

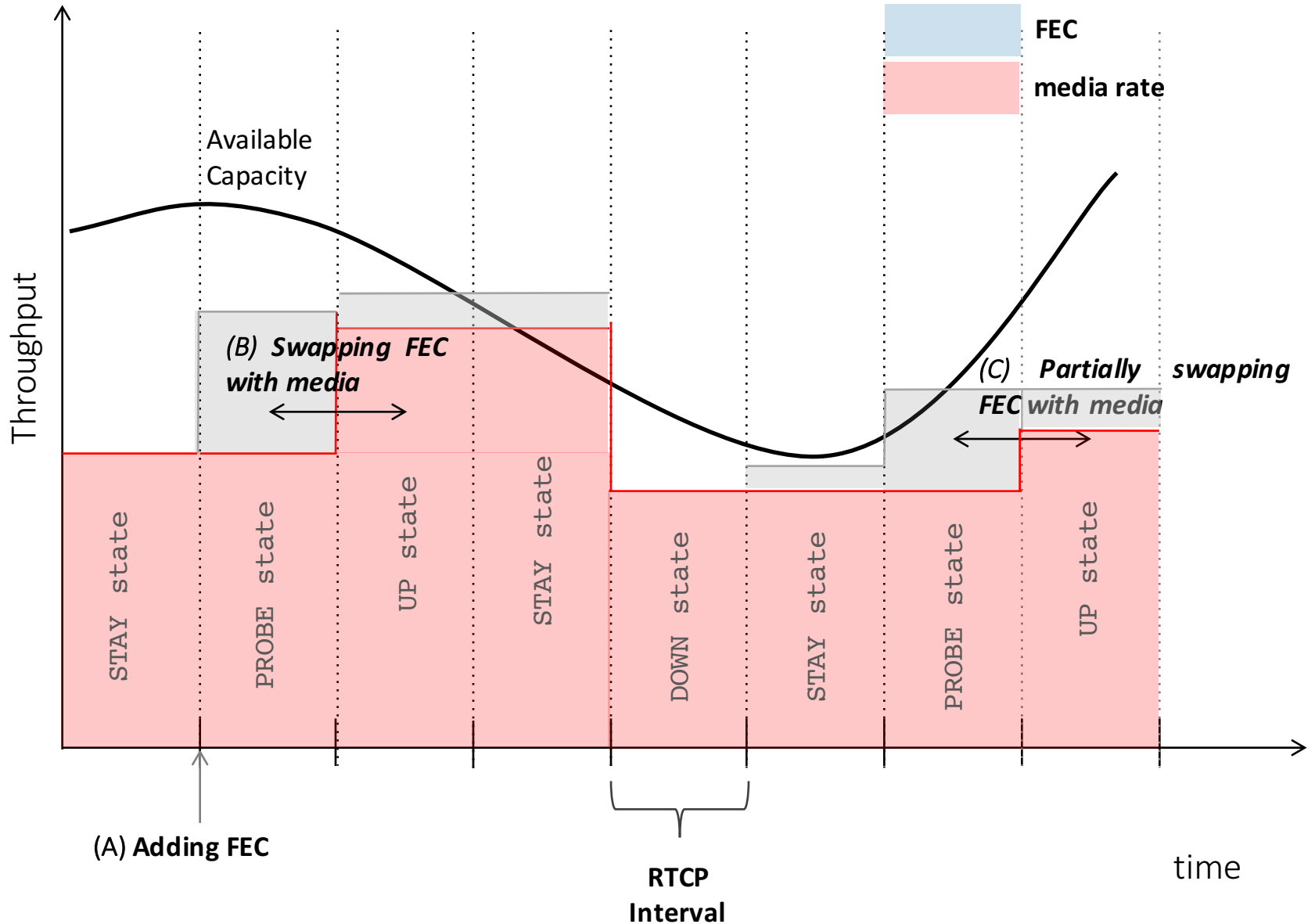
Adaptive FEC for Congestion Control

Varun Singh, Marcin Nagy, Jörg Ott, Lars Eggert, **Balazs Kreith**

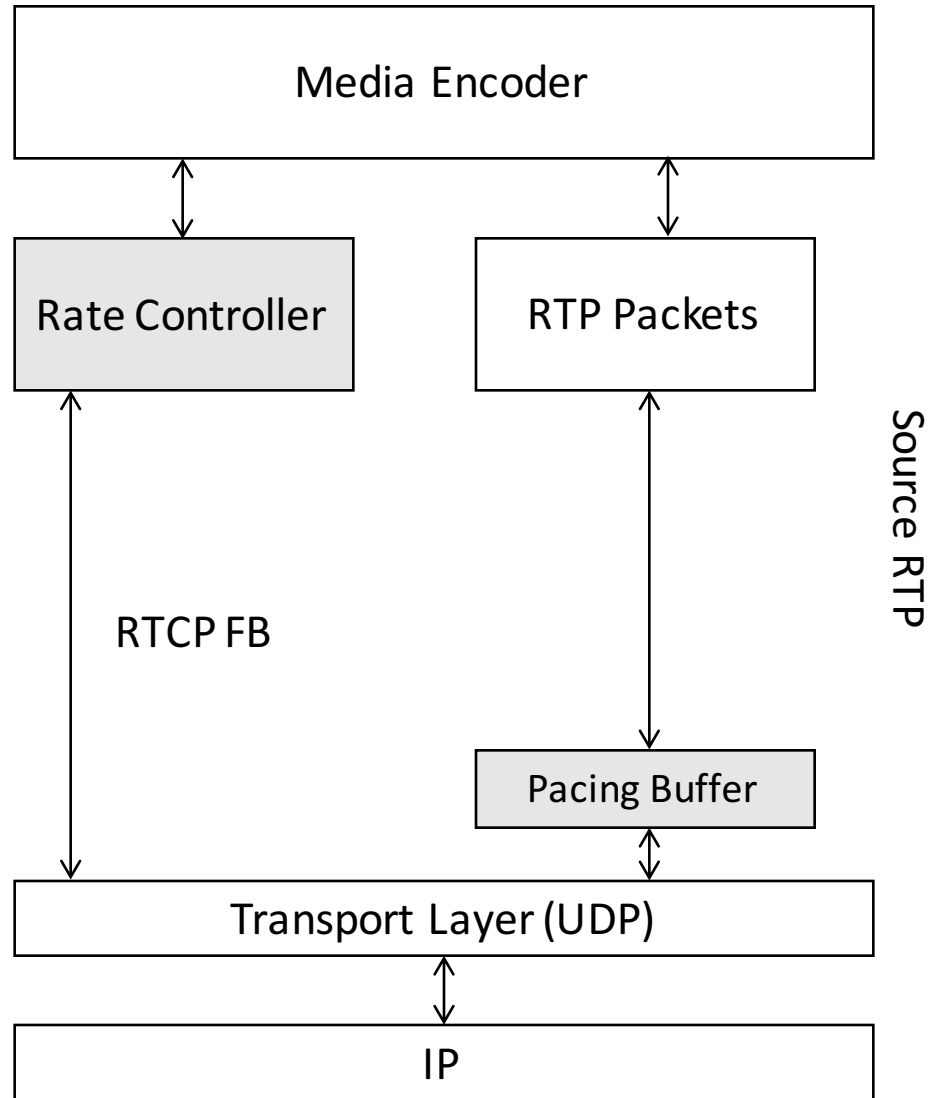
