**3GPP TSG-CT WG3 Meeting #120e *C3-221272***

**E-Meeting, 17th – 25th February 2022**

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| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **29.549** | **CR** | **0055** | **rev** | **2** | **Current version:** | **17.3.0** |  |
|  |
| *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)*.* |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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|  |
| ***Title:***  | Obtain service operation in SS\_NetworkResourceMonitoring |
|  |  |
| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | eSEAL |  | ***Date:*** | 2022-01-31 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***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:*** | The CR #0092 on TS 23.434 presented in SA6 #47e meeting provides new clarifications for SS\_NetworkResourceMonitoring API.3GPP TS 23.434 defines the SS\_NetworkResourceMonitoring API and the related Obtain Unicast QoS Monitoring Data service operation in clause 14.4.4.Thus, need to support the SS\_NetworkResourceMonitoring API in this specification.In this CR, the compromise design for Obtain service operation based on one-time immediate response is implemented due to time limitation for Rel-17. |
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| ***Summary of change:*** | This CR provides definitions for the SS\_NetworkResourceMonitoring API and the related procedures for Obtain QoS Monitoring Data service operations. |
|  |  |
| ***Consequences if not approved:*** | Missing the SS\_NetworkResourceMonitoring API definition and the procedures for the related service operations that is not aligned with Stage 2. |
|  |  |
| ***Clauses affected:*** | 5.1; 5.5.Y.2.X (new); |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** | **X** |  |  Other core specifications  | TS 23.434 CR #0092 |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** | This CR does not affect OpenAPI file.This CR is connected with the following CR:* 29.549 CR 0056 "SS\_NetworkResourceMonitoring API support".
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| ***()*** |  |
| ***This CR's revision history:*** | The following updates are done in r1 version:* minor editorial corrections;
* updates according to TS 23.434 CR #0092;
* clarification on aggregation mechanism.
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**Additional discussion(if needed):**

**Proposed changes:**

\* \* \* 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 |
| SS\_LocationInfoEvent | Subscribe\_Location\_Info | Subscribe/Notify | 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 |
| Notify\_Location\_Monitoring\_Events |
| 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\_UserProfileEvent | Subscribe\_User\_Profile\_Update | Subscribe/Notify | VAL server |
| Notify\_User\_Profile\_Update | VAL server |
| SS\_NetworkResourceAdaptation | Reserve\_Network\_Resource | Request/Response | VAL server |
| Request\_Unicast\_Resource | Request/Response | VAL server |
| Update\_Unicast\_Resource | Request/Response | VAL server |
| Request\_Multicast\_Resource | Request/Response | VAL server |
| Notify\_UP\_Delivery\_Mode | Subscribe/Notify | VAL server |
| Discover\_TSC\_Stream\_Availability | Request/Response | VAL server |
| Create\_TSC\_Stream | Request/Response | VAL server |
| Delete\_TSC\_Stream | Request/Response | VAL server |
| 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 |
| SS\_KeyInfoRetrieval | Obtain\_Key\_Info | Request/Response | VAL server |
| SS\_NetworkSliceAdaptation | Request\_Network\_Slice\_Adaptation | Request/Response | VAL server |
| SS\_NetworkResourceMonitoring | Obtain\_Unicast\_QoS\_Monitoring\_Data | Request/Response | VAL server |
| NOTE: The service operations of SS\_Events API are reused by the SS\_LocationInfoEvent, SS\_LocationMonitoring, SS\_GroupManagementEvent, SS\_UserProfileEvent and SS\_EventsMonitoring for events related services. |

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 | Report Location Information Service. | TS29549\_SS\_LocationReporting.yaml | ss-lr | A.2 |
| SS\_GroupManagement | 7.2 | Group Management Service | TS29549\_SS\_GroupManagement.yaml | ss-gm | A.3 |
| SS\_UserProfileRetrieval | 7.3 | User Profile Retrieval Service | TS29549\_SS\_UserProfileRetrieval.yaml | ss-upr | A.4 |
| SS\_Network\_Resource\_Adaptation | 7.4 | Network Resource Adaptation Service | TS29549\_SS\_NetworkResourceAdaptation.yaml | ss-nra | A.5 |
| SS\_Events | 7.5 | Events Notify Service | TS29549\_SS\_Events.yaml | ss-events | A.6 |
| SS\_KeyInfoRetrieval | 7.6 | Key Information Retrieval Service | TS29549\_SS\_KeyInfoRetrieval.yaml | ss-kir | A.7 |
| SS\_LocationAreaInfoRetrieval | 7.1 | Location Area Info Retrieval Service | TS29549\_SS\_LocationAreaInfoRetrieval.yaml | ss-lair | A.8 |
| SS\_NetworkSliceAdaptation | 7.7 | Network Slice Adaptation Service | TS29549\_SS\_NetworkSliceAdaptation.yaml | ss-nsa | A.9 |

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

##### 5.5.Y.2.X Obtain\_Unicast\_QoS\_Monitoring\_Data

###### 5.5.Y.2.X.1 General

This service operation is used by a VAL server to retrieve the QoS monitoring data from the NRM server.

###### 5.5.Y.2.X.2 VAL server requests for unicast QoS monitoring data using Obtain\_Unicast\_QoS\_Monitoring\_Data

The VAL server shall send a HTTP POST message to the NRM server, on Measurements resource collection URI as specified in subclause 7.4.Z.2.2.3.1, with MeasurementSubscription data structure and "immRep" attribute set to true. The MeasurementSubscription data structure shall include only one of the following identifiers: VAL UE(s), or VAL group, or VAL stream(s), may include QoS measurement requirements of the measured data types, the time period of interest in the past or the current time, and aggregation granularity window.

Upon receiving HTTP POST message, the NRM server shall:

1. verify the identity of the VAL server and check if the VAL server is authorized to request for QoS monitoring data for the target VAL UE(s), VAL group, or VAL stream(s);

2. for each VAL UE, VAL group or VAL stream the NRM server determines if it has the requested data stored during monitoring notification as described in subclause 5.5.Y.2.4:

a) if the requested data is available, NRM server retrieves it and may further process it according to VAL server’s requirement; and

b) if the requested data is not stored internally, the NRM server interacts with the NEF to fetch the data using the AnalyticsExposure described in subclause 5.6.1.1 of 3GPP TS 29.522 [28] and DN Performance Analytics described in 3GPP TS 29.522 [28];

3. the NRM server collects, processes, and aggregates the collected data to match the measurement data requirement provided in the VAL server request. For a VAL group or a list of VAL UEs, the NRM server aggregates QoS monitoring data for each UE belonging to the group or the list; for a VAL stream, the NRM server aggregates the QoS monitoring data for the stream; and

4. the NRM server sends unicast QoS monitoring data response with "200 OK" status code or failure indication, and optionally the cause of the failure, in case the requested data is not available.

\* \* \* End of changes \* \* \* \*