAL Events Subscription | /subscriptions/{subscriptionId} | DELETE | Deletes an individual SEAL Event Subscription identified by the subscriptionId. |

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

###### 7.5.1.2.2.2 Resource Definition

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

This resource shall support the resource URI variables defined in the table 7.5.1.2.2.2-1.

Table 7.5.1.2.2.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | String | See clause 6.5 |
| apiVersion | String | See clause 7.5.1.1 |

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

###### 7.5.1.2.3.2 Resource Definition

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

This resource shall support the resource URI variables defined in the table 7.5.1.2.3.2-1.

Table 7.5.1.2.3.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 6.5 |
| apiVersion | string | See clause 7.5.1.1 |
| SubscriptionId | string | Identifies an Individual Events Subscription |

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

##### 7.5.1.4.1 General

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

Table 7.5.1.4.1-1 specifies the data types defined specifically for the SS\_Events API service.

Table 7.5.1.4.1-1: SS\_Events API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Section defined | Description | Applicability |
| SEALEventSubscription | 7.5.1.4.2.2 | Represents an individual SEAL Event Subscription resource |  |
| SEALEventNotification | 7.5.1.4.2.3 | Represents an individual SEAL Event Subscription Notification |  |
| EventSubscription | 7.5.1.4.2.4 | Represents the subscription to a single SEAL event. |  |
| SEALEventDetail | 7.5.1.4.2.5 | Represents the SEAL event detail |  |
| VALGroupFilter | 7.5.1.4.2.6 | Represents a filter of VAL group identifiers belonging to a VAL service. |  |
| IdentityFilter | 7.5.1.4.2.7 | Represents a filter of VAL User / UE identities belonging to a VAL service. |  |
| SEALEvent | 7.5.1.4.3.3 | Represents the type of SEAL events that can be subscribed. |  |
| LMInformation | 7.5.1.4.2.8 | The location information for a VAL User ID or a VAL UE ID. |  |
| MessageFilter | 7.5.1.4.2.9 | The message filter information applicable to member VAL UEs or Users of the VAL group in the group change notification. |  |

Table 7.5.1.4.1-2 specifies data types re-used by the SS\_Events API service:

Table 7.5.1.4.1-2: Re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| ReportingInformation | 3GPP TS 29.523 [20] | Used to indicate the reporting requirement, only the following information are applicable for SEAL:  - immRep  - notifMethod  - maxReportNbr  - monDur  - repPeriod |  |
| SupportedFeatures | 3GPP TS 29.571 [21] | Used to negotiate the applicability of optional features defined in table 7.5.1.6-1. |  |
| TestNotification | 3GPP TS 29.122 [3] | Following differences apply:  - The SCEF is the SEAL server; and  - The SCS/AS is the subscribing VAL server. |  |
| Uri | 3GPP TS 29.122 [3] |  |  |
| WebsockNotifConfig | 3GPP TS 29.122 [3] | Following differences apply:  - The SCEF is the CAPIF core function; and  - The SCS/AS is the Subscribing functional entity. |  |
| VALGroupDocument | Clause 7.2.1.4.2.2 | Used to send VAL group document as part of event detail in the event notification. |  |
| ProfileDoc | Clause 7.3.1.4.2.2 | Used to send VAL User or VAL UE profile information as part of event detail in the event notification. |  |
| LocationInfo | 3GPP TS 29.122 [3] | Location information |  |
| ValTargetUe | 7.3.1.4.2.3 | Used to identify a VAL user ID or a VAL UE ID. |  |
| ScheduledCommunicationTime | 3GPP TS 29.122 [3] | Used to define the time frame for message filters. |  |
| Uinteger | 3GPP TS 29.571 [21] | Used to represent maximum number of messages in MesageFilter data type. |  |

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

##### 7.6.1.2.1 Overview



Figure 7.6.1.2.1-1: Resource URI structure of the SS\_KeyInfoRetrieval API

Table 7.6.1.2.1-1 provides an overview of the resources and applicable HTTP methods.

Table 7.6.1.2.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method or custom operation | Description |
| Key records | /key-records | GET | Retrieve key management information uniquely applicable to VAL service, VAL user or VAL UE. |

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

###### 7.6.1.2.2.2 Resource Definition

Resource URI: **{apiRoot}/ss-kir/<apiVersion>/key-records**

This resource shall support the resource URI variables defined in the table 7.6.1.2.2.2-1.

Table 7.6.1.2.2.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | String | See clause 6.5 |
| apiVersion | String | See clause 7.6.1.1 |

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

7.6.1.2.2.3.1 GET

This operation retrieves VAL service key management information satisfying the filter criteria. This method shall support the URI query parameters specified in table 7.6.1.2.2.3.1-1.

Table 7.6.1.2.2.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| val-tgt-ue | ValTargetUe | O | 0..1 | Identifying a VAL user or a VAL UE. |
| val-service-id | string | M | 1 | String identifying a VAL service. |

This method shall support the request data structures specified in table 7.6.1.2.2.3.1-2 and the response data structures and response codes specified in table 7.6.1.2.2.3.1 -3.

Table 7.6.1.2.2.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 7.6.1.2.2.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| ValKeyInfo | M | 1 | 200 OK | Key management information specific to VAL service, VAL user or VAL UE. This response shall include key management information matching the query parameters provided in the request. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during resource retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative key management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during resource retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative key management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] also apply. | | | | |

Table 7.6.1.2.2.3.1-4: 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 key management server. |

Table 7.6.1.2.2.3.1-5: 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 key management server. |

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

##### 7.6.1.4.1 General

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

Table 7.6.1.4.1-1 specifies the data types defined specifically for the SS\_KeyInfoRetrieval API service.

Table 7.6.1.4.1-1: SS\_KeyInfoRetrieval API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Section defined | Description | Applicability |
| ValKeyInfo | 7.6.1.4.2.3 | Key management information associated with VAL server, VAL user or VAL UE. |  |

Table 7.6.1.4.1-2 specifies data types re-used by the SS\_KeyInfoRetrieval API service.

Table 7.6.1.4.1-2: Re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| ValTargetUe | Clause 7.3.1.4.2.3 | Used to identify a VAL User ID or VAL UE ID applicable to key management information. |  |

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

#### 7.6.1.5 Error Handling

General error responses are defined in clause 6.7.

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

#### 7.6.1.6 Feature Negotiation

General feature negotiation procedures are defined in clause 6.8.

Table 7.6.1.6-1: Supported Features

|  |  |  |
| --- | --- | --- |
| **Feature number** | **Feature Name** | **Description** |
|  |  |  |

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