IETF 96, Berlin, 18. July 2016

tools.ietf.org/html/draft-singh-rmcat-adaptive-fec

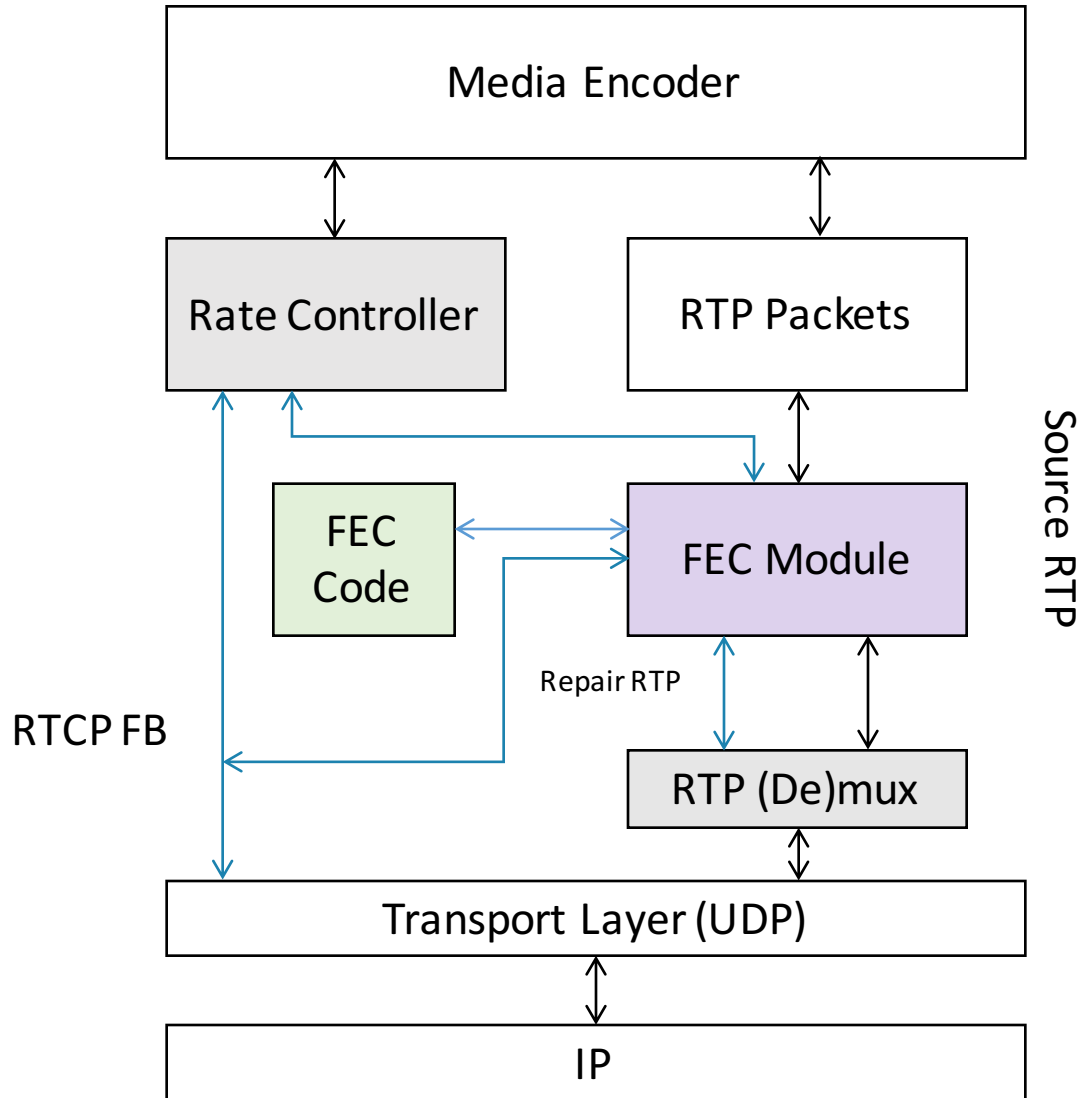
CONCEPT



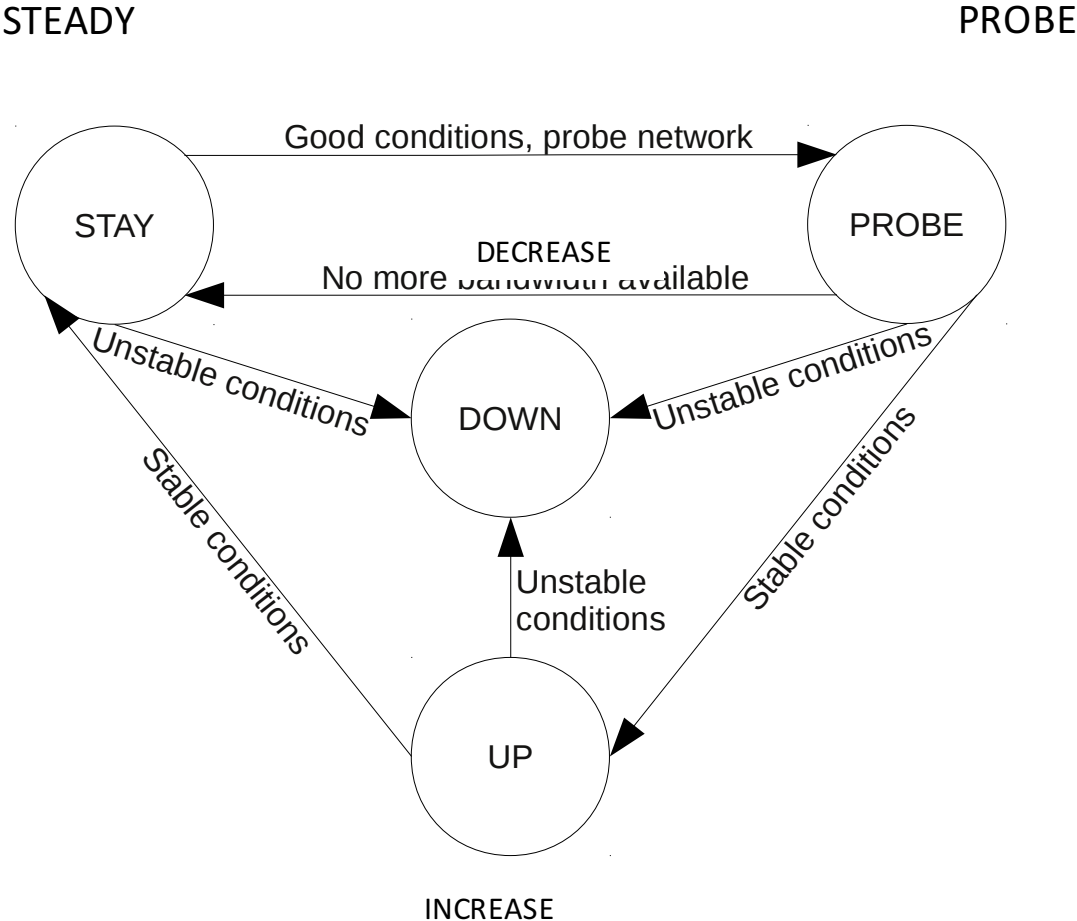
CC Framework



RFC 6363: FEC Framework



