

Updates on NADA

draft-ietf-rmcat-nada-00

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Outline

- Algorithm update
- Preliminary test w/ live video encoding
- Highlights of Wi-Fi test results
- Work in progress

Minor Algorithm Update for Accelerated Ramp-Up

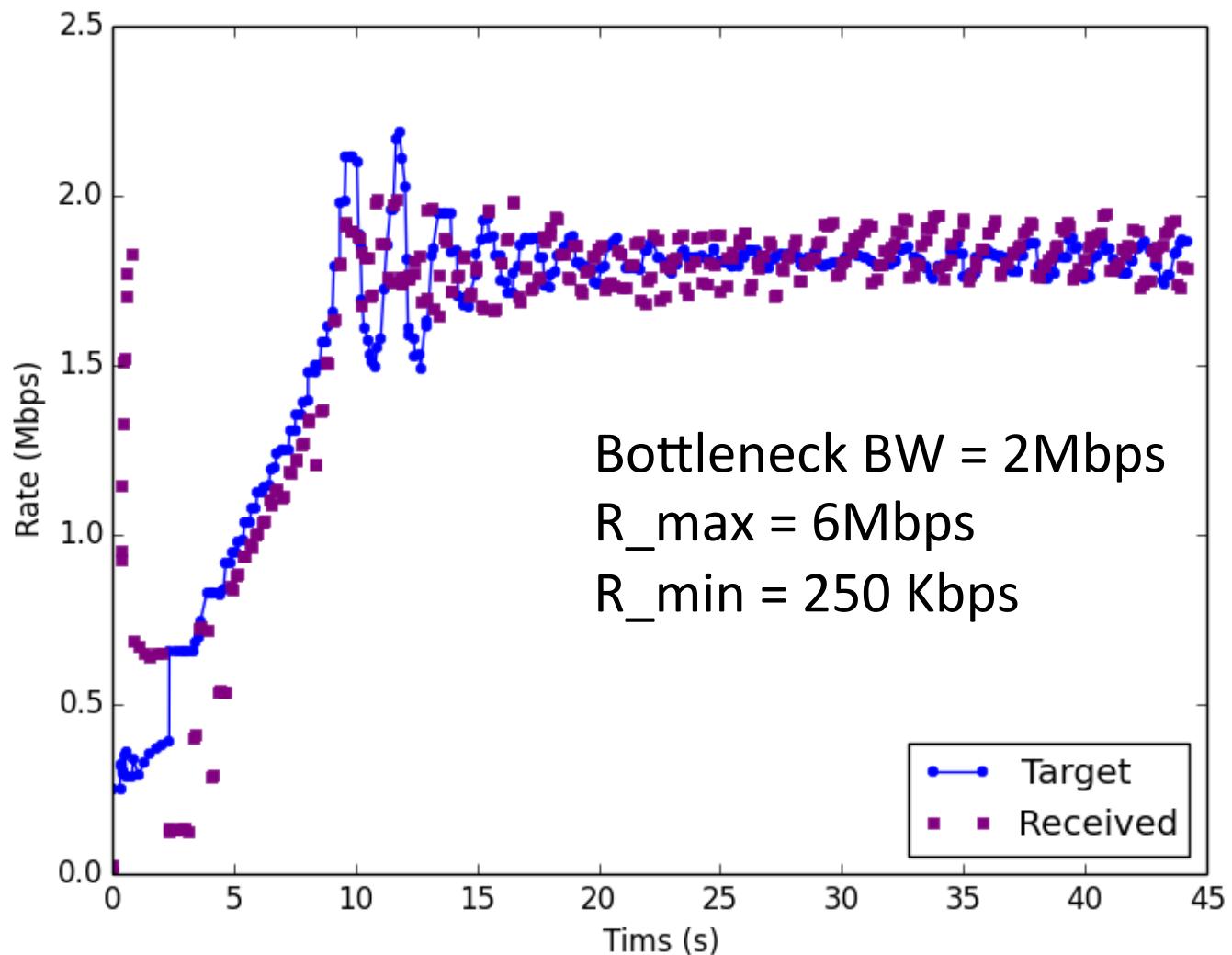
$$R_n = (1 + \gamma)R_r$$



$$R_n = \max[(1 + \gamma)R_r, R_n]$$

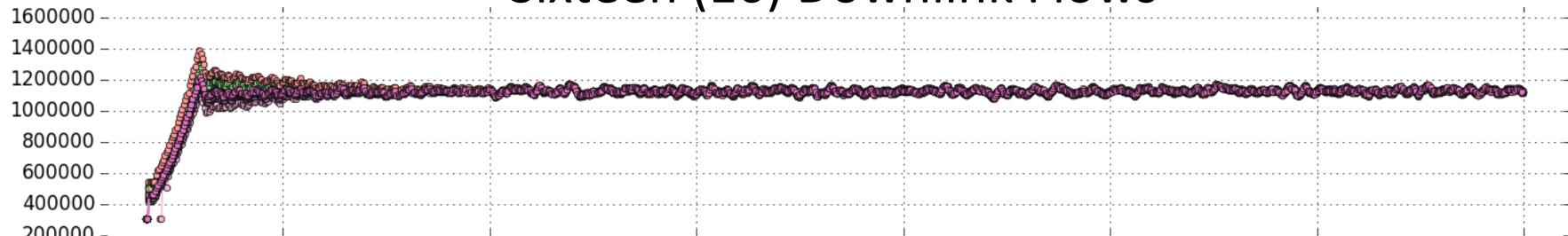
- Accommodates the scenario where live encoder output rate falls short of target rate
- Avoid inadvertent rate decrease in the absence of congestion

Test Results with Live Video Encoder

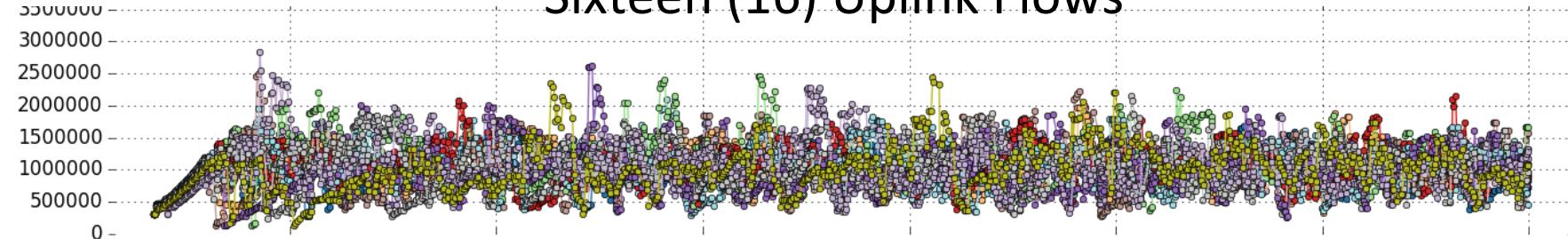


Wi-Fi Test Case Results

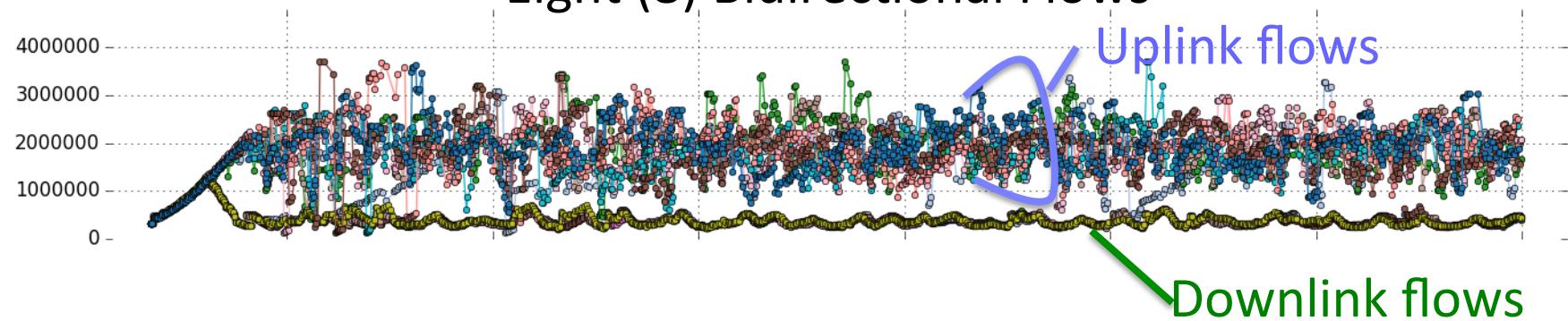
Sixteen (16) Downlink Flows



Sixteen (16) Uplink Flows



Eight (8) Bidirectional Flows



Summary of Observations

- Bottleneck at wired link: behavior similar to that over wired-only networks
- Bottleneck at wireless hop:
 - Downlink: less overall congestion and more stable and fair share of bandwidth
 - Uplink: higher delay and loss due to contention
 - Bidirectional: uplink streams obtain have an unfair advantage over downlink streams
- *Note: Difference between uplink/downlink streams independent of the congestion control scheme in use*

[See Interim slide for more details]

Work In Progress

- Analysis of impact of parameter values
- Fine-tuning of algorithm behavior regarding:
 - Packet loss ratio estimation
 - Switching between delay- and loss-driven adaptation
 - Bandwidth sharing vs. TCP
- Evaluation with more realistic traffic sources
 - Trace-based synthetic traffic source
 - Integrated with live video encoder
- More wireless-based tests