**TSG-CT WG3 Meeting #116-e *C3-213xyz***

**E-Meeting, 19th – 28th May 2021 (Revision of C3-213181)**

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **29.549** | **CR** | **0023** | **rev** | **1** | **Current version:** | **17.0.0** |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
|  |

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

|  |
| --- |
|  |
| ***Title:***  | Support redirection for SEAL APIs |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | NBI17 |  | ***Date:*** | 2021-05-12 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-17 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | It was agreed to enable the SEAL APIs from Release 17 to support the redirection functionality as described in subclause 5.2.10 of TS 29.122. |
|  |  |
| ***Summary of change:*** | Redirection support in the related HTTP operations |
|  |  |
| ***Consequences if not approved:*** | Lack of full support of the redirection functionality. |
|  |  |
| ***Clauses affected:*** | 7.1.1.2.3.3.1; 7.1.1.2.3.3.2; 7.1.1.2.3.3.3; 7.2.1.2.2.3.2; 7.2.1.2.3.3.1; 7.2.1.2.3.3.2; 7.2.1.2.3.3.3; 7.3.1.2.2.3.1; 7.4.1.2.3.3.1; 7.4.1.2.3.3.2; 7.4.1.2.5.3.1; 7.4.1.2.5.3.2; 7.4.1.3.2.2; 7.5.1.2.3.3.1; 7.5.1.3.2.2; 7.6.1.2.2.3.1; A.2; A.3; A.4; A.5; A.6; A.7 |
|  |  |
|  | **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 introduces backward compatible corrections on OpenAPI files for SS\_LocationReporting API, SS\_GroupManagement API, SS\_UserProfileRetrieval API, SS\_NetworkResourceAdaptation API, SS\_Events API and SS\_KeyInfoRetrieval API. |
|  |  |
| ***This CR's revision history:*** |  |

**Additional discussion(if needed):**

**Proposed changes:**

\*\*\* 1st 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 | Responsecodes | 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 | Responsecodes | Description |
| LocationReportConfiguration | M | 1 | 200 OK | The configuration is updated successfully and the updated configuration information returned in the response.  |
| 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 | Responsecodes | 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 \*\*\*

7.2.1.2.2.3.2 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 | Responsecodes | 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 \*\*\*

7.2.1.2.3.3.1 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 | Responsecodes | 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 | Responsecodes | Description |
| VALGroupDocument | M | 1 | 200 OK | The VAL group document updated successfully and the updated VAL group document returned in the response.  |
| 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 | Responsecodes | 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 \*\*\*

7.3.1.2.2.3.1 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 7.3.1.2.2.3.2-2 and the response data structures and response codes specified in table 7.3.1.2.2.3.2 -3.

Table 7.3.1.2.2.3.2-2: Data structures supported by the GET Request Body on this resource

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

Table 7.3.1.2.2.3.2-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | 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 7.3.1.2.2.3.2-4: 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 configuration management server. |

Table 7.3.1.2.2.3.2-5: 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 configuration management server. |

\*\*\* 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 | Responsecodes | 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 | Responsecodes | 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 \*\*\*

7.4.1.2.5.3.1 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 | Responsecodes | 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 | Responsecodes | 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 \*\*\*

###### 7.4.1.3.2.2 Notification definition

Callback URI: {**notificationURI**}

This method shall support the URI query parameters specified in table 7.4.1.3.2.2-1.

Table 7.4.1.3.2.2-1: 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 7.4.1.3.2.2-2 and the response data structures and response codes specified in table 7.4.1.3.2.2-3.

Table 7.4.1.3.2.2-2: Data structures supported by the POST Request Body on this resource

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

Table 7.4.1.3.2.2-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| n/a |  |  | 204 No Content | The receipt of the Notification is acknowledged. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during notification. The response shall include a Location header field containing an alternative URI representing the end point of an alternative notification destination where the notification should be sent.Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during notification. The response shall include a Location header field containing an alternative URI representing the end point of an alternative notification destination where the notification should be sent.Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [22] also apply. |

Table 7.4.1.3.2.2-4: 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 notification destination towards which the notification should be redirected. |

Table 7.4.1.3.2.2-5: 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 notification destination towards which the notification should be redirected. |

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

7.5.1.2.3.3.1 DELETE

This method shall support the URI query parameters specified in table 7.5.1.2.3.3.1-1.