State Machine



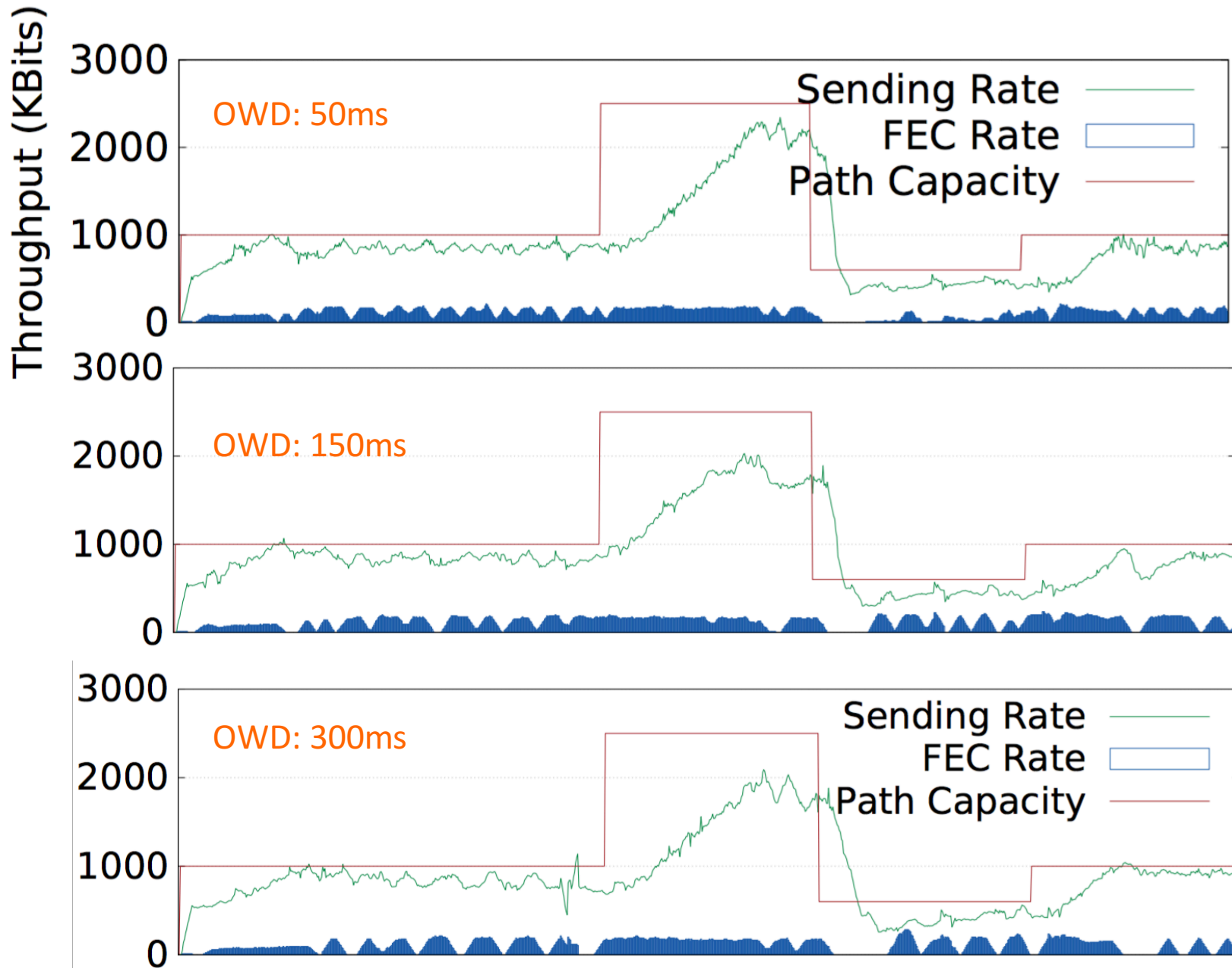
RTCP Feedback

- RLE of loss packets (RFC3611)
- RLE of discarded packets (RFC7097)
- Packet count of lost and repaired packets (RFC7509)

