RTP Media Congestion Avoidance Techniques (rmcat)

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Administrativa

Today's slides

http://datatracker.ietf.org/meeting/90/materials.html#session.group-rmcat

Remote participation

http://www.ietf.org/meeting/90/remote-participation.html

Jabber chat

xmpp:rmcat@jabber.ietf.org?join

Mailing list

http://www.ietf.org/mailman/listinfo/rmcat

Agenda

Session 1 (Thursday, 1300-1500)

13:00   WG Status & Milestone Updates (*Chairs*)

13:25   Using RTCP Feedback for Unicast Multimedia Congestion Control

13: 35   Update on Test Cases for Evaluating RMCAT Proposals

13: 45   RMCAT Application Interaction

13: 50   Coupled congestion control for RTP media

14: 10   Using FEC for Congestion Control

14: 30   A self-clocked based algorithm as a RMCAT candidate solution

Agenda

Session 2 (Thursday, 1730-1830)

17:30   Update on NADA and Evaluation Results of Test Cases

18:00   Evaluation results on basic and cellular test cases with Google's algorithm and a potential alternative solution

WG drafts

- Requirements, draft-ietf-rmcat-cc-requirements-05
  - 3 updates since IETF89; Update following comments received during WGLC and subsequent AD evaluation.
  - Submitted to IESG for publication.
  - 06 version to appear for AD follow-up
    - Some editorial nits
    - Add note on Jitter as a non-requirement – Jitter subordinate to primary goal of low delay
    - Invaluable terminology reference to I-D.ietf-rtcweb-overview to be removed. Ask to add explicit terminology for flow definition.

- Evaluation Criteria, draft-ietf-rmcat-eval-criteria-01
  - Clarification of Open Issue 1 discussed on list (x3, x1/3)
  - Next update to leverage on evaluation results

WG Related Drafts

Evaluations, Interactions and Coupling

draft-sarker-rmcat-eval-test-01 (eval) **[updates to be presented]**

draft-sarker-rmcat-cellular-eval-test-cases-00 (eval) **[keep around - tdb]**

draft-zanaty-rmcat-app-interaction-01 (app-interactions) **[updates to be presented]**

draft-perkins-rmcat-rtp-cc-feedback-01 (rtcp-requirements) **[updates to be presented]**

draft-welzl-rmcat-coupled-cc-03 (group-cc)] **[updates to be presented]**

Algorithm Candidates (cc-cand)

draft-alvestrand-rmcat-congestion-02 & draft-alvestrand-rmcat-remb-03 **[no updates since IETF89]**

draft-johansson-rmcat-scream-cc-02 **[new]**

draft-ohanlon-rmcat-dflow-02 **[status unknown]**

draft-singh-rmcat-adaptive-fec-00 **[new]**

draft-zhu-rmcat-nada-03 **[updates to be presented]**

WG Status - Issues (1)

Document deficiencies of existing CCs, e.g., TRFC, LEDBAT ?

- Existing charter text:

  The working group will:
  - Develop a clear understanding of the congestion control requirements for RTP flows, **and document deficiencies of existing mechanisms such as TFRC with regards to these requirements.** This must be completed prior to finishing any Experimental algorithm specifications.

- To keep (and do !) or to loose ?

WG Status - Issues (2)

Evaluation process of CC candidates

- May start to adopt soon. Please bring proposals forward "now".

- Please
  - (1) clarify specifications based on WG discussion,
  - (2) evaluate proposals according to at least the eval-criteria (but possibly also in other scenarios),
  - (3) ideally also implement and evaluate the proposals of others in their respective test setup
  - (4) report the results back to the WG for discussion.

- Will publish as experimental only when consensus that it is safe to experiment on Internet without significant risks.

Charter Update Proposal on CC evaluations

- Find or develop candidate congestion control algorithms ~~verify~~ fulfilling the goals set forward. Evaluate the candidates according to the goals and evaluation criteria set forward, as well as, ideally, up against one another, thus reaching a good understanding of the behavior of each algorithm including, most significantly, a verification of that these can be tested on the Internet without significant risk. Publish one or more of these verified algorithms as Experimental RFCs.

- Publish evaluation results of experimentation with these Experimental algorithms on the Internet. The evaluation performed shall adhere to the evaluation criteria specified but may possibly also take other aspects or scenarios into account. This must be completed prior to finishing any Proposed Standard algorithm specification.

Milestones

- Milestones to be updated to reflect the present status (timing)
- Split milestones on Coupled Congestion Control into 2: Controlling Groups and Grouping and Identifying Groups
- Milestones on RTCP extensions for use with congestion control algorithms conjectured to be removed. TBD.

Milestones Update Proposal

- [Done] Adopt first WG draft on requirements
- [Done] Adopt first WG draft on evaluation criteria
- [Done] Submit requirements to IESG as Informational
- [Aug 2014] Adopt first WG draft on controlling groups of flows
- [Nov 2014] Adopt first WG draft of interactions between applications and RTP flows
- [xx] Adopt first WG draft of RTCP extensions for use with congestion control algorithms (if needed)
- [Dec 2014] Submit evaluation criteria to IESG as Informational
- [Dec 2014] Adopt first congestion control candidate as WG draft
- [Mar 2015] Adopt first WG draft on identifying groups of flows
- [Jun 2015] Submit interactions between applications and RTP flows to IESG as Informational
- [xx] Submit RTCP extension requirements for use with congestion control algorithms to AVTCORE (if needed)
- [Jun 2015] Submit first congestion control candidate to IESG for Experimental publication
- [Jun 2015] Submit controlling groups of flows to IESG for Standards Track publication
- [Jun 2015] Submit identifying groups of flows to IESG for Standards Track publication
- [Sep 2015] Publish first draft of evaluation results
- [Sep 2015] Publish first draft of Standards Track congestion control algorithm
- [Sep 2015] Publish first draft of techniques to detect, instrument or diagnose failing to meet RT schedules
- [May 2016] Submit techniques to detect, instrument or diagnose failing to meet RT schedules to IESG as Informational
- [May 2016] Submit congestion control to IESG for Proposed Standard

Note

- DSCP Markings
    - draft-york-dart-dscp-rtp-00.txt to clarify usage of DSCP markings for real-time network communication including RTCWEB.
    - draft-ietf-tsvwg-rtcweb-qos-00 provides the recommended DSCP values for browsers to use for various classes of traffic
    - Presently they demand for possibility to have different DSCP markings, drop precedence only, within same media flow.