**3GPP TSG-CT WG3 Meeting #142 *C3-253xxx***

**Gothenburg, SE, 25 - 29 August 2025 was C3-253162*,* C3-252134, C3-251113**

|  |
| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **29.549** | **CR** | **0382** | **rev** | **3** | **Current version:** | **19.3.0** |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
|  |

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

|  |
| --- |
|  |
| ***Title:***  | Support of Application satellite coverage availability information configuration |
|  |  |
| ***Source to WG:*** | CATT, Huawei, Samsung, Ericsson, Nokia |
| ***Source to TSG:*** | C3 |
|  |  |
| ***Work item code:*** | 5GSAT\_Ph3\_App |  | ***Date:*** | 2025-04-07 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-19 |
|  | *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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
|  |  |
| ***Reason for change:*** | SA6 defines the procedures, information flows and API to support application satellite coverage availability information configuration in S6-251049 (CR 0369 of TS 23.434). |
|  |  |
| ***Summary of change:*** | 1/ Add new SS\_ASCAIInfoRetrieval API. |
|  |  |
| ***Consequences if not approved:*** | Application satellite coverage availability information configuration function cannot be supported. |
|  |  |
| ***Clauses affected:*** | 5.1, 5.4.4 (new), 7.3.3 (new), A.29 (new) |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  |  Other core specifications  | TS 23.434 CR 0369  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** | This CR introduces a new SS\_ASCAIInfoRetrieval API. |
|  |  |
| ***This CR's revision history:*** |  |

