

# Test Cases for Evaluating RMCAT Proposals

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# Changes to eval-criteria

- Move Evaluation Parameters to this draft
- Move Appendix B to this draft
  - Proposal to evaluate Self-fairness of RMCAT congestion control algorithm

# Motivation

- Move the test cases from the eval-criteria draft
- Compare the performance of the algorithm(s) for a set of basic test cases.
- All tests have the same structure
- Easily extend the test case with new attributes

# Common Structure (1/2)

- Description of the test
  - Why this test needs to be done?
  - What is the desired behaviour?
  - How to measure the behaviour? (metrics)

# Common Structure (2/2)

- Topology
  - Number of media sources
  - Number of competing sources
- Test bed attributes
  - Path characteristics
  - Media traffic characteristics
  - Competing Traffic characteristics

# Media source

- Range of adaptability:
  - Bit rate,
  - Frame rate, frame resolution (video),
  - Frame size, sampling frequency (audio)
- Encoder's responsiveness
  - How quickly does it produce a new rate
  - Variation in the encoder output for a given target rate
- Traffic Timeline
  - When to start and stop the media for each flow

# Competing traffic

- Type and Number of sources
- Congestion control
  - TCP CUBIC, NewReno, Vegas, ...
- Traffic timeline
  - When to start and stop the traffic for each competing traffic source.

# Test cases

1. Single Flow with variable channel capacity
2. Single Flow on a limited path capacity
  - Maximum media bit rate is higher than the available path capacity
3. Multiple RMCAT flows using the same algorithm
4. Competing with a long TCP flow
5. Competing with a short TCP flow
6. Feedback channel is congested
7. RTT fairness: multiple media flow with different path RTTs
8. Media pause and resume



# Open Issues

- Model short TCP
  - Better or more realistic model
- Reaction to ECN
  - Test case requires input

# Wireless Test Cases

- LTE Wireless cases in [draft-sarker-...]
  - Next presentation
- WLAN wireless model
  - Test case requires input

# Next Steps

- Is this the right structure for the test cases?
- What other test cases are we missing?
- Adopt for WG item