**3GPP TSG-CT3 Meeting #142 C3-253595**

**Gothenburg, SE, 25 - 29 August, 2025** (revision of C3-253415)

**Source: Samsung**

**Title: Pseudo-CR on SS\_SmDataSourceDiscovery API data model**

**Spec: 3GPP TS 29.437 (v1.0.0)**

**Agenda item: 19.42**

**Document for: Approval**

**1. Introduction**

This pCR proposes the API data model for SS\_SmDataSourceDiscovery service API.

**2. Reason for Change**

The SS\_SmDataSourceDiscovery API, as specified in TS 23.437, allows VAL server to discover the authorized SM information data sources from the SEAL SM server. The data model of the same needs to be implemented in TS 29.437.

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS 29.437 v1.0.0

\* \* \* 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 29.122: "T8 reference point for Northbound Application Programming Interfaces (APIs)".

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

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

[5] 3GPP TR 21.900: "Technical Specification Group working methods".

[6] 3GPP TS 23.222: "Common API Framework for 3GPP Northbound APIs; Stage 2".

[7] 3GPP TS 29.222: "Common API Framework for 3GPP Northbound APIs; Stage 3".

[8] 3GPP TS 33.122: "Security aspects of Common API Framework (CAPIF) for 3GPP northbound APIs".

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

[10] IETF RFC 9113: "HTTP/2".

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

[12] IETF RFC 9457: "Problem Details for HTTP APIs".

[13] 3GPP TS 23.437: "Service Enabler Architecture Layer for Verticals (SEAL); Spatial map and Spatial anchors".

[14] 3GPP TS 23.434: "Service Enabler Architecture Layer for Verticals (SEAL); Functional architecture and information flows".

[15] 3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces; Stage 3".

[16] 3GPP TS 29.572: "5G System; Location Management Services; Stage 3".

[17] 3GPP TS 29.549: "Service Enabler Architecture Layer for Verticals (SEAL); Application Programming Interface (API) specification; Stage 3".

[18] 3GPP TS 29.558: "Enabling Edge Applications; Application Programming Interface (API) specification;"

[19] 3GPP TS 29.523: "5G System; Policy Control Event Exposure Service; Stage 3".

[A] 3GPP TS 24.550: "Digital assets, Spatial mapping and Spatial anchors server – Service Enabler Architecture Layer for Verticals (SEAL); Protocol specification".

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

### 6.2.X SS\_SmDataSourceDiscovery API

#### 6.2.X.1 Introduction

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

The API URI of the SS\_SmDataSourceDiscovery API shall be:

**{apiRoot}/<apiName>/<apiVersion>**

The request URIs used in HTTP requests shall have the Resource URI structure defined in clause 6.5 of 3GPP TS 29.549 [17], i.e.:

**{apiRoot}/<apiName>/<apiVersion>/<apiSpecificSuffixes>**

with the following components:

- The {apiRoot} shall be set as described in clause 6.5 of 3GPP TS 29.549 [17].

- The <apiName>shall be "ssm-dsdisc".

- The <apiVersion> shall be "v1".

- The <apiSpecificSuffixes> shall be set as described in clause 6.5 of 3GPP TS 29.549 [17].

NOTE: When 3GPP TS 29.122 [2] is referenced for the common protocol and interface aspects for API definition in the clauses under clause 5, the SEAL SM Server takes the role of the SCEF and the service consumer takes the role of the SCS/AS.

#### 6.2.X.2 Usage of HTTP and common API related aspects

The provisions of clause 6.3 of 3GPP TS 29.549 [17] shall apply for the SS\_SmDataSourceDiscovery API.

#### 6.2.X.3 Resources

##### 6.2.X.3.1 Overview

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

Figure 6.2.X.3.1-1 depicts the resource URIs structure for the SS\_SmDataSourceDiscovery API.



Figure 6.2.X.3.1-1: Resource URI structure of the SS\_SmDataSourceDiscovery API

Table 6.2.X.3.1-1 provides an overview of the resources and applicable HTTP methods.

