**3GPP TSG- Meeting #**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
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| *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 | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** |  | | | | | | | | | |
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| ***Source to WG:*** |  | | | | | | | | | |
| ***Source to TSG:*** | S4 | | | | | | | | | |
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| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
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| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
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| ***Reason for change:*** | | The conclusion of KI#9 and KI#14 (traffic detection of multiplexed media flows) from TR 26.822 are as follows:  The following aspects are concluded as principles for normative work:  - Based on response from SA2, normative work on multiplexed RTP streams may be needed. Furthermore, it is recommended to add guidelines to TS 26.522 [2] for RTP senders that use multiplexing. There may be potential normative aspects to be added to TS 26.510 [50].  When multiple RTP media streams and RTCP packets are multiplexed in an RTP session, each media stream can be identified using the identification-tag (the values of "mid" attribute) in the SDP information. The RTP SDES header extension for MID enables an RTP receiver to associate each PDU or PDU Set to a media stream when the the PDUs in a PDU Set carry the RTP SDES header extension for MID. Similarly RTCP MID SDES Item enables an RTP receiver to associate each RTCP packet to the corresponding media stream when the RTCP packets carry the RTCP MID SDES Item which contains the media identification-tag information. | | | | | | | | |
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| ***Summary of change:*** | | This CR provides support to include RTCP MID SDES Item defined in RFC 9143 to be included in RTCP packets when RTP media streams and RTCP packets are multiplexed into an application data flow. | | | | | | | | |
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| ***Consequences if not approved:*** | | Recommendations from work item description are not met, key 5GA features are not supported. | | | | | | | | |
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| ***Clauses affected:*** | | 4.6 and C.2 | | | | | | | | |
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|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | |  | | |
| ***affected:*** | |  | **X** | Test specifications | | | |  | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | |  | | |
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| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

FIRST change

## 4.6 RTP SDES Header Extension for MID

When an RTP sender transmits different media streams in a multiplexed data flow identified by an IP 5-tuple, the 5GS network needs to identify the PDU’s belonging to the respective media streams, for enabling differentiated QoS handling (i.e. mapping multiplexed streams to differnet QoS Flows). The RTP SDES header extension for MID defined in RFC 9143 [23], described in Annex C.2, enables an RTP receiver to associate each RTP stream with a specific identification-tag.

An RTP sender may use the BUNDLE attribute defined in RFC 9143 [23] in SDP negotiation to multiplex the media streams, particularly in case SSRC is not available before the RTP session is started. Endpoints that support the bundle mechanism for multiplexed RTP streams shall include the RTP SDES HE for MID for identifying the media streams. Endpoints that support the RTP SDES HE for MID shall support both RTP HE formats (i.e., the one-byte and the two-byte formats). Endpoints that support the bundle mechanism for multiplexing RTP and RTCP streams shall include the RTCP MID SDES Item as defined in RFC 9143 [23] in RTCP SDES packets for identifying the media streams.

NOTE: Not every RTP packet is required to include MID information in the RTP SDES HE for MID. Not every RTCP packet is required to include MID SDES Item in the RTCP SDES packets.

If the RTP SDES HE for MID is the only RTP HE used, the endpoints shall use the 1-byte header format. If other 2-byte RTP HE elements are used in the same RTP stream, then the 2-byte header shall be used, unless the "a=extmap-allow-mixed" is successfully negotiated through SDP offer/answer, as described by RFC 8285 [11].

second change

## C.2 RTP SDES Header Extension for MID

### C.2.1 Description

When multiple RTP media streams are multiplexed in a traffic flow identified by an IP 5-tuple, each media stream can be identified using the identification-tag (the values of "mid" attribute) in the SDP description using the BUNDLE attribute defined in RFC 9143. RFC 7941 [22] has defined an RTP SDES header extension to optimize the determination of relationship and synchronization context (CNAME) for new RTP streams in an RTP session. RFC 9143 [23] has defined a new RTP SDES header extension for MID by extending the RTP SDES header extension to carry the RTCP MID SDES item as defined in RFC 9143, in RTP packets.

The RTP SDES header extension for MID enables an RTP receiver to associate each RTP stream with a specific "m=" section in the SDP with which a receiver has associated an identification-tag. The payload, containing the identification-tag, of the RTP SDES header extension element can be encoded using either the 1-byte or the 2-byte header according to RFC 7941 [22]. An example SDP for bundled media streams with RTP SDES header extension for MID and the identification-tags is as shown below.

RTP packets and RTCP packets can be multiplexed into a single traffic flow using the SDP BUNDLE mechanism with the 'rtcp-mux' attribute as defined in RFC 5761 and the 'rtcp-mux-only' attribute as defined in RFC 8858. When RTP packets and RTCP packets are multiplexed into a traffic flow identified by an IP 5-tuple, each RTCP packet can be associated with the corresponding RTP stream when an RTP sender inserts the associated identification-tag information into RTP and RTCP packets associated with a BUNDLE group. The identification-tag information can be inserted into RTCP packets using the RTCP MID SDES item as described in RFC 9143.



Figure C.2.1-1: Example SDP for bundled media streams

### C.2.2 SDP Signaling

RFC 9143 defined the extension URN in the "RTP SDES Compact Header Extensions" subregistry of the "RTP Compact Header Extensions" sub-registry. The URN for the RTP SDES Header Extension for MID is set to “**urn:ietf:params:rtp-hdrext:sdes:mid**” as defined in RFC 9143.

Below is an example:

a=extmap:1 urn:ietf:params:rtp-hdrext:sdes:mid

End of changes