**3GPP TSG-CT WG3 Meeting #119e C3-216432**

**E-Meeting, 11th – 19th November 2021 (Revision of C3-216278)**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.549** | **CR** | **0041** | **rev** | **1** | **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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Support Create\_TSC\_Stream service operation | | | | | | | | | |
|  |  | | | | | | | | | |
| ***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 defines TSC\_Stream\_Creation service operation in clause 14.4.2.8 and the related procedure in clause 14.3.7.3, hence also need to support in this specification. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Support Create\_TSC\_Stream service operation in the SS\_NetworkResourceAdaptation API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Missing the Create\_TSC\_Stream service operation definition which is not aligned with stage 2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 5.5.1.2.n (new), 5.5.1.2.n.1 (new), 5.5.1.2.n.2 (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 \*\*\*

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 23.434: "Service Enabler Architecture Layer for Verticals (SEAL); Functional architecture and information flows".

[3] 3GPP TS 29.122: "T8 reference point for Northbound Application Programming Interfaces (APIs)".

[4] IETF RFC 6455: "The Websocket Protocol".

[5] IETF RFC 7230: "Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing".

[6] IETF RFC 7231: "Hypertext Transfer Protocol (HTTP/1.1): Semantics and Content".

[7] IETF RFC 7232: "Hypertext Transfer Protocol (HTTP/1.1): Conditional Requests".

[8] IETF RFC 7233: "Hypertext Transfer Protocol (HTTP/1.1): Range Requests".

[9] IETF RFC 7234: "Hypertext Transfer Protocol (HTTP/1.1): Caching".

[10] IETF RFC 7235: "Hypertext Transfer Protocol (HTTP/1.1): Authentication".

[11] IETF RFC 5246: "The Transport Layer Security (TLS) Protocol Version 1.2".

[12] IETF RFC 7540: "Hypertext Transfer Protocol Version 2 (HTTP/2)".

[13] IETF RFC 8259: "The JavaScript Object Notation (JSON) Data Interchange Format".

[14] 3GPP TS 29.501: "5G System; Principles and Guidelines for Services Definition; Stage 3".

[15] Open API: "OpenAPI Specification Version 3.0.0", <https://spec.openapis.org/oas/v3.0.0>.

[16] 3GPP TS 29.222: "Common API Framework for 3GPP Northbound APIs; Stage 3”.

[17] 3GPP TS 23.222: "Common API Framework for 3GPP Northbound APIs; Stage 2”.

[18] 3GPP TS 33.122: "Security Aspects of Common API Framework for 3GPP Northbound APIs".

[19] IETF RFC 6749: "The OAuth 2.0 Authorization Framework".

[20] 3GPP TS 29.523: "5G System; Policy Control Event Exposure Service; Stage 3".

[21] 3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces; Stage 3".

[22] 3GPP TS 29.500: "5G System; Technical Realization of Service Based Architecture; Stage 3".

[23] 3GPP TS 29.468: "Group Communication System Enablers for LTE (GCSE\_LTE); MB2 reference point; Stage 3".

[24] 3GPP TR 21.900: "Technical Specification Group working methods".

[25] 3GPP TS 33.210: "3G security; Network Domain Security (NDS); IP network layer security".

[26] 3GPP TS 33.434: "Service Enabler Architecture Layer for Verticals (SEAL); Security Aspects".

[m] IEEE 802.1Qcc-2018: "IEEE Standard for Local and Metropolitan Area Networks—Bridges and Bridged Networks".

[n] 3GPP TS 29.514: "5G System; Policy Authorization Service; Stage 3".

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

##### 5.5.1.2.n Create\_TSC\_Stream

###### 5.5.1.2.n.1 General

This service operation is used by a VAL server to request the NRM server to create TSC stream resources.

###### 5.5.1.2.n.2 VAL server requesting for create TSC stream using Create\_TSC\_Stream service operation

In order to create a TSC stream resource, the VAL server shall send an HTTP POST message to the NRM server. The request body with the "TscStreamData" data structure shall include the requestor identity, VAL Stream ID, stream specification and Traffic Specification Information which includes Priority Code Point (PCP), MaxFrameInterval, MaxFrameSize, MaxIntervalFrames, MaxLatency.

Upon reception of the HTTP POST message, the NRM server shall:

1. verify the requestor identity of the VAL server, check whether the VAL server is authorized to request the NRM server to create a TSC stream;

2. if the VAL server is authorized, the NRM server shall calculate the schedule for the VAL Stream ID based on the information collected earlier from the 5GS. It provides per-stream filtering and policy parameters (e.g as defined in IEEE 802.1Qcc [m]) used to derive the TSC QoS information and related flow information. The NRM server also provides the forwarding rule (e.g.as defined in IEEE 802.1Qcc [m]) used to identify the DS-TT MAC address of the corresponding PDU session. Based on the 5GS bridge delay information it determines the TSC QoS information and TSC Assistance information for the stream;

3. for each VAL UE, the trusted NRM server within the PLMN operator domain acting as a TSCTSF shall initiate the PCC procedures by triggering the Npcf\_policy\_Authorization\_Create service operation as described in 3GPP TS 29.514 [n] for the TSC stream for both uplink QoS flow (sender UE to UPF/bridge) and downlink QoS flow (UPF/bridge to receiver UE). The creation request includes the DS-TT port MAC address, TSC QoS information, TSC Assistance Information, flow bit rate, priority, Service Data Flow Filter containing flow description including Ethernet Packet Filters. The QoS flow will be assigned for the PDU session with the source MAC address for the uplink direction and with the destination MAC address for the downlink direction. This information is delivered to the DS-TT by the 5GS; and

4. after the NRM server receiving a successful response from the PCF, the NRM server shall create an "Individual TSC Stream" resource which represents the created TSC stream, addressed by a URI that contains the {tscStreamId} as the TSC Stream ID, and shall respond to the VAL server with a 201 Created status code, including a Location header field containing the URI for the created resource. If the NRM server receives an error response from the PCF, the NRM server shall not create the resource and shall respond to the VAL server with a proper error status code.

Editor's note: Error cases are FFS.

Editor's note: It is FFS to align the behavior of the NRM server when acting as a TSCTSCF with the provisions of the IIoT work item.

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