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

## 5.1 Introduction of SEAL services

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

Table 5.1-1: List of SEAL Service APIs

|  |  |  |  |
| --- | --- | --- | --- |
| Service Name | Service Operations | Operation Semantics | Consumer(s) |
| SS\_LocationReporting | Create\_Trigger\_Location\_Reporting | Request/ Response | VAL server |
| Fetch\_Location\_Report\_Trigger | Request/Response | VAL server |
| Update\_Trigger\_Location\_Reporting | Request/ Response | VAL server |
| Cancel\_Trigger\_Location\_Reporting | Request/ Response | VAL server |
| Notify\_Trigger\_Location\_Reporting | Notify | VAL server |
| Notify\_Adaptive\_Configuration | Notify | VAL server |
| SS\_LocationInfoEvent | Subscribe\_Location\_Info | Subscribe/Notify | VAL server |
| Update\_Location\_Info\_Subscription | VAL server |
| Unsubscribe\_Location\_Info | VAL server |
| Notify\_Location\_Info | VAL server |
| SS\_LocationInfoRetrieval | Obtain\_Location\_Info | Request/ Response | VAL server |
| SS\_LocationAreaInfoRetrieval | Obtain\_UEs\_Info | Request/ Response | VAL server |
| SS\_LocationMonitoring | Subscribe\_Location\_Monitoring | Subscribe/Notify | VAL server |
| Update\_Location\_Monitoring\_Subscription |
| Unsubscribe\_Location\_Monitoring |
| Notify\_Location\_Monitoring\_Events |
| SS\_LocationAreaMonitoring | Subscribe\_Location\_Area\_Monitoring | Subscribe/Notify | VAL server |
| Notify\_Location\_Area\_Monitoring\_Events |
| Update\_Location\_Area\_Monitoring\_Subscribe |
| Unsubscribe\_Location\_Area\_Monitoring |
| SS\_VALServiceAreaConfiguration | Configure\_VAL\_Service\_Area | Request/Response | VAL server |
| Obtain\_VAL\_Service\_Area | Request/Response | VAL server |
| Update\_VAL\_Service\_Area | Request/Response | VAL server |
| Delete\_VAL\_Service\_Area | Request/Response | VAL server |
| Subscribe\_VAL\_Service\_Area\_Change\_Event | Subscribe/Notify | SEAL server |
| Update\_Subscription\_VAL\_Service\_Area\_Change\_Event |
| Unsubscribe\_VAL\_Service\_Area\_Change\_Event |
| Notify\_VAL\_Service\_Area\_Change\_Event |
| SS\_LocationHistoryInfoEvent | Create | Request/Response | e.g., VAL Server |
| Update | e.g., VAL Server |
| Delete | e.g., VAL Server |
| Query | e.g., VAL Server |
| SS\_ConfirmLocation | Subscribe | Subscribe/Notify | e.g., VAL Server |
| Notify | LM Server |
| SS\_SLPositioningManagement | Subscribe | Subscribe/Notify | VAL server |
| Notify | VAL Server |
| SRInfoRequest | Request/Response | VAL Server |
| SS\_GroupManagement | Query\_Group\_Info | Request/ Response | VAL server |
| Update\_Group\_Info | Request/ Response | VAL server |
| Create\_Group | Request/ Response | VAL server |
| Delete\_Group | Request/Response | VAL server |
| SS\_GroupManagementEvent | Subscribe\_Group\_Info\_Modification | Subscribe/Notify | VAL server |
| Notify\_Group\_Info\_Modification | VAL server |
| Notify\_Group\_Creation | VAL server |
| SS\_UserProfileRetrieval | Obtain\_User\_Profile | Request/ Response | VAL server |
| SS\_VALServiceData | Obtain\_VAL\_Service\_Data | Request/Response | SEAL server |
| SS\_ASCAIInfoRetrieval | Obtain\_ASCAI\_Info | Request/Response | e.g., VAL Server |
| SS\_UserProfileEvent | Subscribe\_User\_Profile\_Update | Subscribe/Notify | VAL server |
| Notify\_User\_Profile\_Update | VAL server |
