**3GPP TSG SA WG4 #116e *S4-211542***

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

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| *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)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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|  |
| ***Title:***  | [FS\_5GMS-EXT] HTTP/3 Candidate Solution - 5GMS Operation |
|  |  |
| ***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 canbe 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:*** | Describe candidate solution for HTTP/3 operation on 5GMS  |
|  |  |
| ***Summary of change:*** |  |
|  |  |
| ***Consequences if not approved:*** |  |
|  |  |
| ***Clauses affected:*** | 2, 5.4.6 |
|  |  |
|  | **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".

…

[QLOG-schema] Robin Marx, Luca Niccolini, Marten Seemann, draft-ietf-quic-qlog-main-schema-01, “Main logging schema for qlog”, Internet-Draft, Work in Progress, 25 October 2021.

[QLOG-H3] Robin Marx, Luca Niccolini, Marten Seemann, draft-ietf-quic-qlog-h3-events-00, “HTTP/3 and QPACK event definitions for qlog”, Internet-Draft, Work in Progress, 10 June 2021.

[QLOG-QUIC] Robin Marx, Luca Niccolini, Marten Seemann, draft-ietf-quic-qlog-quic-events-00, “QUIC event definitions for qlog”, Internet-Draft, Work in Progress, 10 June 2021.

{HLS] Roger Pantos and William May, Jr., “HTTP Live Streaming”, RFC 8216, August 2017.

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

5.4.6 Candidate Solutions

#### 5.4.6.1 Solution overview

Editor’s Note: Provide candidate solutions (including call flows) for each of the identified issues.

#### 5.4.6.2 Metrics reporting using QLOG events

One adjustment to the 5GMS architecture to accommodate HTTP/3 could be to metrics reporting. In addition to DASH metrics, providing metrics on HTTP/3 and, perhaps, even on QUIC might be useful for 5GMS System operators.

When DASH is used as a streaming protocol, DASH metrics would continue to be available when a DASH client creates an HTTP/3 connection to an HTTP/3 server.

When a non-DASH client, for example, an HLS [HLS] client, creates an HTTP/3 connection to an HTTP/3 server, a different mechanism would be necessary for metrics reporting. A capability called “QLOG”, currently under development in the QUIC working group of the Internet Engineering Task Force, is one such mechanism.

QLOG is composed of three related specifications,

* a protocol-independent schema specification and mapping to JSON in [QLOG-schema]
* a specification for HTTP/3-level events [QLOG-H3], and
* a specification for QUIC-level events [QLOG-QUIC]

QLOG events can be stored, aggregated, and reported in a variety of ways. In particular, QLOG events can be collected at both endpoints of a connection, so these events could be reported by an HTTP client, an HTTP server, or both, if comparison is desired.

QLOG could be used to collect HTTP-level events for any HTTP-based streaming protocol running over HTTP/3.

QLOG could be used to collect QUIC-level events for any streaming protocol encapsulated in QUIC, but consideration of this usage can be deferred until such protocols are identified.

Editor’s Note: Identify the impact of including QLOG events on 5GMS metrics reporting.

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