Table 7.5.1.2.3.3.1-1: 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 7.5.1.2.3.3.1-2 and the response data structures and response codes specified in table 7.5.1.2.3.3.1-3.

Table 7.5.1.2.3.3.1-2: Data structures supported by the DELETE Request Body on this resource

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

Table 7.5.1.2.3.3.1-3: Data structures supported by the DELETE Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| n/a |  |  | 204 No Content | The individual SEAL Events Subscription matching the subscriptionId 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 SEAL 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 SEAL 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 7.5.1.2.3.3.1-4: 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 SEAL server. |

Table 7.5.1.2.3.3.1-5: 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 SEAL server. |

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

###### 7.5.1.3.2.2 Notification definition

The POST method shall be used for the event notification and the callback URI shall be the one provided by the VAL server during the subscription to the event.

Callback URI: **{notificationDestination}**

This method shall support the URI query parameters specified in table 7.5.1.3.2.2-1.

Table 7.5.1.3.2.2-1: 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 7.5.1.3.2.2-2 and the response data structures and response codes specified in table 7.5.1.3.2.2-3.

Table 7.5.1.3.2.2-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| SEALEventNotification | M | 1 | Notification information of a SEAL Event |

Table 7.5.1.3.2.2-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| n/a |  |  | 204 No Content | The receipt of the Notification is acknowledged. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during notification. The response shall include a Location header field containing an alternative URI representing the end point of an alternative notification destination where the notification should be sent.Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during notification. The response shall include a Location header field containing an alternative URI representing the end point of an alternative notification destination where the notification should be sent.Redirection handling is described in subclause 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 7.5.1.3.2.2-4: 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 notification destination towards which the notification should be redirected. |

Table 7.5.1.3.2.2-5: 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 notification destination towards which the notification should be redirected. |

\*\*\* 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 | Responsecodes | 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 \*\*\*

## A.2 SS\_LocationReporting API

openapi: 3.0.0

info:

 title: SS\_LocationReporting

 description: |

 API for SEAL Location Reporting Configuration.

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 All rights reserved.

 version: "1.1.0-alpha.1"

externalDocs:

 description: 3GPP TS 29.549 V17.0.0 Service Enabler Architecture Layer for Verticals (SEAL); Application Programming Interface (API) specification; Stage 3.

 url: http://www.3gpp.org/ftp/Specs/archive/29\_series/29.549/

security:

 - {}

 - oAuth2ClientCredentials: []

servers:

 - url: '{apiRoot}/ss-lr/v1'

 variables:

 apiRoot:

 default: https://example.com

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

paths:

 /trigger-configurations:

 post:

 description: Creates a new location reporting configuration.

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: location reporting confirguation resource is created sucessfully.

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: 'Contains the URI of the newly created resource'

 required: true

 schema:

 type: string

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 /trigger-configurations/{configurationId}:

 get:

 description: Retrieves an individual SEAL location reporting configuration information

 parameters:

 - name: configurationId

 in: path

 description: String identifying an individual configuration resource

 required: true

 schema:

 type: string

 responses:

 '200':

 description: The location reporting configuration information.

 content:

 application/json:

 schema:

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

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '406':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 put:

 description: Updates an individual SEAL location reporting configuration.

 parameters:

 - name: configurationId

 in: path

 description: String identifying an individual configuration resource

 required: true

 schema:

 type: string

 requestBody:

 description: configuration information to be updated in location management server.

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '200':

 description: the configuration is updated successfully

 content:

 application/json:

 schema:

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

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 delete:

 description: Deletes an individual SEAL location reporting configuration.

 parameters:

 - name: configurationId

 in: path

 description: String identifying an individual configuration resource

 required: true

 schema:

 type: string

 responses:

 '204':

 description: The individual configuration matching configurationId is deleted.

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{tokenUrl}'

 scopes: {}

 schemas:

 LocationReportConfiguration:

 description: Represents Location reporting configuration information.

 type: object

 properties:

 valServerId:

 type: string

 valTgtUe:

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

 immRep:

 type: boolean

 monDur:

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

 repPeriod:

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

 accuracy:

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

 suppFeat:

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

 required:

 - valServerId

 - valTgtUe

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

## A.3 SS\_GroupManagement API

openapi: 3.0.0

info:

 title: SS\_GroupManagement

 description: |

 API for SEAL Group management.