| SS\_NetworkResourceAdaptation(NOTE 3) |  |  |  |
| Reserve\_Network\_Resource | Request/Response | e.g., VAL server, SEALDD Server |
| Reserve\_Network\_Resource\_Modify | Request/Response | e.g., VAL server, SEALDD Server |
| Request\_Multicast\_Resource | Request/Response | e.g., VAL server |
| Notify\_UP\_Delivery\_Mode | Subscribe/Notify | e.g., VAL server |
| Discover\_TSC\_Stream\_Availability | Request/Response | e.g., VAL server |
| Create\_TSC\_Stream | Request/Response | e.g., VAL server |
| Delete\_TSC\_Stream | Request/Response | e.g., VAL server |
| Create\_MBS\_Resource | Request/Response | e.g., VAL server |
| Update\_MBS\_Resource | Request/Response | e.g., VAL server |
| Delete\_MBS\_Resource | Request/Response | e.g., VAL server |
| Activate\_MBS\_Resource | Request/Response | e.g., VAL server |
| Deactivate\_MBS\_Resource | Request/Response | e.g., VAL server |
| Reliable\_Transmission\_Request | Request/Response | e.g., SEALDD Server, VAL Server |
| BDT\_Configuration\_Request | Request/Response | e.g., VAL server, SEALDD Server |
| BDT\_Negotiation\_Notification | Subscribe/Notify | e.g., VAL server, SEALDD Server |
| BDT\_Configuration\_Get | Request/Response | e.g., VAL server, SEALDD Server |
| BDT\_Configuration\_Update | Request/Response | e.g., VAL server, SEALDD Server |
| BDT\_Configuration\_Delete | Request/Response | e.g., VAL server, SEALDD Server |
| Subscribe\_Unified\_Traffic\_Pattern\_and\_Monitoring\_Management | Subscribe/Notify | e.g., VAL server |
| Update\_Unified\_Traffic\_Pattern\_and\_Monitoring\_Management\_Subscription |
| Unsubscribe\_Unified\_Traffic\_Pattern\_and\_Monitoring\_Management |
| Notify\_Unified\_Traffic\_Pattern\_Update |
| SS\_EventsMonitoring | Subscribe\_Monitoring\_Events | Subscribe/Notify | VAL server |
| Notify\_Monitoring\_Events |
| SS\_Events | Subscribe\_Event | Subscribe/Notify | VAL server |
| Notify\_Event | VAL server |
| Unsubscribe\_Event | VAL server |
| Update\_Subscription | VAL server |
| SS\_KeyInfoRetrieval | Obtain\_Key\_Info | Request/Response | VAL server |
| SS\_KMParametersProvisioning | Request | Request/Response | VAL server |
| SS\_NetworkResourceMonitoring | Subscribe\_Unicast\_QoS\_Monitoring\_Data | Subscribe/Notify | VAL server |
| Unsubscribe\_Unicast\_QoS\_Monitoring\_Data | VAL server |
| Notify\_Unicast\_QoS\_Monitoring\_Data | VAL server |
| Obtain\_Unicast\_QoS\_Monitoring\_Data | Request/Response | VAL server |
| Update\_Unicast\_QoS\_Monitoring\_Subscription | VAL server |
| SS\_IdmParameterProvisioning | Provide\_Configuration | Request/Response | VAL server |
| Get\_Configuration |
| Update\_Configuration |
| Delete\_Configuration |
| SS\_ADAE\_VALPerformanceAnalytics | Subscribe\_VAL\_Performance\_Analytics | Subscribe/Notify | VAL server |
| Notify\_VAL\_Performance\_Analytics |
| Unsubscribe\_VAL\_Performance\_Analytics |
| SS\_ADAE\_SlicePerformanceAnalytics API | Subscribe\_Slice\_Performance\_Analytics | Subscribe/Notify | VAL server |
| Notify\_Slice\_Performance\_Analytics |
| Unsubscribe\_Slice\_Performance\_Analytics |
| SS\_ADAE\_Ue2UePerformanceAnalytics | UE-to-UE\_Performance\_Analytics\_Subscribe | Subscribe/Notify | VAL server |
| UE-to-UE\_Performance\_Analytics\_Notify |
| UE-to-UE\_Performance\_Analytics\_Unsubscribe |