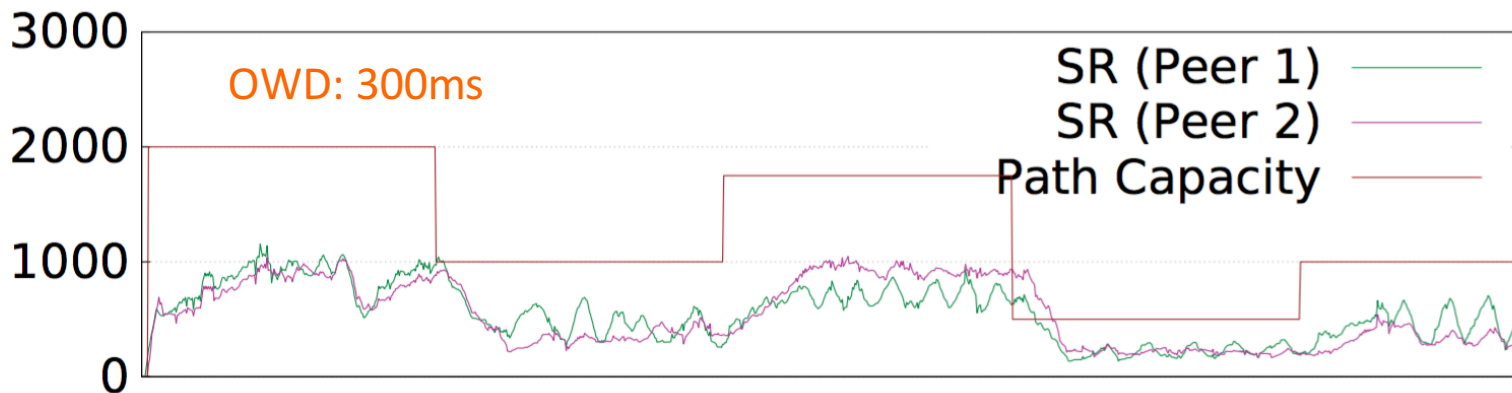
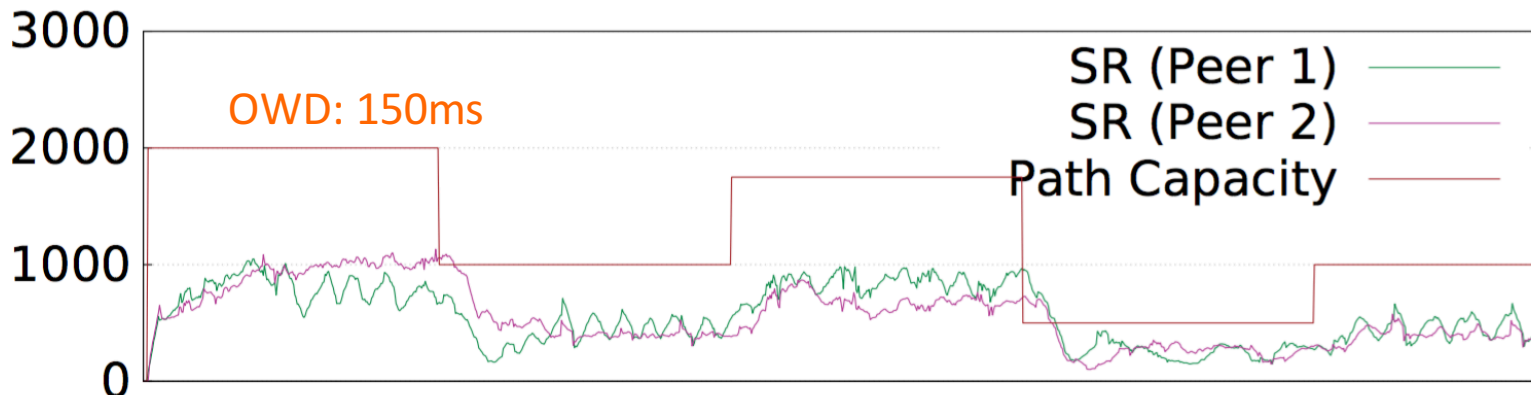
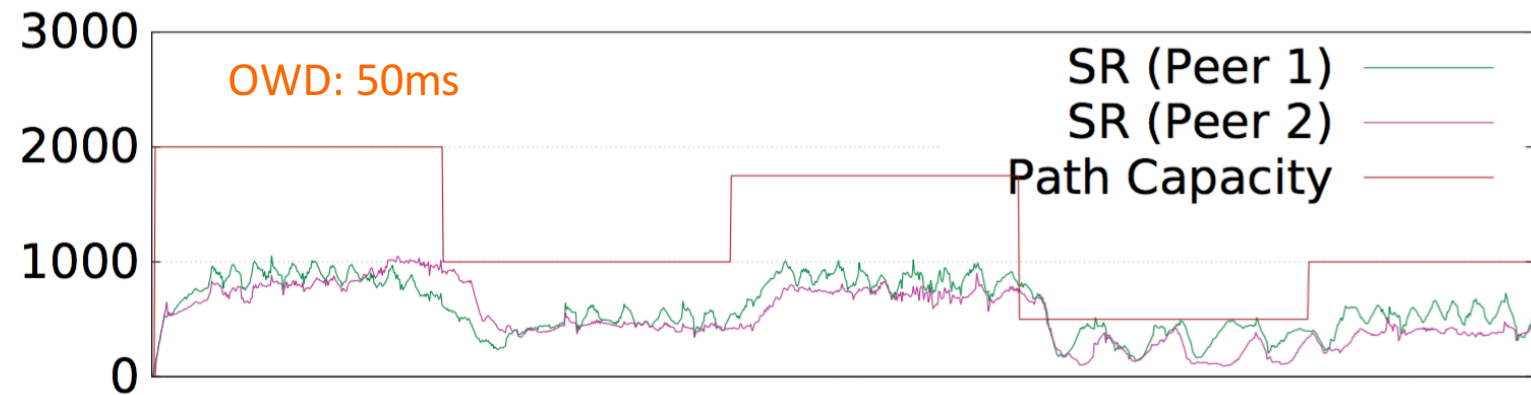
Applicability

- Implemented over a delay-based congestion control
 - See paper for details
 - Code: (coming soon) → <https://github.com/multipath-rtp/>
- Implemented in OpenWebRTC
 - Implemented by github.com/balazskreith