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 version: "1.1.0-alpha.1"

externalDocs:

 description: 3GPP TS 29.549 V17.0.0 Service Enabler Architecture Layer for Verticals (SEAL); Application Programming Interface (API) specification; Stage 3.

 url: http://www.3gpp.org/ftp/Specs/archive/29\_series/29.549/

security:

 - {}

 - oAuth2ClientCredentials: []

servers:

 - url: '{apiRoot}/ss-gm/v1'

 variables:

 apiRoot:

 default: https://example.com

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

paths:

 /group-documents:

 post:

 description: Creates a new VAL group document.

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: VAL group created sucessfully.

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: 'Contains the URI of the newly created resource'

 required: true

 schema:

 type: string

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 get:

 description: Retrieves VAL group documents satisfying filter criteria

 parameters:

 - name: val-group-id

 in: query

 description: String identifying the VAL group.

 schema:

 type: string

 - name: val-service-id

 in: query

 description: String identifying the Val service.

 schema:

 type: string

 responses:

 '200':

 description: List of VAL group documents matching the query parameters in the request.

 content:

 application/json:

 schema:

 type: array

 items:

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

 minItems: 0

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '406':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 /group-documents/{groupDocId}:

 get:

 description: Retrieves VAL group information satisfying filter criteria

 parameters:

 - name: groupDocId

 in: path

 description: String identifying an individual VAL group document resource

 required: true

 schema:

 type: string

 - name: group-members

 in: query

 description: When set to true indicates the group management server to send the members list information of the VAL group.

 schema:

 type: boolean

 - name: group-configuration

 in: query

 description: When set to true indicates the group management server to send the group configuration information of the VAL group.

 schema:

 type: boolean

 responses:

 '200':

 description: The VAL group information based on the request from the VAL server. Includes 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.

 content:

 application/json:

 schema:

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

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '406':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 put:

 description: Updates an individual VAL group document.

 parameters:

 - name: groupDocId

 in: path

 description: String identifying an individual VAL group document resource

 required: true

 schema:

 type: string

 requestBody:

 description: VAL group document to be updated in Group management server.

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '200':

 description: VAL group document updated successfully

 content:

 application/json:

 schema:

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

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 delete:

 description: Deletes a VAL Group.

 parameters:

 - name: groupDocId

 in: path

 description: String identifying an individual VAL group document resource

 required: true

 schema:

 type: string

 responses:

 '204':

 description: The individual VAL group matching groupDocId was deleted.

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{tokenUrl}'

 scopes: {}

 schemas:

 VALGroupDocument:

 description: Represents details of the VAL group document information.

 type: object

 properties:

 valGroupId:

 type: string

 description: The VAL group idenitity.

 grpDesc:

 type: string

 description: The text description of the VAL group.

 members:

 type: array

 description: The list of VAL User IDs or VAL UE IDs, which are members of the VAL group.

 items:

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

 minItems: 1

 valGrpConf:

 type: string

 description: Configuration data for the VAL group.

 valServiceIds:

 type: array

 description: The list of VAL services enabled on the group.

 items:

 type: string

 minItems: 1

 suppFeat:

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

 resUri:

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

 locInfo:

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

 addLocInfo:

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

 required:

 - valGroupId

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

## A.4 SS\_UserProfileRetrieval API

openapi: 3.0.0

info:

 title: SS\_UserProfileRetrieval

 description: |

 API for SEAL User Profile Retrieval.

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 version: "1.1.0-alpha.1"

externalDocs:

 description: 3GPP TS 29.549 V17.0.0 Service Enabler Architecture Layer for Verticals (SEAL); Application Programming Interface (API) specification; Stage 3.

 url: http://www.3gpp.org/ftp/Specs/archive/29\_series/29.549/

security:

 - {}

 - oAuth2ClientCredentials: []

servers:

 - url: '{apiRoot}/ss-upr/v1'

 variables:

 apiRoot:

 default: https://example.com

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

paths:

 /val-services:

 get:

 description: Retrieve VAL User or VAL UE profile information.

 parameters:

 - name: val-service-id

 in: query

 description: String identifying an individual VAL service

 required: false

 schema:

 type: string

 - name: val-tgt-ue

 in: query

 description: Identifying a VAL target UE.

 required: true

 schema:

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

 responses:

 '200':

 description: The Profile information of the VAL User or VAL UE.

 content:

 application/json:

 schema:

 type: array

 items:

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

 minItems: 0

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '406':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{tokenUrl}'

 scopes: {}

 schemas:

 ProfileDoc:

 description: Represents Profile information associated with a VAL user ID or a VAL UE ID.

 type: object

 properties:

 profileInformation:

 type: string

 description: Profile information associated with the valUserId or valUeId.

 valTgtUe:

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

 required:

 - profileInformation

 - valTgtUe

 ValTargetUe:

 description: Represents information identifying a VAL user ID or a VAL UE ID.

 type: object

 properties:

 valUserId:

 type: string

 description: Unique identifier of a VAL user.

 valUeId:

 type: string

 description: Unique identifier of a VAL UE.

 oneOf:

 - required: [valUserId]

 - required: [valUeId]

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

## A.5 SS\_NetworkResourceAdaptation API

openapi: 3.0.0

info:

 version: 1.1.0-alpha.1

 title: SS\_NetworkResourceAdaptation

 description: |

 SS Network Resource Adaptation Service.

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externalDocs:

 description: 3GPP TS 29.549 V17.0.0; Service Enabler Architecture Layer for Verticals (SEAL); Application Programming Interface (API) specification; Stage 3.

 url: http://www.3gpp.org/ftp/Specs/archive/29\_series/29.549/

security:

 - {}

 - oAuth2ClientCredentials: []

servers:

 - url: '{apiRoot}/ss-nra/v1'

 variables:

 apiRoot:

 default: https://example.com

 description: apiRoot as defined in clause 4.4 of 3GPP TS 29.501

paths:

 /multicast-subscriptions:

 post:

 summary: Creates a new Individual Multicast Subscription resource

 operationId: CreateMulticastSubscription

 tags:

 - Multicast Subscriptions (Collection)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: Success

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: 'Contains the URI of the created individual multicast subscription resource'

 required: true

 schema:

 type: string

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 callbacks:

 UserPlaneNotification:

 '{$request.body#/notifUri}':

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '204':

 description: No Content, Notification was succesfull

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 /multicast-subscriptions/{multiSubId}:

 get:

 summary: "Reads an existing Individual Multicast Subscription"

 operationId: GetMulticastSubscription

 tags:

 - Individual Multicast Subscription (Document)

 parameters:

 - name: multiSubId

 in: path

 description: Multicast Subscription ID

 required: true

 schema:

 type: string

 responses:

 '200':

 description: OK. Resource representation is returned

 content:

 application/json:

 schema:

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

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '406':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/406'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 delete:

 summary: "Delete an existing Individual Multicast Subscription"

 operationId: DeleteMulticastSubscription

 tags:

 - Individual Multicast Subscription (Document)

 parameters:

 - name: multiSubId

 in: path

 description: Multicast Subscription ID

 required: true

 schema:

 type: string

 responses:

 '204':

 description: No Content. Resource was succesfully deleted

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 /unicast-subscriptions:

 post:

 summary: Creates a new Individual Unicast Subscription resource

 operationId: CreateUnicastSubscription

 tags:

 - Unicast Subscriptions (Collection)

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: Success

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: 'Contains the URI of the created individual unicast subscription resource'

 required: true

 schema:

 type: string

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 callbacks:

 UserPlaneNotification:

 '{$request.body#/notifUri}':

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '204':

 description: No Content, Notification was succesfull

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 /unicast-subscriptions/{uniSubId}:

 get:

 summary: "Reads an existing Individual Unicast Subscription"

 operationId: GetUnicastSubscription

 tags:

 - Individual Unicast Subscription (Document)

 parameters:

 - name: uniSubId

 in: path

 description: Unicast Subscription ID

 required: true

 schema:

 type: string

 responses:

 '200':

 description: OK. Resource representation is returned

 content:

 application/json:

 schema:

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

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '406':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/406'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 delete:

 summary: "Delete an existing Individual Unicast Subscription"

 operationId: DeleteUnicastSubscription

 tags:

 - Individual Unicast Subscription (Document)

 parameters:

 - name: uniSubId

 in: path

 description: Unicast Subscription ID

 required: true

 schema:

 type: string

 responses:

 '204':

 description: No Content. Resource was succesfully deleted

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{tokenUrl}'

 scopes: {}

 schemas:

 MulticastSubscription:

 description: Represents a multicast subscription.

 type: object

 properties:

 valGroupId:

 type: string

 anncMode:

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

 multiQosReq:

 type: string

 locArea:

 $ref: 'TS29122\_GMDviaMBMSbyMB2.yaml#/components/schemas/MbmsLocArea'

 duration:

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

 tmgi:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 notifUri:

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

 reqTestNotif:

 type: boolean

 wsNotifCfg:

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

 suppFeat:

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

 upIpv4Addr:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv4Addr'

 upIpv6Addr:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Addr'

 upPortNum:

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

 radioFreqs:

 type: array

 items:

 $ref: 'TS29571\_CommonData.yaml#/components/schemas/Uint32'

 minItems: 1

 required:

 - valGroupId

 - anncMode

 - multiQosReq

 - notifUri

 UnicastSubscription:

 description: Represents a unicast subscription.

 type: object

 properties:

 valTgtUe:

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

 uniQosReq:

 type: string

 duration:

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

 notifUri:

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

 reqTestNotif:

 type: boolean

 wsNotifCfg:

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

 suppFeat:

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

 required:

 - valTgtUe

 - notifUri

 UserPlaneNotification:

 description: Represents a notification on User Plane events.

 type: object

 properties:

 notifId:

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

 eventNotifs:

 type: array

 items:

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

 minItems: 1

 required:

 - notifId

 - eventNotifs

 NrmEventNotification:

 description: Represents a notification on an individual User Plane event.

 type: object

 properties:

 event:

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

 ts:

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

 deliveryMode:

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

 streamIds:

 type: array

 items:

 type: string

 minItems: 1

 required:

 - event

 - ts

# Simple data types and Enumerations

 ServiceAnnoucementMode:

 anyOf:

 - type: string

 enum:

 - NRM

 - VAL

 - type: string

 description: >

 This string provides forward-compatibility with future

 extensions to the enumeration but is not used to encode

 content defined in the present version of this API.

 description: >

 Possible values are

 - NRM: NRM server performs the service announcement.

 - VAL: VAL server performs the service announcement.

 DeliveryMode:

 anyOf:

 - type: string

 enum:

 - UNICAST

 - MULTICAST

 - type: string

 description: >

 This string provides forward-compatibility with future

 extensions to the enumeration but is not used to encode

 content defined in the present version of this API.

 description: >

 Possible values are

 - UNICAST: Unicast delivery.

 - MULTICAST: Multicast delivery.

 NrmEvent:

 anyOf:

 - type: string

 enum:

 - UP\_DELIVERY\_MODE

 - type: string

 description: >

 This string provides forward-compatibility with future

 extensions to the enumeration but is not used to encode

 content defined in the present version of this API.

 description: >

 Possible values are

 - UP\_DELIVERY\_MODE: User Plane delivery mode.

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

## A.6 SS\_Events API

openapi: 3.0.0

info:

 title: SS\_Events

 description: |

 API for SEAL Events management.

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 version: "1.1.0-alpha.1"

externalDocs:

 description: 3GPP TS 29.549 V17.0.0 Service Enabler Architecture Layer for Verticals (SEAL); Application Programming Interface (API) specification; Stage 3.

 url: http://www.3gpp.org/ftp/Specs/archive/29\_series/29.549/

security:

 - {}

 - oAuth2ClientCredentials: []

servers:

 - url: '{apiRoot}/ss-events/v1'

 variables:

 apiRoot:

 default: https://example.com

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

paths:

 /subscriptions:

 post:

 description: Creates a new individual SEAL Event Subscription.

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 callbacks:

 notificationDestination:

 '{request.body#/notificationDestination}':

 post:

 requestBody: # contents of the callback message

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '204':

 description: No Content (successful notification)

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 responses:

 '201':

 description: SEAL Events subscription resource created successfully.

 content:

 application/json:

 schema:

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

 headers:

 Location:

 description: 'Contains the URI of the newly created resource'

 required: true

 schema:

 type: string

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '411':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/411'

 '413':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/413'

 '415':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/415'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

 /subscriptions/{subscriptionId}:

 delete:

 description: Deletes an individual SEAL Event Subscription.

 parameters:

 - name: subscriptionId

 in: path

 description: Identifier of an individual Events Subscription

 required: true

 schema:

 type: string

 responses:

 '204':

 description: The individual SEAL Events Subscription matching the subscriptionId is deleted.