| SS\_ADAE\_LocationAccuracyAnalytics | Subscribe\_Location\_Accuracy\_Analytics | Subscribe/Notify | VAL server |
| Notify\_Location\_Accuracy\_Analytics |
| Unsubscribe\_Location\_Accuracy\_Analytics |
| SS\_ADAE\_ServiceApiAnalytics | Subscribe\_Service\_API\_Analytics | Subscribe/Notify | VAL server |
| Notify\_Service\_API\_Analytics |
| Unsubscribe\_Service\_API\_Analytics |
| SS\_ADAE\_SliceUsagePatternAnalytics | Subscribe\_Slice\_Usage\_Pattern\_Analytics | Subscribe/Notify | VAL server, NSCE server |
| Notify\_Slice\_Usage\_Pattern\_Analytics |
| Unsubscribe\_Slice\_Usage\_Pattern\_Analytics |
| Get\_Slice\_Usage\_Stats | Request/Response | VAL server, NSCE server |
| SS\_ADAE\_EdgeLoadAnalytics | Subscribe\_Edge\_Load | Subscribe/Notify | VAL server, EAS, EES |
| Notify\_Edge\_Load |
| Unsubscribe\_Edge\_Load |
| Get\_Edge\_Load\_Data | Request/Response | VAL server, EAS, EES |
| SS\_ADAE\_LocationRelatedUeGroupAnalytics | Subscribe | Subscribe/Notify | e.g. LM Server |
| Notify |
| SS\_ADAE\_CollisionDetectionAnalytics | Subscribe | Subscribe/Notify | e.g., VAL Server, LM Server, UAE Server, UASS |
| Notify |
| SS\_ADAE\_UeRatConnectivityAnalytics | Subscribe | Subscribe/Notify | e.g., VAL Server |
| Subscription\_Update |
| Unsubscribe |
| Notify |
| SS\_ADAE\_ServerToServerPerformanceAnalytics | Subscribe | Subscribe/Notify | e.g., VAL Server, EES |
| Notify |
| SS\_AADRF\_DataManagement | Data\_Storage | Request/Response | ADAE server, A-DCCF |
| SS\_AADRF\_DataManagement\_Subscribe | Subscribe/Notify | ADAE server |
| SS\_AADRF\_DataManagement\_Unsubscribe |
| SS\_AADRF\_DataManagement\_Notify |
| SS\_ADCCF\_DataCollection | Subscribe | Subscribe/Notify | e.g., ADAE server |
| Notify |
| Request | Request/Response | e.g., ADAE server |
| NOTE 1: The service operations of SS\_Events API are reused by the SS\_LocationInfoEvent, SS\_LocationMonitoring, SS\_LocationAreaMonitoring, SS\_GroupManagementEvent, SS\_UserProfileEvent, SS\_EventsMonitoring and SS\_SatelliteSFInfoEvent for events related services.NOTE 2: The service APIs exposed by the SEALDD Server and the corresponding service operations, operation semantics and service consumers are specified in clause 5 of 3GPP TS 29.548 [35].NOTE 3: The "Create\_MBS\_Resource", "Update\_MBS\_Resource", "Delete\_MBS\_Resource", "Activate\_MBS\_Resource" and "Deactivate\_MBS\_Resource" service operations correspond to the stage 2 "Request\_Multicast/Broadcast\_Resource", "Update\_Multicast/Broadcast\_Resource", "Delete\_Multicast/Broadcast\_Resource", "Activate\_Multicast\_Resource" and "Deactivate\_Multicast\_Resource" service operations defined in clause 14.4.2 of 3GPP TS 23.434 [2].NOTE 4: The service APIs exposed by the NSCE Server and the corresponding service operations, operation semantics and service consumers are specified in clause 5 of 3GPP TS 29.435 [42].NOTE 5: The service APIs exposed by the SAn Server and SM Server, and the corresponding service operations, operation semantics and service consumers are specified in 3GPP TS 29.437 [49].NOTE 6: The SS\_SLPositioningManagement API is reused by the SS\_SRPositioningInformation API defined in clause 9.4.11 of 3GPP TS 23.434 [2].NOTE 7: The SS\_ASCAIInfoRetrieval API defined in this specification corresponds to the stage 2 SS\_SCAIInfoRetrieval API defined in clause 21.2.4 of 3GPP TS 23.434 [2]. |