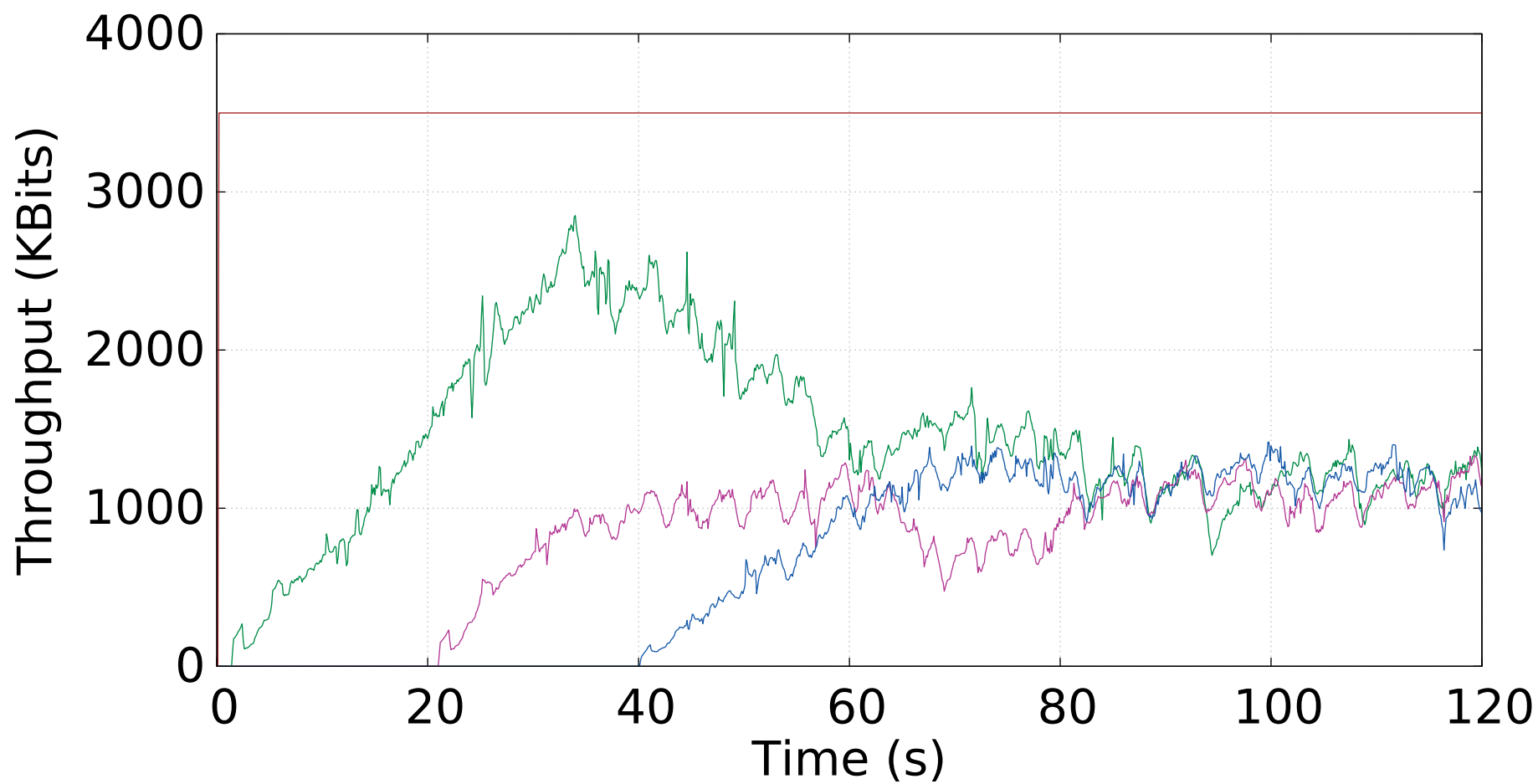
Test case 1



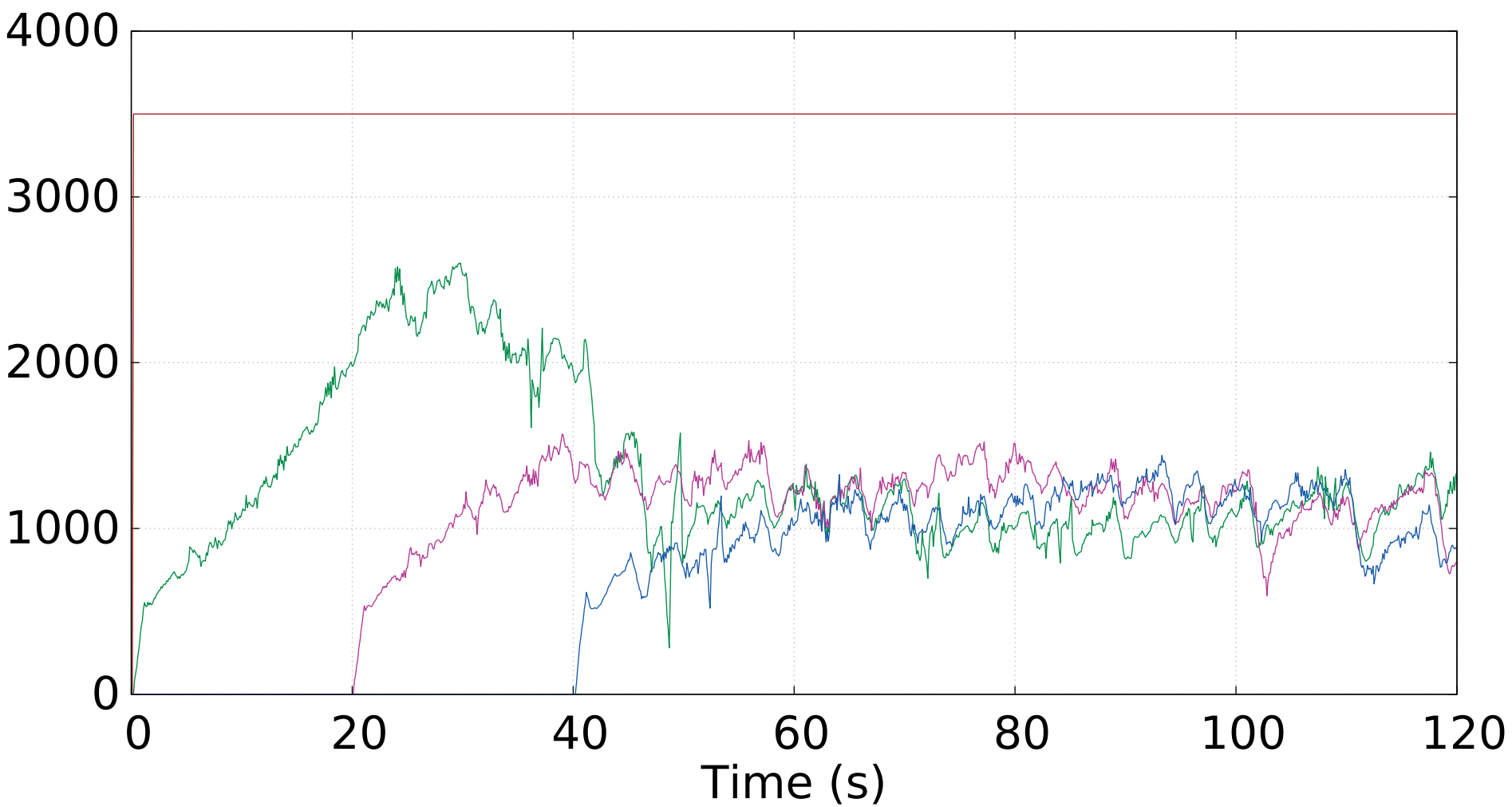
Test case 2



