**3GPP TSG SA WG4 #116e *S4-211427***

**E-meeting, 10-19 November, 2021**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.0* | | | | | | | | |
| **Pseudo CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **26.804** | **CR** | **<CR#>** | **rev** | **1** | **Current version:** | **0.5.0** |  |
|  | | | | | | | | |
| *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 | **X** | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | [FS\_5GMS-EXT] HTTP/3 collaboration for uplink media streaming | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Tencent | | | | | | | | | |
| ***Source to TSG:*** | SA4 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | FS\_5GMS-EXT | | | | |  | ***Date:*** | | | 2021-11-03 |
|  |  | | | |  | |  | | |  |
| ***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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Support uplink collaboration using HTTP/3 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 2, 5.4.2.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |
| ***56*** | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**===== 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".

…

[32] IETF RFC 9000: "QUIC: A UDP-Based Multiplexed and Secure Transport", May 2021.

[33] IETF RFC 9001: "Using TLS to Secure QUIC", May 2021.

[34] IETF RFC 9002: "QUIC Loss Detection and Congestion Control", May 2021.

…

[70] 3GPP TS 29.520: "5G System; Network Data Analytics Services; Stage 3".

[71] 3GPP TR 23.700-40: "Study on enhancement of network slicing; Phase 2".

[72] 3GPP TS 26.531: "“Data Collection and Reporting; General Description and Architecture".

[73] 3GPP TR 26.802: "Multicast Architecture Enhancement for 5G Media Streaming".

[QRT] S. Hurst, draft-hurst-quic-rtp-tunnelling: "QRT: QUIC RTP Tunnelling", Internet-Draft, Work in Progress.

[RTPQ] J. Ott and M. Engelbart, draft-engelbart-rtp-over-quic: "RTP over QUIC", Internet-Draft, Work in Progress.

[SRT] SRT Alliance, “Secure Reliable Transport (SRT) Protocol”, https://github.com/Haivision/srt

[SRT-QUIC] M.P. Sharabayko and M.A. Sharabayko, draft-sharabayko-srt-over-quic-00 ,“Tunnelling SRT over QUIC”, Internet-Draft, Work in Progress, 28 July 2021.

**===== CHANGE =====**

5.4.2.3 HTTP/3 collaboration for uplink media streaming

For this key topic, the discussion will focus on a media plane only collaboration scenario where the 5GMSu AS is deployed in the trusted domain. This collaboration scenario is described in clause 5.5.2.2 and illustrated in figure 5.5.2.2-1.

- If HTTP/3 is used as the uplink application protocol at reference point M4u, the uplink media is streamed from the Media Streamer subfunction of an HTTP/3-enabled 5GMSu Client to an HTTP/3-enabled 5GMSu AS.

- If HTTP/3 is used as the media egest application protocol at reference point M2u, the egest media is sent from an HTTP/3-enabled 5GMSu AS to an HTTP/3-enabled 5GMSu Application Provider.

Editor’s Note: Clause 5.5.2.7, describing a "hybrid, i.e. end-to-end form of collaboration across uplink media streaming and downlink media streaming services", and clause 5.2.4.3 on "Content preparation between uplink ingest and downlink streaming", would be useful to cover in clause 5.4 as well. The following paragraph would then be moved to a new clause 5.4.2.X that is based on these collaboration scenarios.

Uplink ingest formats are also a key topic in this study, and clause 5.2.1 names several existing uplink ingest formats to be studied. Even for the formats not routinely carried over HTTP (e.g. RTP-based RIST [20], [21] and SRT [SRT]), discussions are underway in the Internet Engineering Task Force to specify direct mappings onto QUIC (for instance, [QRT] and [RTPQ] for RTP and [SRT-QUIC] for SRT).

.**===== END CHANGES =====**