Table 6.2.X.3.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource purpose/name | Resource URI (relative path after API URI) | HTTP method or custom operation | Description (service operation) |
| Spatial Maps Data Source Profiles | /datasource-profiles | GET | Retrieve Spatial Map data source profiles information. |

##### 6.2.X.3.2 Resource: Spatial Maps Data Source Profiles

6.2.X.3.2.1 Description

This resource represents the collection of SM Data Source Discoveries managed by the SM Server.

6.2.X.3.2.2 Resource Definition

Resource URI: **{apiRoot}/ssm-dsdisc/<apiVersion>/datasource-profiles**

This resource shall support the resource URI variables defined in table 6.2.X.3.2.2-1.

Table 6.2.X.3.2.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| apiRoot | string | See clause 6.2.X.1. |

6.2.X.3.2.3 Resource Standard Methods

6.2.X.3.2.3.1 GET

The HTTP GET method allows a service consumer to discover SM data source information from the SEAL SM Server.

This method shall support the URI query parameters specified in table 6.2.X.3.2.3.1-1.

**Table 6.2.X.3.2.3.1-1: URI query parameters supported by the GET method on this resource**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** | **Applicability** |
| area-int | LocationInfo | M | 1 | Contains the three-dimensional area or localization information. |  |
| end-point | EndPoint | O | 0..1 | Contains the end point information where the Spatial Map data source sends the SM data. |  |
| ds-disc-fltr | SMDataSourceDiscFilter | O | 0..1 | Contains the set of characteristics related to Spatial Map data sources. |  |
| supp-feats | SupportedFeatures | O | 0..1 | Contains the list of supported feature(s) among the ones defined in clause 6.2.X.8.  This query parameter shall be present only when feature negotiation is required. |  |

This method shall support the request data structures specified in Table 6.2.X.3.2.3.1-2 and the response data structures and response codes specified in Table 6.2.X.3.2.3.1-3.

**Table 6.2.X.3.2.3.1-2: Data structures supported by the GET Request Body on this resource**

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

**Table 6.2.X.3.2.3.1-3: Data structures supported by the GET Response Body on this resource**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Response**  **codes** | **Description** |
| SMDataSourceDiscResp | M | 1 | 200 OK | Successful case. The requested SM data source information shall be returned. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative URI of the resource located in an alternative SM Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.  The response shall include a Location header field containing an alternative URI of the resource located in an alternative SM Server.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [2]. |
| NOTE: The mandatory HTTP error status codes for the HTTP GET method listed in table 5.2.6-1 of 3GPP TS 29.122 [2] shall also apply. | | | | |

**Table 6.2.X.3.2.3.2-4: Headers supported by the 307 Response Code on this resource**

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

**Table 6.2.X.3.2.3.2-5: Headers supported by the 308 Response Code on this resource**

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

6.2.X.3.2.4 Resource Custom Operations

There are no resource custom operations defined for this resource in this release of the specification.

#### 6.2.X.4 Custom Operations without associated resources

There are no custom operations without associated resources defined for this API in this release of the specification.

#### 6.2.X.5 Notifications

There are no notifications defined for this API in this release of the specification.

#### 6.2.X.6 Data Model

##### 6.2.X.6.1 General

This clause specifies the application data model supported by the API.

Table 6.2.X.6.1-1 specifies the data types defined for the SS\_SmDataSourceDiscovery API.

Table 6.2.X.6.1-1: SS\_SmDataSourceDiscovery API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| SMDataSourceDiscFilter | 6.2.X.6.2.2 | Represents the SM data source discovery filters. |  |
| SMDataSourceDiscResp | 6.2.X.6.2.3 | Represents the SM data source discovery response. |  |

Table 6.2.X.6.1-2 specifies data types re-used by the SS\_SmDataSourceDiscovery API from other specifications, including a reference to their respective specifications, and when needed, a short description of their use within the SS\_SmDataSourceDiscovery API.