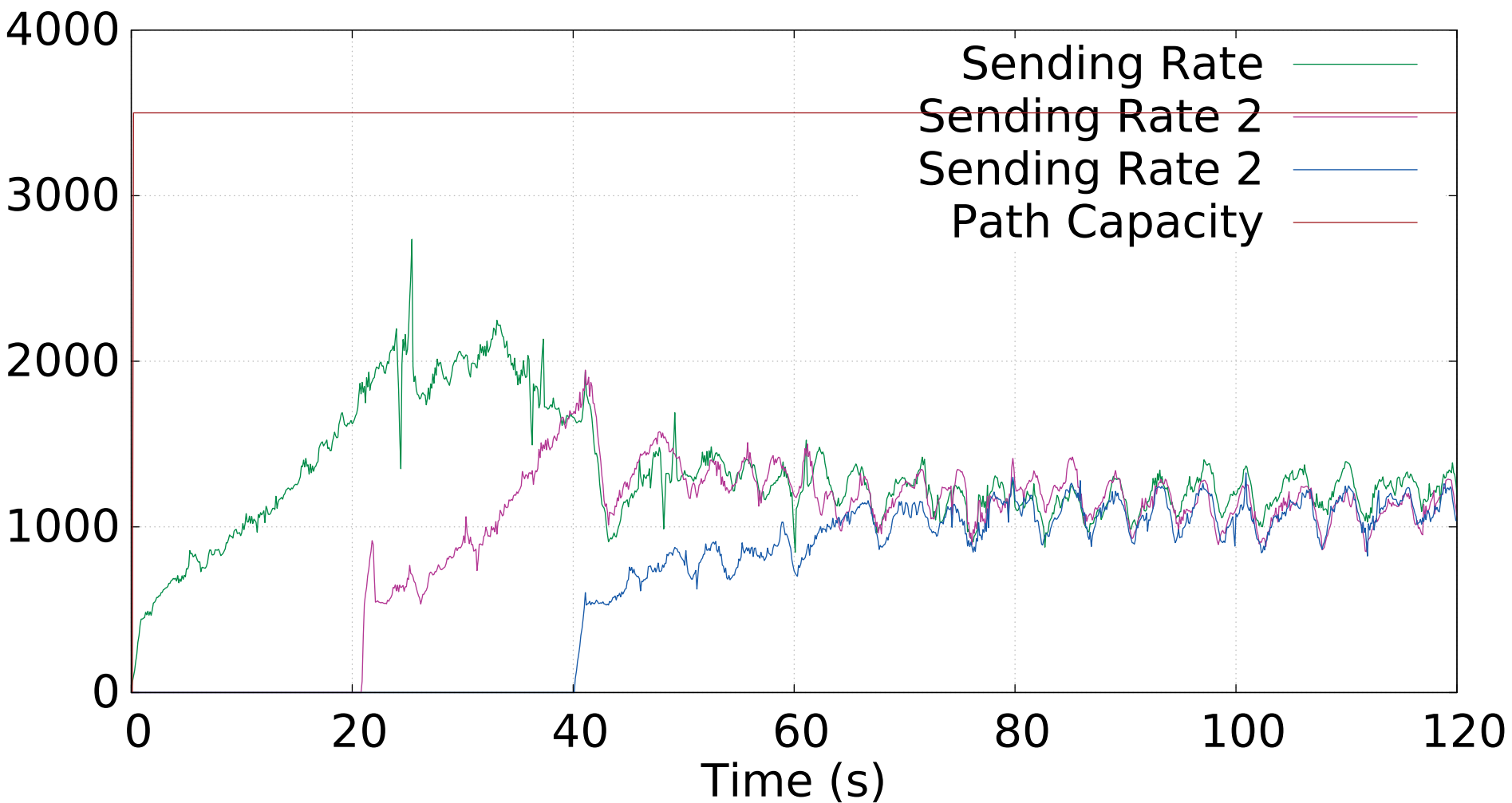
Test case 4 (a): 50ms



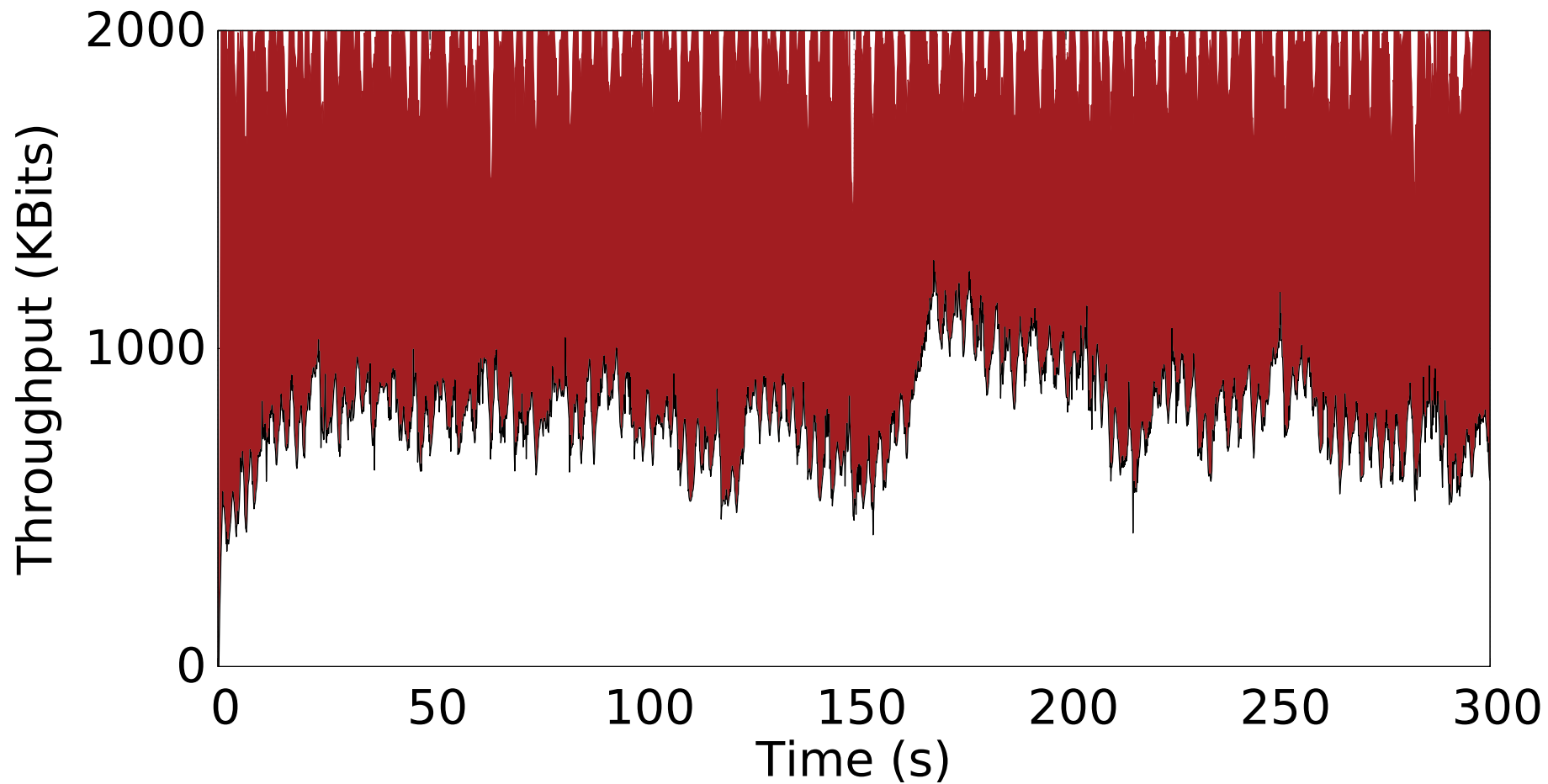
Test case 4 (b): 150ms