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

Table 5.1-2: API Descriptions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Service Name** | **Clause** | **Description** | **OpenAPI Specification File** | **apiName** | **Annex** |
| SS\_LocationReporting | 7.1.1 | Report Location Information Service. | TS29549\_SS\_LocationReporting.yaml | ss-lr | A.2 |
| SS\_GroupManagement | 7.2.1 | Group Management Service | TS29549\_SS\_GroupManagement.yaml | ss-gm | A.3 |
| SS\_UserProfileRetrieval | 7.3.1 | User Profile Retrieval Service | TS29549\_SS\_UserProfileRetrieval.yaml | ss-upr | A.4 |
| SS\_NetworkResourceAdaptation | 7.4.1 | Network Resource Adaptation Service | TS29549\_SS\_NetworkResourceAdaptation.yaml | ss-nra | A.5 |
| SS\_Events | 7.5.1 | Events Notify Service | TS29549\_SS\_Events.yaml | ss-events | A.6 |
| SS\_KeyInfoRetrieval(NOTE 2) | 7.6.1 | Key Information Retrieval Service | TS29549\_SS\_KeyInfoRetrieval.yaml | ss-kir | A.7 |
| SS\_LocationAreaInfoRetrieval | 7.1.2 | Location Area Info Retrieval Service | TS29549\_SS\_LocationAreaInfoRetrieval.yaml | ss-lair | A.8 |
| SS\_NetworkResourceMonitoring | 7.4.2 | Network Resource Monitoring | TS29549\_SS\_NetworkResourceMonitoring.yaml | ss-nrm | A.10 |
| SS\_VALServiceData | 7.3.2 | VAL Service Data Service | TS29549\_SS\_VALServiceData.yaml | ss-vsd | A.11 |
| SS\_VALServiceAreaConfiguration | 7.1.3 | VAL Service Area Configuration Service | TS29549\_SS\_VALServiceAreaConfiguration.yaml | ss-vsac | A.12 |
| SS\_KMParametersProvisioning(NOTE 3) | 7.6.2 | Key Management Parameters Provisioning Service | TS29549\_SS\_KMParametersProvisioning.yaml | ss-kpp | A.14 |
| SS\_ADAE\_VALPerformanceAnalytics | 7.10.1 | ADAE VAL performance analytics service | TS29549\_SS\_ADAE\_VALPerformanceAnalytics.yaml | ss-adae-pa | A.15 |
| SS\_ADAE\_SlicePerformanceAnalytics | 7.10.2 | ADAE slice specific application performance analytics service | TS29549\_SS\_ADAE\_SlicePerformanceAnalytics.yaml | ss-adae-sspa | A.16 |
| SS\_ADAE\_Ue2UePerformanceAnalytics | 7.10.3 | ADAE UE-to-UE PerformanceAnalytics Service | TS29549\_SS\_ADAE\_Ue2UePerformanceAnalytics.yaml | ss-adae-uupa | A.17 |
| SS\_ADAE\_LocationAccuracyAnalytics | 7.10.4 | ADAE location accuracy performance analytics service | TS29549\_SS\_ADAE\_LocationAccuracyAnalytics.yaml | ss-adae-laa | A.18 |
| SS\_ADAE\_ServiceApiAnalytics | 7.10.5 | ADAE service API analytics service | TS29549\_SS\_ADAE\_ServiceApiAnalytics.yaml | ss-adae-sa | A.19 |
| SS\_ADAE\_SliceUsagePatternAnalytics | 7.10.6 | ADAE slice usage pattern analytics service | TS29549\_SS\_ADAE\_SliceUsagePatternAnalytics.yaml | ss-adae-sup | A.20 |
| SS\_ADAE\_EdgeLoadAnalytics | 7.10.7 | Edge load analytics service | TS29549\_SS\_ADAE\_EdgeLoadAnalytics.yaml | ss-adae-el | A.21 |
| SS\_AADRF\_DataManagement | 7.10.8 | A-ADRF Data Management Service | TS29549\_SS\_AADRF\_DataManagement.yaml | ss-aadrf-datamanagement | A.22 |
| SS\_ADAE\_LocationRelatedUeGroupAnalytics | 7.10.9 | ADAE Location-Related UE Group Analytics service | TS29549\_SS\_ADAE\_LocationRelatedUeGroupAnalytics.yaml | ss-adae-lruga | A.23 |
| SS\_ADAE\_CollisionDetectionAnalytics | 7.10.10 | ADAE Collision Detection Analytics service | TS29549\_SS\_ADAE\_CollisionDetectionAnalytics.yaml | ss-adae-cda | A.24 |
| SS\_LocationHistoryInfoEvent | 7.1.4 | Location Tracing Configuration Management | TS29549\_SS\_LocationHistoryInfoEvent.yaml | ss-lhie | A.25 |
| SS\_ConfirmLocation | 7.1.5 | Location Confirmation Service Management | TS29549\_SS\_ConfirmLocation.yaml | ss-cl | A.26 |
| SS\_SLPositioningManagement | 7.1.6 | SL Positioning Management service | TS29549\_SS\_SLPositioningManagement.yaml | ss-slpm | A.27 |
| SS\_ADCCF\_DataCollection | 7.10.13 | A-DCCF Data Collection service | TS29549\_SS\_ADCCF\_DataCollection.yaml | ss-adccf-dc | A.29 |
| SS\_ADAE\_ServerToServerPerformanceAnalytics | 7.10.14 | ADAE Server-to-Server Performance Analytics service | TS29549\_SS\_ADAE\_ServerToServerPerformanceAnalytics.yaml | ss-adae-sspa | A.30 |
| SS\_ADAE\_UeRatConnectivityAnalytics | 7.10.12 | ADAE UE RAT Connectivity Analytics service | TS29549\_SS\_ADAE\_UeRatConnectivityAnalytics.yaml | ss-adae-uerat | A.31 |
| SS\_ASCAIInfoRetrieval | 7.3.3 | Application Satellite Coverage Availability Information service | TS29549\_SS\_ASCAIInfoRetrieval.yaml | ss-ascaiinfo | A.32 |
| NOTE 1: The APIs exposed by the SEALDD Server are specified in clause 5 of 3GPP TS 29.548 [35].NOTE 2: The stage 2 requirements for this API are defined in clause 5.3 of 3GPP TS 33.434 [26].NOTE 3: The stage 2 requirements for this API are defined in clause 5.8 of 3GPP TS 33.434 [26].NOTE 4: The APIs exposed by the NSCE Server are specified in clause 5 of 3GPP TS 29.435 [42].NOTE 5: The APIs exposed by the SAn Server and SM Server are specified in 3GPP TS 29.437 [49]. |

