**3GPP TSG-CT WG3 Meeting #119e C3-216280**

**E-Meeting, 11th – 19th November 2021 (Revision of C3-21xxxx)**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.549** | **CR** | **0043** | **rev** | **-** | **Current version:** | **17.2.0** |  |
|  | | | | | | | | |
| *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** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Resource structure to support TSC related service operations | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eSEAL | | | | |  | ***Date:*** | | | 2021-10-25 |
|  |  | | | |  | |  | | |  |
| ***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 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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | TS 23.434 clause 14 introduce TSC related service operations in SS\_NetworkResourceAdaptation service, hence need to support in this specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Adding the resource structure to support TSC related service operations in the SS\_NetworkResourceAdaptation API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Current resource structure does not support TSC related service operations, which is not aligned with stage 2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.4.1.2.1, 7.4.1.2.m (new), 7.4.1.2.m.1 (new), 7.4.1.2.m.2 (new), 7.4.1.2.m.3 (new), 7.4.1.2.m.3.1 (new), 7.4.1.2.m.4 (new), 7.4.1.2.n (new), 7.4.1.2.n.1 (new), 7.4.1.2.n.2 (new), 7.4.1.2.n.3 (new), 7.4.1.2.n.3.1 (new), 7.4.1.2.n.4 (new), 7.4.1.2.o (new), 7.4.1.2.o.1 (new), 7.4.1.2.o.2 (new), 7.4.1.2.o.3 (new), 7.4.1.2.o.3.1 (new), 7.4.1.2.o.3.2 (new), 7.4.1.2.n.4 (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 impact the OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

\*\*\* 1st Change \*\*\*

##### 7.4.1.2.1 Overview



Figure 7.4.1.2.1-1: Resource URI structure of the SS\_NetworkResourceAdaptation API

Table 7.4.1.2.1-1 provides an overview of the resources and applicable HTTP methods.

Table 7.4.1.2.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method or custom operation | Description |
| Multicast Subscriptions | /multicast-subscriptions | POST | Create a new Individual Multicast Subscription resource. |
| Individual Multicast Subscription | /multicast-subscriptions/{multiSubId} | GET | Read an Individual Multicast Subscription resource. |
| DELETE | Remove an Individual Multicast Subscription resource. |
| Unicast Subscriptions | /unicast-subscriptions | POST | Create a new Individual Unicast Subscription resource. |
| Individual Unicast Subscription | /unicast-subscriptions/{uniSubId} | GET | Read an Individual Unicast Subscription resource. |
| DELETE | Remove an Individual Unicast Subscription resource. |
| TSC Stream Availability | /tsc-stream-availability | GET | Retrieve TSC stream availability information. |
| TSC Streams | /tsc-streams | POST | Create a new Individual TSC stream resource. |
| Individual TSC Stream | /tsc-streams/{tscStreamId} | GET | Read an Individual TSC stream resource. |
| DELETE | Remove an Individual TSC stream resource. |

Editor's note: It is FFS whether HTTP GET method should be changed to custom operation POST method.

\*\*\* 2nd Change \*\*\*

##### 7.4.1.2.m Resource: TSC Stream Availability

###### 7.4.1.2.m.1 Description

The TSC stream availability represent for TSC stream availability discovery with the given stream specification.

###### 7.4.1.2.m.2 Resource Definition

Resource URI: **{apiRoot}/ss-nra/<apiVersion>/tsc-stream-availability**

This resource shall support the resource URI variables defined in table 7.4.1.2.m.2-1.

Table 7.4.1.2.m.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 6.5. |
| apiVersion | string | See clause 7.4.1.1. |

###### 7.4.1.2.m.3 Resource Standard Methods

7.4.1.2.m.3.1 GET

This operation retrieves the TSC stream availability information. This method shall support the URI query parameters specified in table 7.4.1.2.m.3.1-1.

Table 7.4.1.2.m.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| requester-identity | string | M | 1 | The identity of the VAL server performing the request. |
| stream-specification | array(StreamSpecification) | M | 1..N | The MAC address(es) of the source DS-TT port(s) and the destination DS-TT port(s). |

This method shall support the request data structures specified in table 7.4.1.2.m.3.1-2 and the response data structure and response codes specified in table 7.4.1.2.m.3.1-3, table 7.4.1.2.m.3.1-4 and table 7.4.1.2.m.3.1-5.

Table 7.4.1.2.m.3.1-2: Data structures supported by the GET Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| n/a |  |  |  |

Table 7.4.1.2.m.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| TscStreamAvailability | M | 1..N | 200 OK | List of TSC stream availability information, each including the stream specification and list of traffic specifications. This response shall include stream specification matching the query parameters provided in the request. |
| N/A |  |  | 307 Temporary Redirect | Temporary redirection, during subscription retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative network resource management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| N/A |  |  | 308 Permanent Redirect | Permanent redirection, during subscription retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative network resource management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.6-1 of 3GPP TS 29.122 [3] also apply. | | | | |

Editor's note: Error responses are FFS.

Table 7.4.1.2.m.3.1-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative network resource management server. |

Table 7.4.1.2.m.3.1-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative network resource management server. |

###### 7.4.1.2.m.4 Resource Custom Operations

None.

