Abstract

This document describes a list additional identifiers used in WebRTC’s Javascript statistics API. These identifiers are a set of RTCP XR metrics related to the transport of multimedia flows.

Status of This Memo

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1. Introduction

Web-based real-time communication (WebRTC) deployments are emerging and applications need to be able to estimate the service quality. If sufficient information (metrics or statistics) are provided to the applications, it can attempt to improve the media quality.

[F38] The browser must be able to collect statistics, related to the transport of audio and video between peers, needed to estimate quality of experience.

[RTCWEB-STATS] describes a registration procedure for metrics reported by the Javascript API. It currently lists basic metrics reported in the RTCP Sender and Receiver Report (SR/RR) to fulfill this requirement. However, the basic metrics from RTCP SR/RR are not sufficient for precise quality monitoring or troubleshooting. They are better complemented with...
metrics defined in RTCP Extended Reports (XR), an in depth discussion about the XR metrics candidates is carried out in [I-D.huang-xrblock-rtcweb-rtcp-xr-metrics].

2. Candidate XR Block Metrics

This group of identifiers are well defined on a ReportGroup corresponding to an SSRC and are intended to complement the identifiers in Section 4.1 of [I-D.alvestrand-rtcweb-stats-registry].

The following contact information is used for all registrations in this document:

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2.1. Variables from XR Blocks

2.1.1. Packets and Octets Discarded

Name: PacketsDiscarded

Definition: Cumulative Number of RTP packets discarded, Appendix A of [RFC7002]

Name: OctetsDiscarded

Definition: Cumulative Number of octets discarded, Appendix A of [I-D.ietf-xrblock-rtcp-xr-bytes-discarded-metric]

2.1.2. Cumulative Number of Retransmitted Packets Received

Name: PacketsRetx

Definition: See Appendix A of this document, [RFCXXXX].

RFC EDITOR NOTE: please change XXXX in [RFCXXXX] by the new RFC number, when assigned and remove this note.

2.1.3. Cumulative Number of Packets Repaired

Name: PacketsRepaired

Definition: Appendix A (b) of [I-D.huang-xrblock-post-repair-loss-count]
2.1.4. Frame Impairment Metrics

Name: FullFramesLostCount

Definition: Number of full frames lost, Appendix A (i) of [RFC7004]

Name: PartialFramesLostCount

Definition: Number of full frames lost, Appendix A (j) of [RFC7004]

Name: FramesDiscardedCount

Definition: Number of full frames discarded, Appendix A (g) of [RFC7004]

3. IANA Considerations

This document requests IANA to update the registry described in [I-D.alvestrand-rtcweb-stats-registry] with the identifiers defined in Section 2.

4. Security Considerations

The security considerations of [I-D.alvestrand-rtcweb-stats-registry], apply.

5. Acknowledgements

This document is a product of discussion in XRBLOCK WG, initial motivation for this documented is discussed in [I-D.huang-xrblock-rtcweb-rtcp-xr-metrics]

The authors would like to thank Al Morton, Dan Romascanu, and Shida Schubert for their valuable comments and suggestions on earlier version of this document.

6. References

6.1. Normative References


[I-D.alvestrand-rtcweb-stats-registry]
6.2. Informative References


Appendix A. Metrics represented using RFC6390 Template

RFC EDITOR NOTE: please change XXXX in [RFCXXXX] by the new RFC number, when assigned and remove this note.

a. Number of Packets Retransmitted Metric

* Metric Name: Cumulative number of RTP Packets retransmitted

* Metric Description: Total number of packets retransmitted from the beginning of the session.

* Method of Measurement or Calculation: Cumulative number of retransmitted packets received from the beginning of the session. The measured value is an unsigned value. If the measured value exceeds 0xFFFFFFFFFD, the value 0xFFFFFFFFFE MUST be reported to indicate an over-range measurement. If the measurement is unavailable, the value 0xFFFFFFFF must be reported.

* Units of Measurement: The counter is increased by one for every retransmitted RTP packet that is received.

* Measurement Point(s) with Potential Measurement Domain: This metric reports the number of retransmitted RTP packets received by the receiver. The measurement of these metrics are made at the receiving end of the retransmission stream and the association of the retransmission and original streams should refer to section 5.3 of [RFC4588].

* Measurement Timing: This metric is applicable to cumulative measurements, which may be the duration of the ongoing RTP session.

* Use and applications: See section 1 of [RFCXXXX].

* Reporting model: Queried periodically by the WebRTC Statistics API.

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