\* \* \* Next Change (All new) \* \* \* \*

### 5.4.4 SS\_ASCAIInfoRetrieval API

#### 5.4.4.1 Service Description

##### 5.4.4.1.1 Overview

The SS\_ASCAIInfoRetrieval API, as defined in 3GPP TS 23.434 [2], allows a service consumer to request to obtain Application Satellite Coverage Availability Information from the CM Server.

#### 5.4.4.2 Service Operations

##### 5.4.4.2.1 Introduction

The service operation defined for SS\_ASCAIInfoRetrieval API is shown in the table 5.4.4.2.1-1.

Table 5.4.4.2.1-1: Operations of the SS\_ASCAIInfoRetrieval API

|  |  |  |
| --- | --- | --- |
| Service operation name | Description | Initiated by |
| Obtain\_ASCAI\_Info | This service operation is used by a service consumer to obtain Application Satellite Coverage Availability Information. | e.g., VAL Server |

##### 5.4.4.2.2 Obtain\_ASCAI\_Info

###### 5.4.4.2.2.1 General

This service operation is used by a service consumer to obtain Application Satellite Coverage Availability Information.

###### 5.4.4.2.2.2 Application Satellite Coverage Availability Information Retrieval

To obtain Application Satellite Coverage Availability Information, the service consumer shall send an HTTP POST request message to CM Server targeting the URI of the "RequestASCAIInfo" custom operation with the request body including the AscaiInfoReq data structure.

Upon reception of the HTTP POST request message, the CM Server shall:

1. verify whether the service consumer is authorized to perform this operation;

2. if the service consumer is authorized, the CM Server shall respond with an HTTP "200 OK" status code with the response body including the requested Application Satellite Coverage Availability Information within the AscaiInfoResp data structure.

On failure, the appropriate HTTP status code indicating the error shall be returned and appropriate additional error information should be returned in the HTTP GET response body, as specified in clause 7.3.3.6.

\* \* \* Next Change (All new) \* \* \* \*

### 7.3.3 SS\_ASCAIInfoRetrieval API

#### 7.3.3.1 API URI

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

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

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

The request URIs used in HTTP requests shall have the Resource URI structure as defined in clause 6.5, i.e.:

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

with the following components:

- The {apiRoot} shall be set as described in clause 6.5.

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

- The <apiVersion> shall be "v1".

- The <apiSpecificSuffixes> shall be set as described in clause 7.3.3.2 and 7.3.3.3.

NOTE: When 3GPP TS 29.122 [3] is referenced for the common protocol and interface aspects for API definition in the clauses under clause 7.3.3, the CM Server takes the role of the SCEF and the service consumer takes the role of the SCS/AS.

#### 7.3.3.2 Resources

There are no resources defined in this release of the specification.

#### 7.3.3.3 Custom Operations without associated resources

##### 7.3.3.3.1 Overview

The structure of the custom operation URIs of the SS\_ASCAIInfoRetrieval API is shown in Figure 7.3.3.3.1-1.



Figure 7.3.3.3.1-1: Custom operation URI structure of the SS\_ASCAIInfoRetrieval API

Table 7.3.3.3.1-1 provides an overview of the custom operations and applicable HTTP methods defined for the SS\_ASCAIInfoRetrieval API.

Table 7.3.3.3.1-1: Custom operations without associated resources

|  |  |  |  |
| --- | --- | --- | --- |
| Custom operation name | Custom operation URI | Mapped HTTP method | Description |
| RequestASCAIInfo | /request-ascai-info | POST | Enables a service consumer to request Application Satellite Coverage Availability Information. |

The custom operations shall support the URI variables defined in table 7.3.3.3.1-2.

Table 7.3.3.3.1-2: URI variables for this custom operation

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| apiRoot | string | See clause 7.3.3.1. |

##### 7.3.3.3.2 Operation: RequestASCAIInfo

###### 7.3.3.3.2.1 Description

The custom operation enables a service consumer to request Application Satellite Coverage Availability Information.

###### 7.3.3.3.2.2 Operation Definition

This operation shall support the response data structures and response codes specified in tables 7.3.3.3.2.2-1 and 7.3.3.3.2.2-2.

Table 7.3.3.3.2.2-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| AscaiInfoReq | M | 1 | Contains the parameters to request Application Satellite Coverage Availability Information. |

Table 7.3.3.3.2.2-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| AscaiInfoResp | M | 1 | 200 OK | Successful case. The requested Application Satellite Coverage Availability Information is returned in the response body. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.The response shall include a Location header field containing an alternative URI of the resource located in an alternative CM Server.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.The response shall include a Location header field containing an alternative URI of the resource located in an alternative CM Server.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The manadatory HTTP error status codes for the HTTP POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] shall also apply. |

Table 7.3.3.3.2.2.1-3: 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 CM Server. |

Table 7.3.3.3.2.2.1-4: 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 CM Server. |

#### 7.3.3.4 Notifications

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

#### 7.3.3.5 Data Model

##### 7.3.3.5.1 General

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

Table 7.3.3.5.1-1 specifies the data types defined specifically for the SS\_ASCAIInfoRetrieval API service.