\*\*\* 3rd Change \*\*\*

##### 7.4.1.2.n Resource: TSC streams

###### 7.4.1.2.n.1 Description

The TSC streams represent the resources for TSC communication with the given stream specification.

###### 7.4.1.2.n.2 Resource Definition

Resource URI: **{apiRoot}/ss-nra/<apiVersion>/tsc-streams**

This resource shall support the resource URI variables defined in table 7.4.1.2.n.2-1.

Table 7.4.1.2.n.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 6.5. |
| apiVersion | string | See clause 7.4.1.1. |

###### 7.4.1.2.n.3 Resource Standard Methods

7.4.1.2.n.3.1 POST

This method shall support the URI query parameters specified in the table 7.4.1.2.n.3.1-1.

Table 7.4.1.2.n.3.1-1: URI query parameters supported by the POST method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| n/a |  |  |  |  |

This method shall support the request data structures specified in table 7.4.1.2.n.3.1-2 and the response data structure and response codes specified in table 7.4.1.2.n.3.1-3 and table 7.4.1.2.n.3.2-4.

Table 7.4.1.2.n.3.1-2: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| TscStreamData | M | 1 | TSC stream creation request data from the VAL server to the NRM server. |

Table 7.4.1.2.n.3.1-3: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| TscStreamData | M | 1 | 201 Created | TSC stream created data response from the NRM server to the VAL server. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [22] shall also apply. | | | | |

Editor's note: Error responses are FFS.

Table 7.4.1.2.n.3.1-4: Headers supported by the 201 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | String | M | 1 | Contains the URI of the newly created resource, according to the structure: {apiRoot}/ss-nra/<apiVersion>/tsc-streams/{tscStreamId} |

###### 7.4.1.2.n.4 Resource Custom Operations

None.

\*\*\* 4th Change \*\*\*

##### 7.4.1.2.o Resource: Individual TSC Stream

###### 7.4.1.2.o.1 Description

###### 7.4.1.2.o.2 Resource Definition

Resource URI: {apiRoot}/ss-nra/<apiVersion>/tsc-streams/{tscStreamId}

This resource shall support the resource URI variables defined in table 7.4.1.2.o.2-1.

Table 7.4.1.2.o.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 6.5. |
| apiVersion | string | See clause 7.4.1.1. |
| tscStreamId | string | The TSC stream Identifier, corresponding to the VAL Stream ID. |

###### 7.4.1.2.o.3 Resource Standard Methods

7.4.1.2.o.3.1 GET

This operation retrieves an individual TSC stream information. This method shall support the URI query parameters specified in the table 7.4.1.2.o.3.1-1.

Table 7.4.1.2.o.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| n/a |  |  |  |  |

This method shall support the request data structures specified in table 7.4.1.2.o.3.1-2 and the response data structures and response codes specified in table 7.4.1.2.o.3.1-3, table 7.4.1.2.o.3.1-4 and table 7.4.1.2.o.3.1-5.

Table 7.4.1.2.o.3.1-2: Data structures supported by the GET Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| n/a |  |  |  |

Table 7.4.1.2.o.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| TscStreamData | M | 1 | 200 OK |  |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during resource retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative network resource management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during resource retrieval. The response shall include a Location header field containing an alternative URI of the resource located in an alternative network resource management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [22] shall also apply. | | | | |

Editor's note: Error responses are FFS.

Editor's note: It is FFS whether HTTP GET method should be changed to custom operation POST method.

Table 7.4.1.2.o.3.1-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative network resource management server. |

Table 7.4.1.2.o.3.1-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | String | M | 1 | An alternative URI of the resource located in an alternative network resource management server. |

7.4.1.2.o.3.2 DELETE

This operation deletes the individual TSC stream resource. This method shall support the URI query parameters specified in the table 7.4.1.2.o.3.2-1.

Table 7.4.1.2.o.3.2-1: URI query parameters supported by the DELETE method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
|  |  |  | 1 |  |
|  |  |  | 1 |  |

This method shall support the request data structures specified in table 7.4.1.2.o.3.2-2 and the response data structures and response codes specified in table 7.4.1.2.o.3.2-3, table 7.4.1.2.o.3.2-4 and table 7.4.1.2.o.3.2-5.

Table 7.4.1.2.o.3.2-2: Data structures supported by the DELETE Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
|  |  |  |  |

Table 7.4.1.2.o.3.2-3: Data structures supported by the DELETE Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| n/a |  |  | 204 No Content | Successful case. The Individual Unicast Subscription resource was deleted. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during resource termination. The response shall include a Location header field containing an alternative URI of the resource located in an alternative network resource management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during resource termination. The response shall include a Location header field containing an alternative URI of the resource located in an alternative network resource management server.  Redirection handling is described in subclause 5.2.10 of 3GPP TS 29.122 [3]. |
| NOTE: The mandatory HTTP error status codes for the GET method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [22] shall also apply. | | | | |

Editor's note: Error responses are FFS.

Table 7.4.1.2.o.3.2-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative network resource management server. |

Table 7.4.1.2.o.3.2-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative network resource management server. |

###### 7.4.1.2.n.4 Resource Custom Operations

None.

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