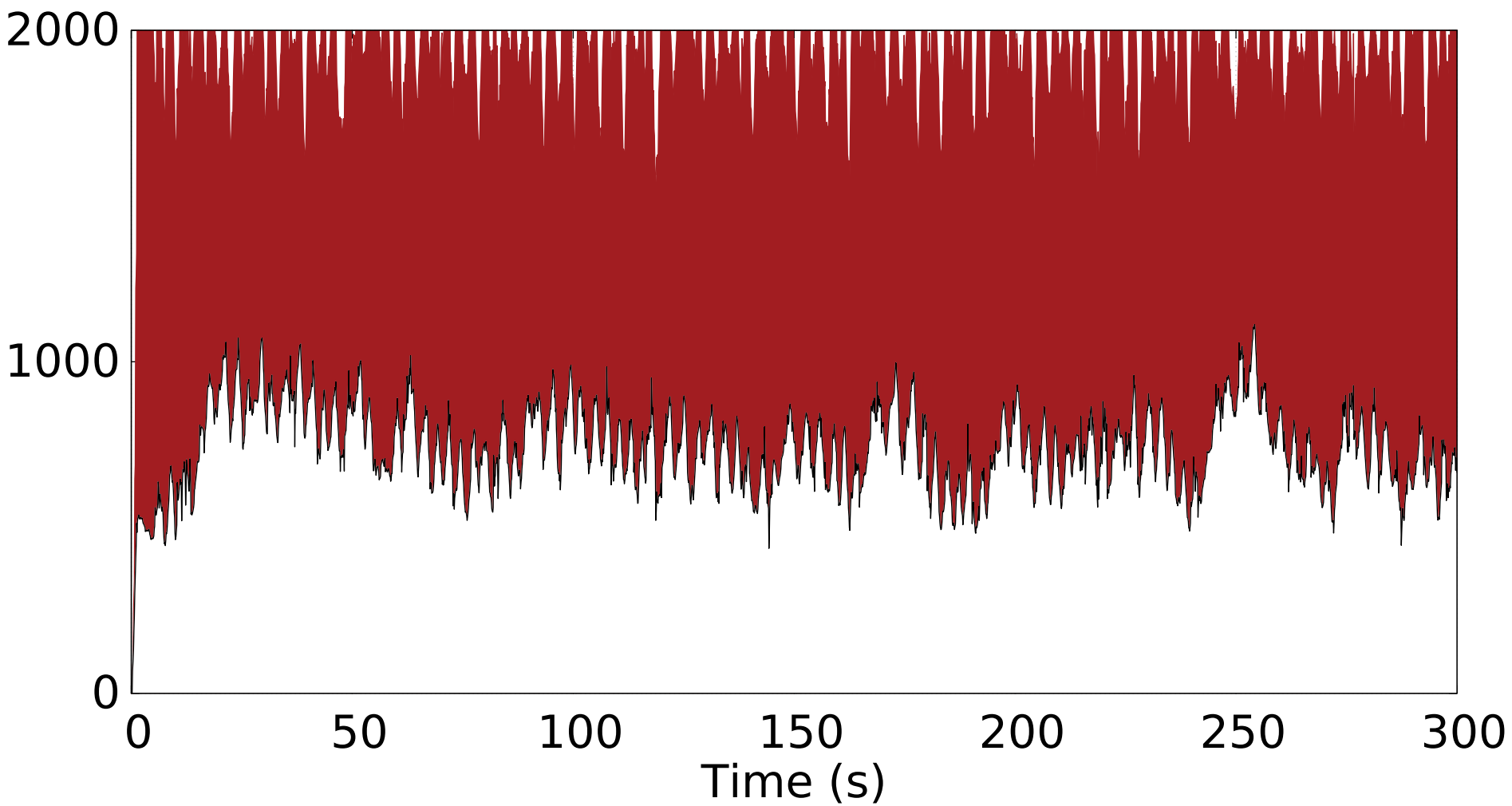
Test case 4 (c): 300ms



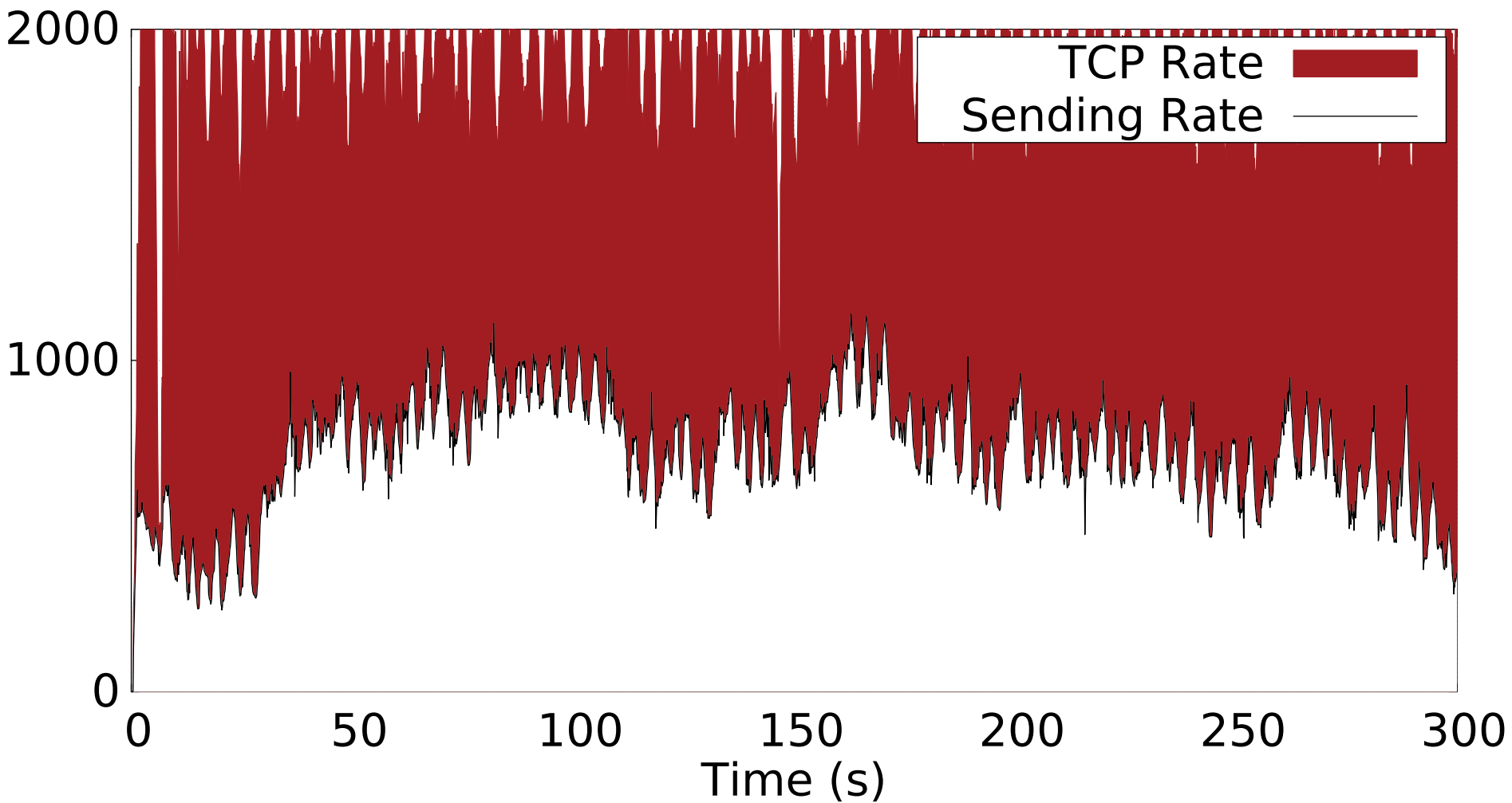
Test case 6(a): 50ms



