Status Update on NADA

draft-ietf-rmcat-nada-03

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Outline

- Draft update after Berlin (IETF-96)
- Minor algorithm update
- Example evaluation results
- Next steps

Draft Update from -02 to -03

- Minor algorithm update to a simpler form of non-linear warping in Eq. (1).

- Clarified criteria for invoking non-linear warping

- Per chairs' request, added Section 8 on additional suggested experiments

- Corrected previous calculation errors on feedback message overhead (Sec. 5.3 and Sec. 6.3)

Algorithm Update on Non-Linear Warping

- Criteria for invoking non-linear warping:
  - if loss is observed within the previous time window of TEXPLOSS

- Updated non-linear warping equation:

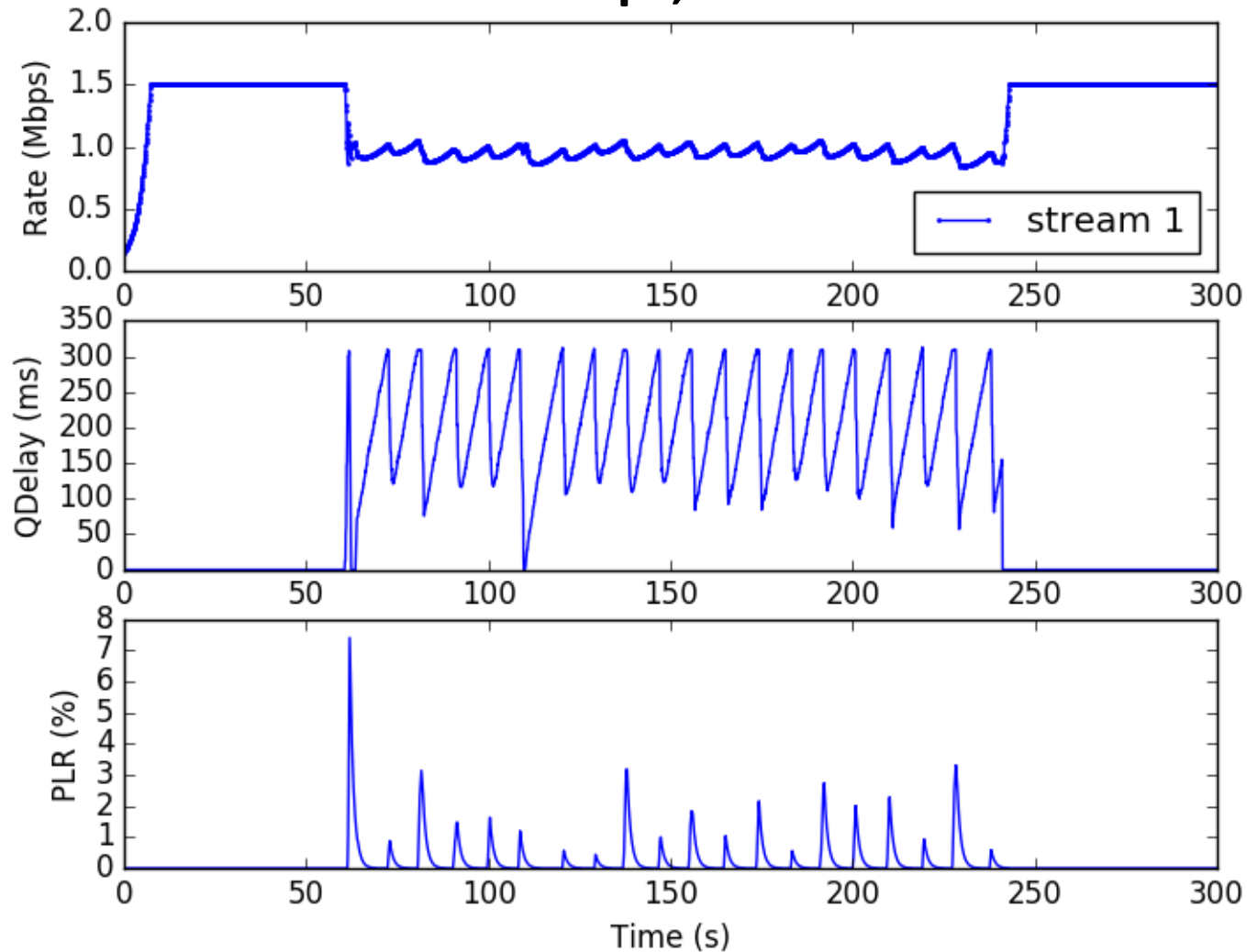$$d_{tilde} = Q_{TH} e^{-\lambda \frac{d_{queue} - Q_{TH}}{Q_{TH}}}, \quad \text{if} \ \ d_{queue} > Q_{TH}$$

