**3GPP TSG-CT3 Meeting #142 C3-253399**

**Gothenburg, SE, 25 - 29 August, 2025** *(revision of C3-253399)*

**Source: Samsung**

**Title: Pseudo-CR on SS\_SmDiscovery 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\_SmDiscovery service API.

**2. Reason for Change**

The SS\_SmDiscovery API is specified in TS 23.437, for VAL server or SEAL SM client to discover spatial maps based on query parameters. 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 \* \* \* \*

### 6.2.X SS\_SmDiscovery API

#### 6.2.X.1 Introduction

The SS\_SmDiscovery shall use the SS\_SmDiscovery API.

The API URI of the SS\_SmDiscovery 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-disc".

- The <apiVersion> shall be "v1".

- The <apiSpecificSuffixes> shall be set as described in clauses 6.2.X.3 and 6.2.X.4.

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\_SmDiscovery 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\_SmDiscovery API.



Figure 6.2.X.3.1-1: Resource URI structure of the SS\_SmDiscovery 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 | /spatial-maps | GET | Retrieve spatial map information. |

##### 6.2.X.3.2 Resource: Spatial Maps

6.2.X.3.2.1 Description

This resource represents the collection of Spatial Maps managed by the SM Server.

6.2.X.3.2.2 Resource Definition

Resource URI: **{apiRoot}/ssm-disc/<apiVersion>/spatial-maps**

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 retrieve a spatial map information from the 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** |
| loc-info | LocationInfo | O | 0..1 | Contains the three-dimensional area information, location information and direction. |  |
| app-svc-id | string | O | 0..1 | Contains the identifier of VAL application service. |  |
| pose | FFS | O | 0..1 | Contains the pose information. |  |
| map-disc-fltr | SpatialMapsDiscFilter | O | 0..1 | Contains the set of characteristics related to spatial maps. |  |
| 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** |
| SpatialMapDiscResp | M | 1 | 200 OK | Successful case. The requested spatial map 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.3.2.3.1-4: 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.3.2.3.1-5: 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\_SmDiscovery API.

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

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| SpatialMapsDiscFilter | 6.2.X.6.2.2 | Represents the discovery filter information for spatial maps. |  |
| SpatialMapDiscovered | 6.2.X.6.2.4 | Represents the discovered spati |  |
| SpatialMapsDiscResp | 6.2.X.6.2.3 | Represents the spatial maps discovery response. |  |

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

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

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| LocationInfo | 3GPP TS 29.122 | Represents the location information and direction. |  |
| ServiceArea | 3GPP TS 29.558 [18] | Represents the service area information. |  |
| SMASProfile | 6.2.5.6.2.4 | Represents the SMAS profile information. |  |
| SpatialMapId | 6.2.1.6.3.2 | Represents the spatial map identifier. |  |
| SpatialMapLayers | 6.2.1.6.2.7 | Represents the spatial map layers information. |  |
| 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: SpatialMapsDiscFilter

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| mapLyrList | SpatialMapLayers | O | 0..1 | Contains the list of spatial map layers specific information to discover the Spatial Map(s) with matching layers.  (NOTE) |  |
| NOTE: At least one of these attributes shall be present. | | | | | |

6.2.X.6.2.3 Type: SpatialMapsDiscResp

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

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| svcId | string | O | 0..1 | Contains the identifier of the VAL application service. |  |
| mapsDisc | array(SpatialMapDiscovered) | O | 1..N | Contains the list of discovered Spatial Map(s).  (NOTE 1) |  |
| smasList | array(SMASProfile) | O | 1..N | Contains the list of SMAS profiles.  (NOTE 1) |  |
| 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. |  |
| NOTE 1: At least one of these attributes shall be present. | | | | | |

6.2.X.6.2.4 Type: SpatialMapDiscovered

Table 6.2.X.6.2.4-1: Definition of type SpatialMapDiscovered

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| mapId | SpatialMapId | M | 1 | Contains the identifier of the spatial map. |  |

##### 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\_SmDiscovery 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\_SmDiscovery API.

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

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

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

The application errors defined for the SS\_SmDiscovery 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\_SmDiscovery 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\_SmDiscovery API.

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