**3GPP TSG-CT WG3 Meeting #142 *C3-253090***

**Gothenburg, SE, 25 - 29 August 2025 (Revision of C3-253090)**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **0427** | **rev** |  | **Current version:** |  |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Digital Asset APIs SEAL service | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | C3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | Metaverse\_App | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | As per TS 23.438 clause 8 explains SS\_DAProfileManagement, SS\_DADiscovery, Digital media management APIs.  S6-253205 explains about SS\_DAMediaManagement API  The corresponding updates has to be done in stage 3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Digital Asset SEAL services with API details are updated. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The new Digital asset API are not defined in stage 3.  Stage 3 is not inline with Stage 2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.1, 5.14 <new>, 7.13 <New> | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | | **X** |  | Other core specifications | | | | TS/TR 23.438 CR 0016 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | This CR does not impact the OpenAPI descriptions defined in this specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***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\_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 | |
| SS\_DAProfileManagement | | Create | | Request/Response | | e.g., VAL Server | |
| Retrieve | |
| Update | |
| Delete | |
| SS\_DADiscovery | | Discovery | | Request/Response | | e.g., VAL Server | |
| SS\_DAMediaManagement | | Upload | | Request/Response | | e.g., VAL Server | |
| Download | |
| Update | |
| Delete | |
| 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]. | | | | |  |  |  |

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\_DAProfileManagement | 7.13.1 | Manage digital asset profile service | TS29549\_SS\_DAProfileManagement.yaml | ss-da-pm | A.32 |
| SS\_DADiscovery | 7.13.2 | Digital asset discovery service | TS29549\_SS\_DADiscovery.yaml | ss-da-d | A.33 |
| SS\_DAMediaManagement | 7.13.3 | Manage digital asset media service | TS29549\_SS\_DAMediaManagement.yaml | ss-da-mm | A.34 |
| 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 changes \* \* \* \*

## 5.14 Digital Asset APIs

\* \* \* \* Next changes \* \* \* \*

## 7.13 Digital Asset APIs

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