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{tokenUrl}'

 scopes: {}

 schemas:

 SEALEventSubscription:

 description: Represents an individual SEAL Event Subscription resource.

 type: object

 properties:

 subscriberId:

 type: string

 description: String identifying the subscriber of the event.

 eventSubs:

 type: array

 items:

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

 minItems: 1

 description: Subscribed events.

 eventReq:

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

 notificationDestination:

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

 requestTestNotification:

 type: boolean

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

 websockNotifConfig:

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

 eventDetails:

 type: array

 items:

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

 minItems: 1

 suppFeat:

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

 required:

 - subscriberId

 - eventSubs

 - eventReq

 - notificationDestination

 SEALEventNotification:

 description: Represents notification information of a SEAL Event.

 type: object

 properties:

 subscriptionId:

 type: string

 description: Identifier of the subscription resource.

 eventDetails:

 type: array

 items:

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

 minItems: 1

 description: Detailed notifications of individual events.

 required:

 - subscriptionId

 - eventDetails

 EventSubscription:

 description: Represents the subscription to a single SEAL event.

 type: object

 properties:

 eventId:

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

 valGroups:

 type: array

 items:

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

 minItems: 1

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

 identities:

 type: array

 items:

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

 minItems: 1

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

 required:

 - eventId

 SEALEventDetail:

 description: Represents the SEAL event details.

 type: object

 properties:

 eventId:

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

 lmInfos:

 type: array

 items:

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

 minItems: 1

 valGroupDocuments:

 type: array

 items:

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

 minItems: 1

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

 profileDocs:

 type: array

 items:

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

 minItems: 1

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

 required:

 - eventId

 VALGroupFilter:

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

 type: object

 properties:

 valSvcId:

 type: string

 description: Identity of the VAL service

 valGrpIds:

 type: array

 items:

 type: string

 minItems: 1

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

 required:

 - valGrpIds

 IdentityFilter:

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

 type: object

 properties:

 valSvcId:

 type: string

 description: Identity of the VAL service

 valTgtUes:

 type: array

 items:

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

 minItems: 1

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

 LMInformation:

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

 type: object

 properties:

 valTgtUe:

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

 locInfo:

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

 required:

 - locInfo

 - valTgtUe

 SEALEvent:

 anyOf:

 - type: string

 enum:

 - LM\_LOCATION\_INFO\_CHANGE

 - GM\_GROUP\_INFO\_CHANGE

 - CM\_USER\_PROFILE\_CHANGE

 - GM\_GROUP\_CREATE

 - type: string

 description: >

 This string provides forward-compatibility with future

 extensions to the enumeration but is not used to encode

 content defined in the present version of this API.

 description: >

 Possible values are

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

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

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

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

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

## A.7 SS\_KeyInfoRetrieval API

openapi: 3.0.0

info:

 title: SS\_KeyInfoRetrieval

 description: |

 API for SEAL Key Information Retrieval.

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 version: "1.1.0-alpha.1"

externalDocs:

 description: 3GPP TS 29.549 V17.0.0 Service Enabler Architecture Layer for Verticals (SEAL); Application Programming Interface (API) specification; Stage 3.

 url: http://www.3gpp.org/ftp/Specs/archive/29\_series/29.549/

security:

 - {}

 - oAuth2ClientCredentials: []

servers:

 - url: '{apiRoot}/ss-kir/v1'

 variables:

 apiRoot:

 default: https://example.com

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

paths:

 /key-records:

 get:

 description: Retrieve Key mamangement information specific to VAL service.

 parameters:

 - name: val-service-id

 in: query

 description: String identifying an individual VAL service

 required: true

 schema:

 type: string

 - name: val-tgt-ue

 in: query

 description: Identifying a VAL target.

 required: false

 schema:

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

 responses:

 '200':

 description: The key management information of the VAL service, VAL User or VAL UE.

 content:

 application/json:

 schema:

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

 '307':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/307'

 '308':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/308'

 '400':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/400'

 '401':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/401'

 '403':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/403'

 '404':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '406':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/404'

 '429':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/429'

 '500':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/500'

 '503':

 $ref: 'TS29122\_CommonData.yaml#/components/responses/503'

 default:

 $ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{tokenUrl}'

 scopes: {}

 schemas:

 ValKeyInfo:

 description: Represents key management information associated with VAL server, VAL user or VAL UE.

 type: object

 properties:

 userUri:

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

 skmsId:

 type: string

 description: String identifying the key management server.

 valService:

 type: string

 description: Unique identifier of a VAL Service.

 valTgtUe:

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

 keyInfo:

 type: string

 description: Key management information specific to VAL service, VAL User or VAL UE.

 required:

 - userUri

 - valService

 - keyInfo

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