Table 7.3.3.5.1-1: SS\_ASCAIInfoRetrieval API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Section defined | Description | Applicability |
| AscaiInfo | 7.3.3.5.2.6 | Represents the Application Satellite Coverage Availability Information. |  |
| AscaiInfoData | 7.3.3.5.2.5 | Represents the Application Satellite Coverage Availability Information data. |  |
| AscaiInfoReq | 7.3.3.5.2.2 | Represents the Application Satellite Coverage Availability Information request data. |  |
| AscaiInfoReqUe | 7.3.3.5.2.3 | Represents the Application Satellite Coverage Availability Information request data per target VAL UE/user. |  |
| AscaiInfoResp | 7.3.3.5.2.4 | Represents the Application Satellite Coverage Availability Information response data. |  |

Table 7.3.3.5.1-2 specifies data types re-used by the SS\_ASCAIInfoRetrieval API service.

Table 7.3.3.5.1-2: SS\_ASCAIInfoRetrieval re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| GeographicArea | 3GPP TS 29.572 [31 | Represents the geographical area. |  |
| LocationInfo | 3GPP TS 29.122 [3] | Represents the location information. |  |
| TimeWindow | 3GPP TS 29.122 [3] | Represents a time window. |  |
| RatType | 3GPP TS 29.571 [21 | Represents the RAT type. |  |
| SupportedFeatures | 3GPP TS 29.571 [21] | Represents the list of supported feature(s) and used to negotiate the applicability of the optional features. |  |
| ValTargetUe | Clause 7.3.1.4.2.3 | Represents the identifier of a VAL UE or VAL user. |  |

##### 7.3.3.5.2 Structured data types

###### 7.3.3.5.2.1 Introduction

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

###### 7.3.3.5.2.2 Type: AscaiInfoReq

Table 7.3.3.5.2.2-1: Definition of type AscaiInfoReq

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| ascaiReqs | array(AscaiInfoReqUe) | M | 1..N | Contains the ASCAI request related information. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Contains the list of supported feature(s) among the ones defined in clause 7.3.3.7.This attribute shall be present only when feature negotiation is required. |  |

###### 7.3.3.5.2.3 Type: AscaiInfoReqUe

Table 7.3.3.5.2.3-1: Definition of type AscaiInfoReqUe

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| valTgtUe | ValTargetUe | M | 1 | Contains the identifier of the target VAL UE/user. |  |
| valSvcId | string | O | 0..1 | Contains the identifier of the target VAL service. |  |
| satId | string | O | 0..1 | Contains the identifier of the dedicated satellite for the requested VAL UE/user. |  |
| locInfo | LocationInfo | O | 0..1 | Contains the current location information for the requested VAL UE/user. |  |

###### 7.3.3.5.2.4 Type: AscaiInfoResp

Table 7.3.3.5.2.4-1: Definition of type AscaiInfoResp

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| ascaiInfoData | array(AscaiInfoData) | M | 0..N | Contains the requested Application Satellite Coverage Availability Information data.If there is no Application Satellite Coverage Availability Information data corresponding to the received parameters in the corresponding request, then an empty array is returned. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Contains the list of supported feature(s) among the ones defined in clause 7.3.3.7.This attribute shall be present only when feature negotiation is required. |  |

###### 7.3.3.5.2.5 Type: AscaiInfoData

Table 7.3.3.5.2.5-1: Definition of type AscaiInfoData

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| ascaiInfo | array(AscaiInfo) | M | 1..N | Contains the requested Application Satellite Coverage Availability Information. |  |
| valTgtUe | ValTargetUe | M | 1 | Contains the identifier of the requesting VAL UE/user. |  |
| valSvcId | string | O | 0..1 | Contains the identifier of the concerned VAL service. |  |
| satId | string | O | 0..1 | Contains the identifier of the satellite to which the provided Application Satellite Coverage Availability Information is related. |  |
| locInfo | LocationInfo | O | 0..1 | Contains the VAL UE/user location information to which the provided Application Satellite Coverage Availability Information is related. |  |

###### 7.3.3.5.2.6 Type: AscaiInfo

Table 7.3.3.5.2.6-1: Definition of type AscaiInfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| geoArea | GeographicArea | M | 1 | Contains the geographical area information where the satellite coverage is available. |  |
| availTimeWnds | array(TimeWindow) | M | 1..N | Contains the time period(s) during which the satellite coverage is available within the geographical area provided within the "geoArea" attribute. |  |
| availRatTypes | array(RatType) | O | 1..N | Contains the satellite RAT type(s) for which the satellite coverage is available.Within the array elements of this attribute, only the satellite related RAT types are applicable. |  |

##### 7.3.3.5.3 Simple data types and enumerations

###### 7.3.3.5.3.1 Introduction

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

###### 7.3.3.5.3.2 Simple data types

The simple data types defined in table 7.3.3.5.3.2-1 shall be supported.

