**3GPP TSG-CT WG3 Meeting #142 *C3-253087***

**Gothenburg, SE, 25 - 29 August 2025 (Revision of C3-253087)**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **0194** | **rev** | **1** | **Current version:** |  |  |
|  | | | | | | | | |
| *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:*** | IANA registration for MRI packet transforms | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Ericsson | | | | | | | | | |
| ***Source to TSG:*** | C3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | XRM\_Ph2 | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Upon TS 33.501 clause 18.2.3 defined packet transform name 3GPP\_XRM\_AESCCM\_8 which has editor’s note needs to be registered in IANA:  The defined packet transform below is named 3GPP\_XRM\_AESCCM\_8 in the extended connect HTTP request negotiating the Forward Mode.  Editor’s note: The transformation label 3GPP\_XRM\_AESCCM\_8 needs to be registered in IANA.  As per IETF draft-ietf-masque-quic-proxy, it is required to register the 3GPP specified packet transform details in the IANA. TS 29.561 clause 22.3.4 specifies the respective packet transform details.  As draft-ietf-masque-quic-proxy is in the IETF draft state, IANA early allocation along with [RFC 7120 - Early IANA Allocation of Standards Track Code Points](https://datatracker.ietf.org/doc/html/rfc7120#section-2) has to be followed.  The related editor’s note has to be removed:   1. Editor's Note: IANA registration of the 3gpp:media-related-info transform is needed. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | New informative annex with details to register packet transfer name as defined in TS 33.501 clause 18.2.3.  The editor’s note is removed. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | IANA registration is not available for 3GPP specified Media related information transform in the public as defined in TS 33.501 clause 18.2.3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 22.3.4, Annex B <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's revision history:*** | |  | | | | | | | | |

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

### 22.3.4 Sending Media Related Information using QUIC-aware proxying using HTTP

If the media traffic is transmitted over QUIC between the AS and the UE, the UPF (acting as client) and the AS (acting as UDP proxy) may negotiate to use the dedicated QUIC Connection IDs and packet transform in Forwarded Mode to avoid re-encapsulation and re-encryption as defined in IETF draft-ietf-masque-quic-proxy [67]. In case of multiple UEs using the same QUIC connection between the UPF and the AS, for each UE the UPF shall initiate a new HTTP CONNECT request to associate each UE with a separate Connection ID for mapping to a Virtual Connection ID as described in in IETF draft-ietf-masque-quic-proxy [67].

As described in IETF draft-ietf-masque-quic-proxy [67], the AS may still send some packets using the tunnelled mode even when the UPF and the AS have negotiated to use Forwarded Mode (e.g. during the initial media exchange with media related information from the AS to the UPF until it is possible to start using Forwarded Mode). Packets sent in tunnelled mode shall be encoded in HTTP Datagrams as defined in clause 22.3.2. Packets sent using Forwarded Mode shall be encoded as defined in this clause.

During the HTTP CONNECT method as described in IETF draft-ietf-masque-quic-proxy [67], in addition to what is required according to clause 22.3.2:

a) the UPF shall insert 3GPP\_XRM\_AESCCM\_8 in the accept-transform parameter of the proxy-quic-forwarding header field in the HTTP CONNECT request; and

b) the AS shall indicate 3GPP\_XRM\_AESCCM\_8 in the transform parameter of the proxy-quic-forwarding header field in the HTTP CONNECT successful response.

When the Media Related Information are transformed in the QUIC short header as per IETF RFC 9000 [68], then the 3GPP\_XRM\_AESCCM\_8 shall be used to encode the transformed QUIC packet as shown in Figure 22.3.4-1 (using the notational conventions defined in section 1.3 of IETF RFC 9000 [68]).

Transformed QUIC Packet {

Header Form (1) = 0,

Fixed Bit (1) = 1,

Spin Bit (1),

Reserved Bits (2),

Key Phase (1),

Packet Number Length (2),

Destination Connection ID (0..160),

Length of Protected Media Related Information(8)

Protected Media Related Information (..),

Packet Number (8..32),

Packet Payload (8..),

}

Figure 22.3.4-1: Transformed QUIC Packet with Media Related Information Container as per 3GPP\_XRM\_AESCCM\_8

In Figure 22.3.4-1:

a) Destination Connection ID shall be set to the mapping Virtual Connection ID;

b) the length of the protected Media Related Information shall be encoded in bytes;

c) Protected Media Related Information shall be the output of the security algorithm defined in 3GPP TS 33.501 [59] which takes as an input the Media Related Information container, defined in clause 22.2; and

d) Packet Number and Packet Payload shall be set to the (end-to-end protected) packet number and the packet payload of the end-to-end packet.

Editor's Note: The details on the encoding of Protected Media Related Information based on SA3 is FFS.

If the Media Related Information is missing, the length of Protected Media Related Information shall be set to zero and the Protected Media Related Information field shall be omitted.

\* \* \* \* Next changes \* \* \* \*

Annex B (informative):  
IANA registration of 3GPP defined Media Related Information packet transform Name

# B.1 Introduction

This annex contains the 3GPP defined Media Related Information transform defined in this specification that are registered to IANA as "Packet Transform Names". It follows the Registration Template for Packet Transform Names registry defined in clause 10.3 of IETF draft-ietf-masque-quic-proxy [67].

Editor's Note: The IANA registration is to be completed after RFC is finalized by IETF.

# B.2 "3GPP\_XRM\_AESCCM\_8" Packet transform name

|  |  |  |  |
| --- | --- | --- | --- |
| Transform Name | Description | Specification | Notes |
| 3GPP\_XRM\_AESCCM\_8 | 3GPP defined Media Related Information transform | 3GPP TS 29.561 | Clause 22.3.4 |

Frame Type Name: "3GPP\_XRM\_AESCCM\_8"

Status: "permanent".

Specification: Clause 22.3.4 of 3GPP TS 29.561.

Change Controller: 3GPP Specifications Manager

Contact:

3gppContact@etsi.org

+33 (0)492944200

**Notes:**

None.

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