Table 6.2.X.6.1-2: SS\_SmDataSourceDiscovery API re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| DataSourceProfile | 3GPP TS 24.550 [A] | Represents the SM data source profile information. |  |
| EndPoint | 3GPP TS 29.558 [18] | Represents the end point information. |  |
| LocationInfo | 3GPP TS 29.122 [2] | Represents the three dimensional area and location information. |  |
| SpatialMapInfoDetails | 3GPP TS 24.550 [A] | Represents the SM Information details. |  |
| SupportedFeatures | 3GPP TS 29.571 [15] | Represents the list of supported feature(s) and used to negotiate the applicability of the optional features. |  |

##### 6.2.X.6.2 Structured data types

6.2.X.6.2.1 Introduction

This clause defines the structures to be used in resource representations.

6.2.X.6.2.2 Type: SMDataSourceDiscFilter

Table 6.2.X.6.2.2-1: Definition of type SMDataSourceDiscFilter

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| smInfoDets | array(SpatialMapInfoDetails) | O | 1..N | Contains the list of SM information details. Each attribute of SpatialMapInfoDetails data type is optional and at least one of the attributes within SpatialMapInfoDetails data type shall be present.  (NOTE) |  |
| NOTE: At least one of these attributes shall be present. | | | | | |

6.2.X.6.2.3 Type: SMDataSourceDiscResp

Table 6.2.X.6.2.3-1: Definition of type SMDataSourceDiscResp

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| results | array(DataSourceProfile) | M | 0..N | Contains the list of SM data source profiles matching the filter criteria.  If there are no SM data source(s) matching the provided data source profile filter criteria, an empty array shall be returned within this attribute. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Contains the list of supported feature(s) among the ones defined in clause 6.2.X.8.  This attribute shall be present only when feature negotiation is required. |  |

##### 6.2.X.6.3 Simple data types and enumerations

6.2.X.6.3.1 Introduction

This clause defines simple data types and enumerations that can be referenced from data structures defined in the previous clauses.

6.2.X.6.3.2 Simple data types

The simple data types defined in table 6.2.X.6.3.2-1 shall be supported.

Table 6.2.X.6.3.2-1: Simple data types

|  |  |  |  |
| --- | --- | --- | --- |
| Type Name | Type Definition | Description | Applicability |
|  |  |  |  |

##### 6.2.X.6.4 Data types describing alternative data types or combinations of data types

There are no data types describing alternative data types or combinations of data types defined for this API in this release of the specification.

##### 6.2.X.6.5 Binary data

6.2.X.6.5.1 Binary Data Types

Table 6.2.X.6.5.1-1: Binary Data Types

|  |  |  |
| --- | --- | --- |
| Name | Clause defined | Content type |
| n/a |  |  |

#### 6.2.X.7 Error Handling

##### 6.2.X.7.1 General

For the SS\_SmDataSourceDiscovery API, error handling shall be supported as specified in clause 6.7 of 3GPP TS 29.549 [17].

In addition, the requirements in the following clauses are applicable for the SS\_SmDataSourceDiscovery API.

##### 6.2.X.7.2 Protocol Errors

No specific procedures for the SS\_SmDataSourceDiscovery API are specified.

##### 6.2.X.7.3 Application Errors

The application errors defined for the SS\_SmDataSourceDiscovery API are listed in Table 6.2.X.7.3-1.

Table 6.2.X.7.3-1: Application errors

|  |  |  |
| --- | --- | --- |
| Application Error | HTTP status code | Description |
|  |  |  |

#### 6.2.X.8 Feature negotiation

The optional features in table 6.2.X.8-1 are defined for the SS\_SmDataSourceDiscovery API. They shall be negotiated using the extensibility mechanism defined in clause 6.8 of 3GPP TS 29.549 [17].

Table 6.2.X.8-1: Supported Features

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

#### 6.2.X.9 Security

The provisions of clause 9 of 3GPP TS 29.549 [17] shall apply for the SS\_SmDataSourceDiscovery API.

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