**3GPP TSG-CT WG3 Meeting #125 *C3-225194\_R1***

**Toulouse, France, 14th – 18th November 2022**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.549** | **CR** | **0120** | **rev** | **-** | **Current version:** | **17.6.0** |  |
|  | | | | | | | | |
| *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:*** | Update\_Unicast\_QoS\_Monitoring service operation for the SS\_NetworkResourceMonitoring API | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eSEAL2 | | | | |  | ***Date:*** | | | 2022-11-01 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The VAL server needs a mechanism to update an existing individual unicast QoS monitoring subscription on the NRM server side. The clause 14.4.4.6 of 3GPP TS 23.434 (CR #0112 of 3GPP TS 23.434) defines this functionality. However, the necessary procedure, HTTP metods and data structures are not defined in the current version of 3GPP TS 29.549. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | This CR intoroduces the procedure for the Update\_Unicast\_QoS\_Monitoring service operation in the SS\_NetworkResourceMonitoring API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | * Impossiblity to replace or partially modify a unicast QoS monitoring subscription in the SS\_NetworkResourceMonitoring API. * Misaligment with the Stage 2 requirements. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.1; 5.5.3.2.1; 5.5.3.2.6 (new); 5.5.3.2.6.1 (new); 5.5.3.2.6.2 (new); 7.4.2.6 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | * This CR does not affect any OpenAPI file. | | | | | | | | |
| ***()*** | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

In table 7.4.2.6, the feature "UpdateSupport

**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\_LocationAreaMonitoring | Subscribe\_Location\_Area\_Monitoring | Subscribe/Notify | VAL server |
| Notify\_Location\_Area\_Monitoring\_Events |
| Update\_Location\_Area\_Monitoring\_Subscribe |
| Unsubscribe\_Location\_Area\_Monitoring |
| 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 | 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 |
| NOTE: The service operations of SS\_Events API are reused by the SS\_LocationInfoEvent, SS\_LocationMonitoring, SS\_LocationAreaMonitoring, 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 |
| SS\_NetworkResourceMonitoring | 7.4 | Network Resource Monitoring | TS29549\_SS\_NetworkResourceMonitoring.yaml | ss-nrm | A.10 |

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

##### 5.5.3.2.1 Introduction

The service operations defined for the SS\_NetworkResourceMonitoring API are shown in the table 5.5.3.2.1-1.

Table 5.5.3.2.1-1: Operations of the SS\_NetworkResourceMonitoring API

|  |  |  |
| --- | --- | --- |
| Service operation name | Description | Initiated by |
| Subscribe\_Unicast\_QoS\_Monitoring | This service operation is used by VAL server to subscribe to unicast QoS monitoring events from SEAL servers. | VAL server |
| Unsubscribe\_Unicast\_QoS\_Monitoring | This service operation is used by VAL server to unsubscribe from unicast QoS monitoring events from SEAL servers. | VAL server |
| Notify\_Unicast\_QoS\_Monitoring | This service operation is used by SEAL server to send the notifications to the VAL server. | NRM server |
| Obtain\_Unicast\_QoS\_Monitoring | This service operation is used by VAL server to obtain unicast QoS monitoring data. | VAL server |
| Update\_Unicast\_QoS\_Monitoring\_Subscription | This service operation is used by VAL server to update or modify the individual unicast QoS monitoring subscription. | VAL server |

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

##### 5.5.3.2.6 Update\_Unicast\_QoS\_Monitoring\_Subscription

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

###### 5.5.3.2.6.1 General

This service operation is used by a VAL server to update a unicast QoS monitoring subscription at the NRM server.

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

###### 5.5.3.2.6.2 VAL server modifies for Unicast QoS Monitoring Subscription using Update\_Unicast\_QoS\_Monitoring Subscription

If the "UpdateSupport" feature defined in clause 7.4.2.6 is supported, the VAL server may send an HTTP PUT or an HTTP PATCH request to update or modify an individual unicast QoS monitoring subscription, respectively.

In order to update an existing individual unicast QoS monitoring subscription, the VAL server shall send an HTTP PUT request message to the NRM servertargeting the corresponding "Individual Unicast Monitoring Subscription" resource URI as specified in clause 7.4.2.2.3.3.3.

In order to modify an existing individual unicast QoS monitoring subscription, the VAL server shall send an HTTP PATCH request message targeting the "Individual Unicast Monitoring Subscription" resource URI as specified in clause 7.4.2.2.3.3.4. The body of the HTTP PATCH request message shall include the requested modifications as specified in clause 7.4.2.2.3.3.4.

The updated resource representation provided via an HTTP PUT method shall not change any target identifier, i.e., the "valUeIds", "valGroupId", and "valStreamIds" attributes within the "Individual Unicast Monitoring Subscription" resource.

Upon receiving the HTTP PUT or HTTP PATCH request message, the NRM server shall:

1. check if the required features for the received HTTP request are supported as defined in clause 7.4.2.6;

2. verify the identity of the VAL server and check if the VAL server is authorised to update or modify the "Individual Unicast Monitoring Subscription" resource;

3. if the required feature for the received HTTP request is supported and the VAL server is authorized, then the NRM server shall:

a. if the configuration information in the request is valid, interact with the NEF to update, modify, or establish the associated QoS monitoring subscriptions by invoking the Nnef\_AnalyticsExposure API (UE Communication Analytics Events and DN Performance Analytics) and AsSessionWithQoS API as defined in 3GPP TS 29.522 [28]. The NRM server determines the relevant NEF subscription procedures and the parameters for these subscriptions based on the inputs received from the VAL server;

4. upon reception of successful response(s) from the NEF:

a. update/modify the resource identified by the Resource URI of the configuration received in the request; and

b. respond to the VAL server with an HTTP "200 OK" status;

and

5. if the NRM server is unable to satisfy the request, the NRM server shall respond to the VAL server with an appropriate error status code as defined in clause 7.4.2.5.

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

#### 7.4.2.6 Feature negotiation

General feature negotiation procedures are defined in clause 6.8. Table 7.4.2.6-1 lists the supported features for SS\_NetworkResourceMonitoring API.

Table 7.4.2.6-1: Supported Features

|  |  |  |
| --- | --- | --- |
| **Feature number** | **Feature Name** | **Description** |
| 1 | Notification\_test\_event | The testing of notification connection is supported according to clause 6.6. |
| 2 | Notification\_websocket | The delivery of notifications over Websocket is supported according to clause 6.6. This feature requires that the Notification\_test\_event feature is also supported. |
| 3 | UpdateSupport | Indicates the support of the Update\_Unicast\_QoS\_Monitoring\_Subscription service operation. This feature enables the support of both HTTP PUT and HTTP PATCH methods for the SS\_NetworkResourceMonitoring API. |

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