**3GPP TSG-CT WG1 Meeting #146C1-240abc**

**Online, 22– 26 January 2024**

**Source: Huawei, HiSilicon**

**Title:** **Pseudo-CR on CoAP definition of the Sdd\_URLLCTransmissionConnection API**

**Spec: 3GPP TS 24.543 v1.0.0**

**Agenda item: 18.2.16**

**Document for: Agreement**

**1. Reason for Change**

The current specification misses to define the CoAP definition of the Sdd\_URLLCTransmissionConnection API described by 3GPP TS 23.433. Hence, it is proposed to add the necessary information for the CoAP resource representation and encoding.

**2. Proposal**

It is proposed to agree the following changes to 3GPP TS 24.543 v1.0.0.

**3. Revision history**

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\* \* \* First Change \* \* \* \*

## A.4.2 Sdd\_URLCCTransmissionConnection API

### A.4.2.1 API URI

The CoAP URIs used in CoAP requests from SDDM-C towards the SDMM-S shall have the Resource URI structure as defined in Annex C.1.1 of 3GPP TS 24.546 [6] with the following clarifications:

a) the <apiName>shall be "sdd-rtc-c";

b) the <apiVersion> shall be "v1"; and

c) the <apiSpecificSuffixes> shall be set as described in clause A.4.2.2.

### A.4.2.2 Resources

#### A.4.2.2.1 Overview



Figure A.4.2.2.1.1: Resource URI structure of the Sdd\_URLLCTransmissionConnection API provided by SDDM-C

Table A.4.2.2.1.1 provides an overview of the resources and applicable CoAP methods.

Table A.4.2.2.1.1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | CoAP method  | Description |
| URLLC Transmission Connection | val-services/{valServiceId}/urllc-transmission-connection | POST | Establish a URLLC transmission connection. |
| PUT | Update a URLLC transmission connection. |
| DELETE | Releases a URLLC transmission connection. |

#### A.4.2.2.2 Resource: URLLC Transmission Connection

##### A.4.2.2.2.1 Description

The URLLC transmission connection resource allows an SDDM-S to manage a URLCC transmission connection of an SDDM-C.

##### A.4.2.2.2.2 Resource Definition

Resource URI: **{apiRoot}/sdd-rtc-c/<apiVersion>/val-services/{valServiceId}/urllc-transmission-connection**

This resource shall support the resource URI variables defined in the table A.4.2.2.2.2.1.

Table A.4.1.2.2.2.1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause C.1.1 of 3GPP TS 24.546 [6]. |
| apiVersion | string | See clause A.4.2.1. |
| valServiceId | string | Identifier of a VAL service. |

##### A.4.2.2.2.3 Resource Standard Methods

A.4.2.2.2.3.1 POST

This operation retrieves the allowed registration.

This method shall support the request data structures, request codes and response codes specified in table A.4.2.2.2.3.1.1 and A.4.2.2.2.3.1.2.

Table A.4.2.2.2.3.1.1: Data structures supported by the POST Request payload on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| URLLCEstablishmentRequest | M | 1 | The information of request of establishment of an SDDM URLLC transmission connection. |

Table A.4.2.2.2.3.1.2: Data structures supported by the POST Response payload on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| URLLCEstablishmentResponse | M | 1 | 2.01 Created | URLLC transmission connection created successfully. |
| NOTE: The mandatory CoAP error status codes for the GET Request listed in table C.1.3-1 of 3GPP TS 24.546 [31] shall also apply. |

A.4.2.2.2.3.2 PUT

This operation updates a URLLC transmission connection.

This method shall support the request data structures the data structures, request codes and response codes specified in table A.4.2.2.2.3.2.1 and A.4.2.2.2.3.2.2.

Table A.4.2.2.2.3.2.1: Data structures supported by the PUT Request payload on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| URLLCUpdateRequest | M | 1 | The information of request of update a URLLC transmission connection. |

Table A.4.2.2.2.3.2.1: Data structures supported by the PUT Response payload on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| URLLCUpdateResponse | M | 1 | 2.04 Changed | URLLC transmission connection updated successfully. |
| NOTE: The mandatory CoAP error status codes for the PUT method listed in table C.1.3-1 of 3GPP TS 24.546 [31] shall also apply. |

A.4.2.2.2.3.3 DELETE

This operation releases a URLLC transmission connection.

This method shall support the request data structures the data structures, request codes and response codes specified in table A.4.2.2.2.3.3.1 and A.4.2.2.2.3.3.2.

Table A.4.2.2.2.3.3.1: Data structures supported by the DELETE Request payload on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| URLLCReleaseRequest | M | 1 | The information of request of release of a URLCC transmission connection. |

Table A.4.2.2.2.3.3.2: Data structures supported by the DELETE Response payload on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| n/a |  |  | 2.02 Deleted | URLLC transmission connection released successfully. |
| NOTE: The mandatory CoAP error status codes for the DELETE method listed in table C.1.3-1 of 3GPP TS 24.546 [31] shall also apply. |

### A.4.2.3 Data Model

#### A.4.2.3.1 General

Table A.4.2.3.1.1 specifies the data types defined specifically for the SDD\_URLLCTransmissionConnection API service provided by SDDM-C.

Table A.4.2.3.1.1: SDD\_RegularTransmissionConnection API provided by SDDM-C specific data types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Section defined | Description | Applicability |

Editor’s note: The table is FFS.

Table A.4.2.3.1.2 specifies the simple data types defined specifically for the SDD\_RegularTransmissionConnection API service provided by SDDM-C.

Table A.4.2.3.1.2: SDD\_RegularTransmissionConnection API provided by SDDM-C specific simple data types

|  |  |  |
| --- | --- | --- |
| Data type | Section defined | Description |

Editor’s note: The table is FFS.

Table A.4.2.3.1.3 specifies the enumerations defined specifically for the SDD\_URLLCTransmissionConnection API service provided by SDDM-C.

Table A.4.2.3.1.3: SDD\_RegularTransmissionConnection API provided by SDDM-C specific enumeration

|  |  |  |
| --- | --- | --- |
| Data type | Section defined | Description |

Editor’s note: The table is FFS.

#### A.4.2.3.2 Structured data types

#### A.4.2.3.3 Simple data types and enumerations

None.

### A.4.2.4 Error Handling

General error responses are defined in Annex C.1.3 of 3GPP TS 24.546 [6].

### A.4.2.5 CDDL Specification

#### A.4.2.5.1 Introduction

The data model described in clause A.4.2.3 shall be binary encoded in the CBOR format as described in IETF RFC 8949 [17].

Clause A.4.2.5.2 uses the concise data definition language described in IETF RFC 8610 [r8610] and provides corresponding representation of the SDD\_URLLCTransmissionConnection API provided by SDDM-C data model.

#### A.4.2.5.2 CDDL document

Editor’s note: The CDDL document is FFS.

### A.4.2.6 Media Types

Editor’s note: The media types are FFS.

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