Table 7.3.3.5.3.2-1: Simple data types

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

##### 7.3.3.5.4 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.

##### 7.3.3.5.5 Binary data

###### 7.3.3.5.5.1 Binary Data Types

Table 7.3.3.5.5.1-1: Binary Data Types

|  |  |  |
| --- | --- | --- |
| Name | Clause defined | Content type |
|  |  |  |

#### 7.3.3.6 Error Handling

##### 7.3.3.6.1 General

For the SS\_ASCAIInfoRetrieval API, error handling shall be supported as specified in clause 6.7.

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

##### 7.3.3.6.2 Protocol Errors

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

##### 7.3.3.6.3 Application Errors

The application errors defined for SS\_ASCAIInfoRetrieval API are listed in table 7.3.3.6.3-1.

Table 7.3.3.6.3-1: Application errors

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

#### 7.3.3.7 Feature negotiation

The optional features in table 7.3.3.7-1 are defined for the SS\_ASCAIInfoRetrieval API. They shall be negotiated using the extensibility mechanism defined in clause 6.8.

Table 7.3.3.7-1: Supported Features

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

\* \* \* Next Change (All new) \* \* \* \*

# A.32 SS\_ASCAIInfoRetrieval API

openapi: 3.0.0

info:

 title: SS\_ASCAIInfoRetrieval

 version: 1.0.0-alpha.1

 description: |

 API for Application Satellite Coverage Availability Information retrieval.

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externalDocs:

 description: >

 3GPP TS 29.549 V19.4.0 Service Enabler Architecture Layer for Verticals (SEAL);

 Application Programming Interface (API) specification; Stage 3.

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

security:

 - {}

 - oAuth2ClientCredentials: []

servers:

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

 variables:

 apiRoot:

 default: https://example.com

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

paths:

 /request-ascai-info:

 post:

 description: >

 Enables a service consumer to request Application Satellite Coverage Availability

 Information.

 operationId: RequestASCAIInfo

 tags:

 - Application Satellite Coverage Availability Information Request

 requestBody:

 required: true

 content:

 application/json:

 schema: $ref: '#/components/schemas/AscaiInfoReq' responses:

 '200':

 description: >

 OK. The requested Application Satellite Coverage Availability Information is returned

 in the response body.

 content:

 application/json:

 schema:

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

 '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'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{tokenUrl}'

 scopes: {}

 schemas:

#

# STRUCTURED DATA TYPES

#

 AscaiInfoReq:

 description: >

 Represents the Application Satellite Coverage Availability Information request data.

 type: object

 properties:

 ascaiReqs:

 type: array

 items:

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

 minItems: 1

 suppFeat:

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

 required:

 - ascaiReqs

 AscaiInfoReqUe:

 description: >

 Represents the Application Satellite Coverage Availability Information request data

 per target VAL UE/user.

 type: object

 properties:

 valTgtUe:

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

 valSvcId:

 type: string

 satId:

 type: string

 locInfo:

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

 required:

 - valTgtUe

 AscaiInfoResp:

 description: >

 Represents the response to Application Satellite Coverage Availability Information request.

 type: object

 properties:

 ascaiInfoData:

 type: array

 items:

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

 minItems: 0

 suppFeat:

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

 required:

 - ascaiInfoData

 AscaiInfoData:

 description: >

 Represents the Application Satellite Coverage Availability Information data.

 type: object

 properties:

 ascaiInfo:

 type: array

 items:

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

 minItems: 1

 valTgtUe:

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

 valSvcId:

 type: string

 satId:

 type: string

 locInfo:

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

 required:

 - ascaiInfo

 - valTgtUe

 AscaiInfo:

 description: Represents the Application Satellite Coverage Availability Information.

 type: object

 properties:

 geoArea:

 $ref: 'TS29572\_Nlmf\_Location.yaml#/components/schemas/GeographicArea'

 availTimeWnds:

 type: array

 items:

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

 minItems: 1

 availRatTypes:

 type: array

 items:

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

 minItems: 1

 required:

 - geoArea

 - availTimeWnds

#

# SIMPLE DATA TYPES

#

#

# ENUMERATIONS

#

# Data types describing alternative data types or combinations of data types:

#

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