- Parameters:
  - QTH: reflection point of applying non-linear warping
  - LAMBDA: tunes shape of the non-linear warping function; affects how aggressively NADA competes against other loss-based flow (e.g., TCP)
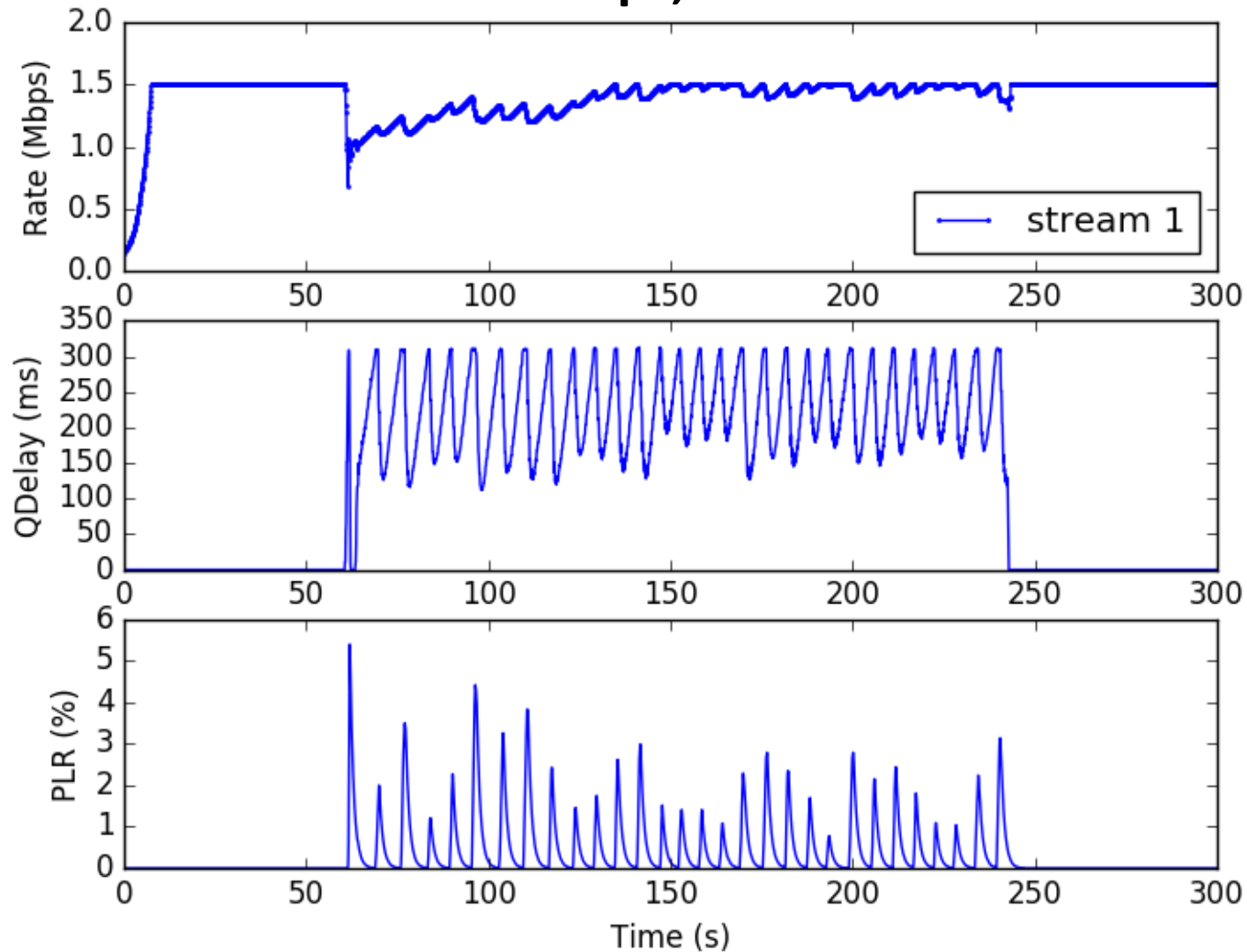
Non-Linear Warping Function
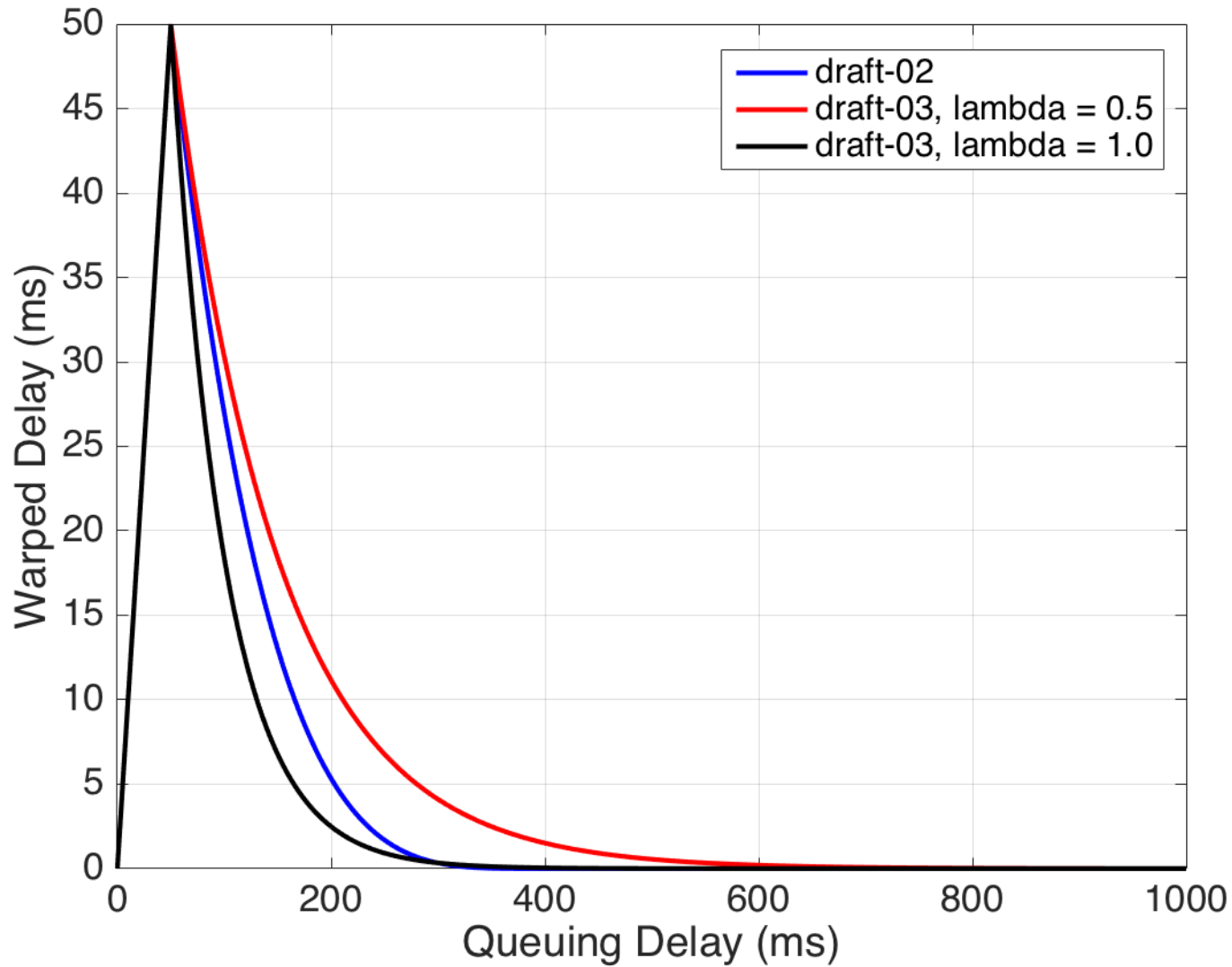
Updated Result in Competing with TCP

Total BW = 2Mbps, LAMBDA = 0.5

Updated Result in Competing with TCP

Total BW = 2Mbps, LAMBDA = 1.0

Next Steps

- Implementation of NADA, including the rate shaping buffer as part of a stand-alone module for the rmcat congestion control framework in ns3

- Update evaluation results for wired and wireless (over WiFi networks) test cases

- Explore other test scenarios: presence of AQM, ECN, driven by synthetic video traffic sources, etc.

- Draft now ready for WGLC