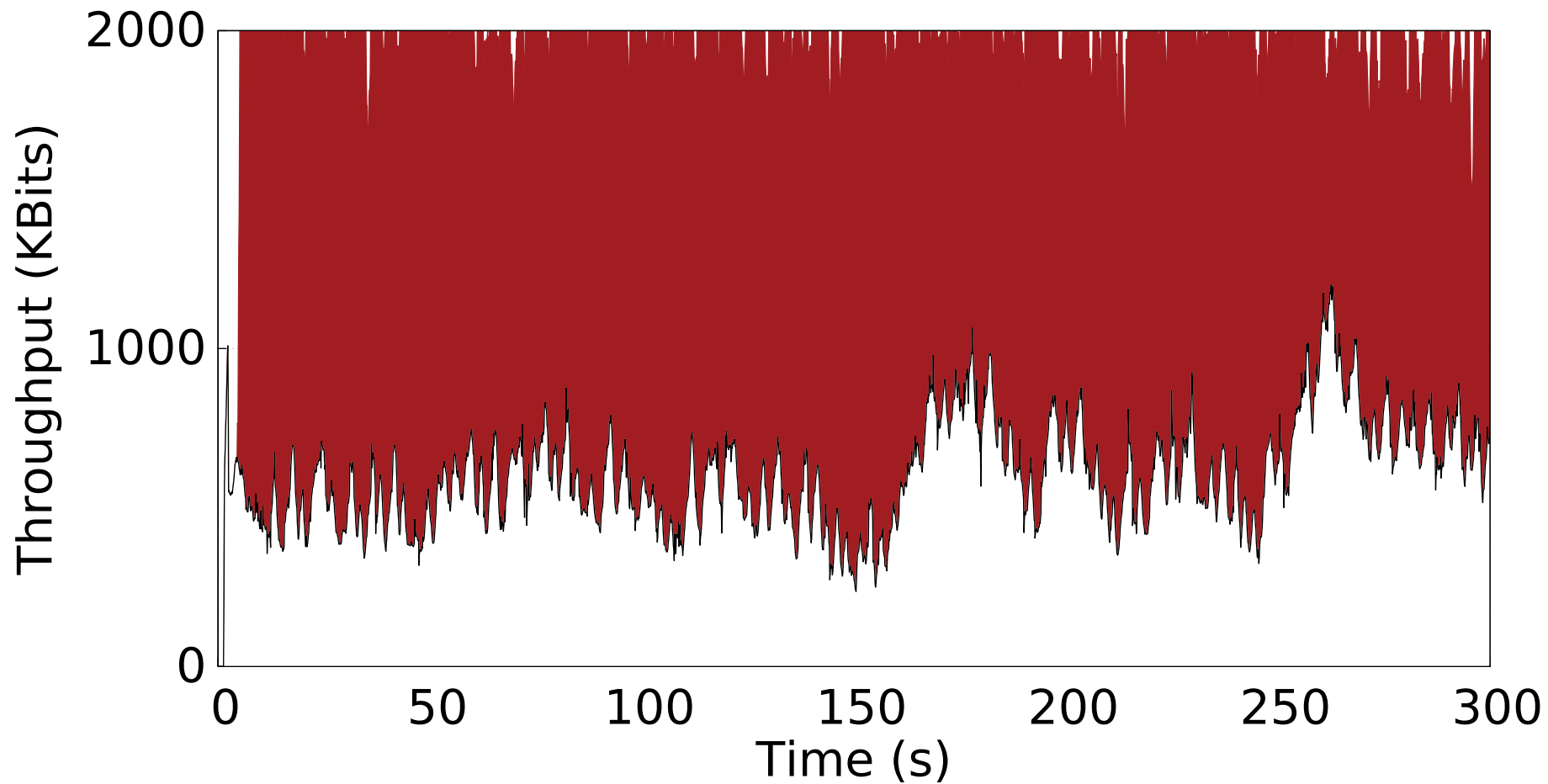
Test case 6(b): 150ms



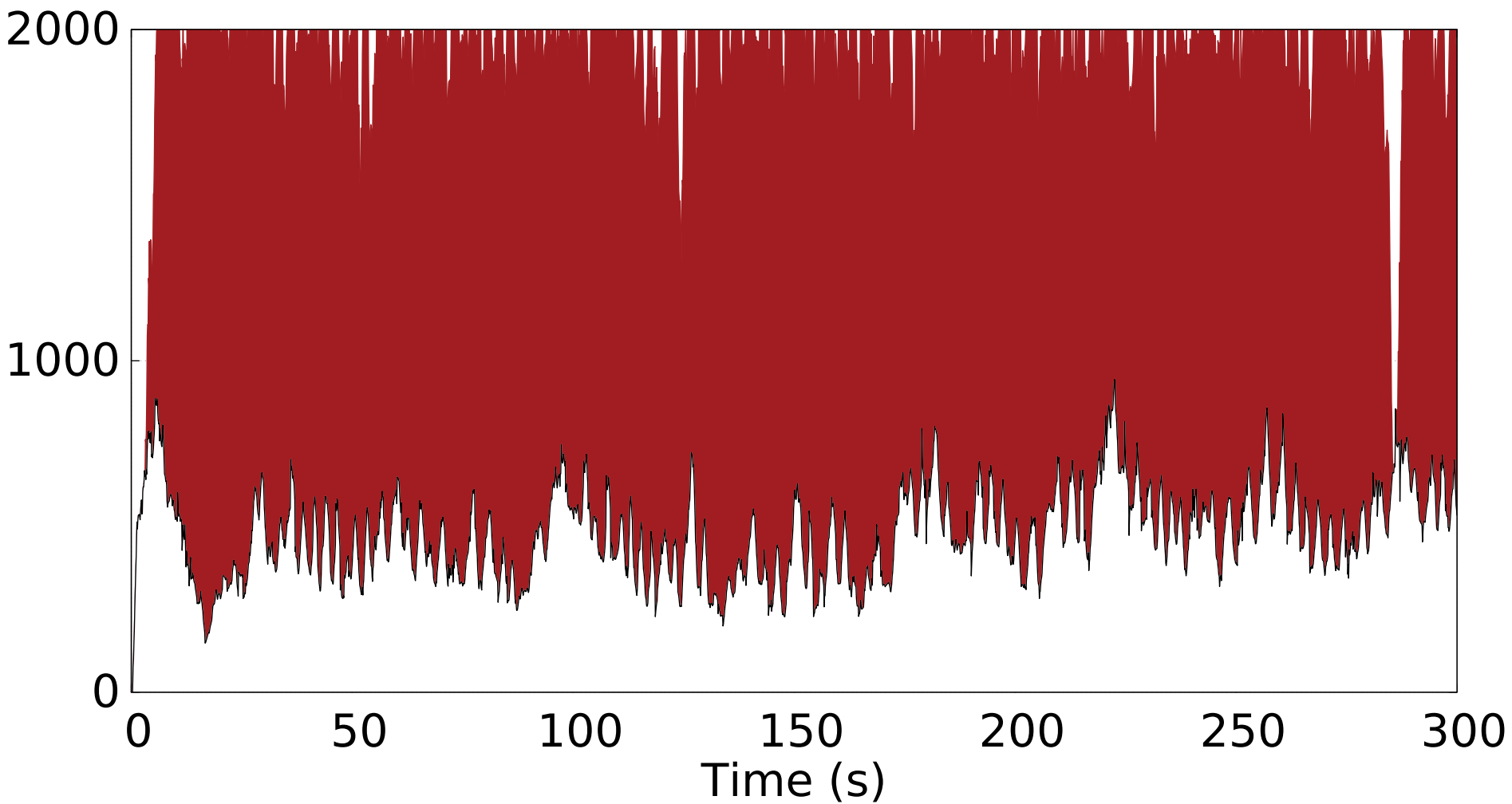
Test case 6(c): 300ms



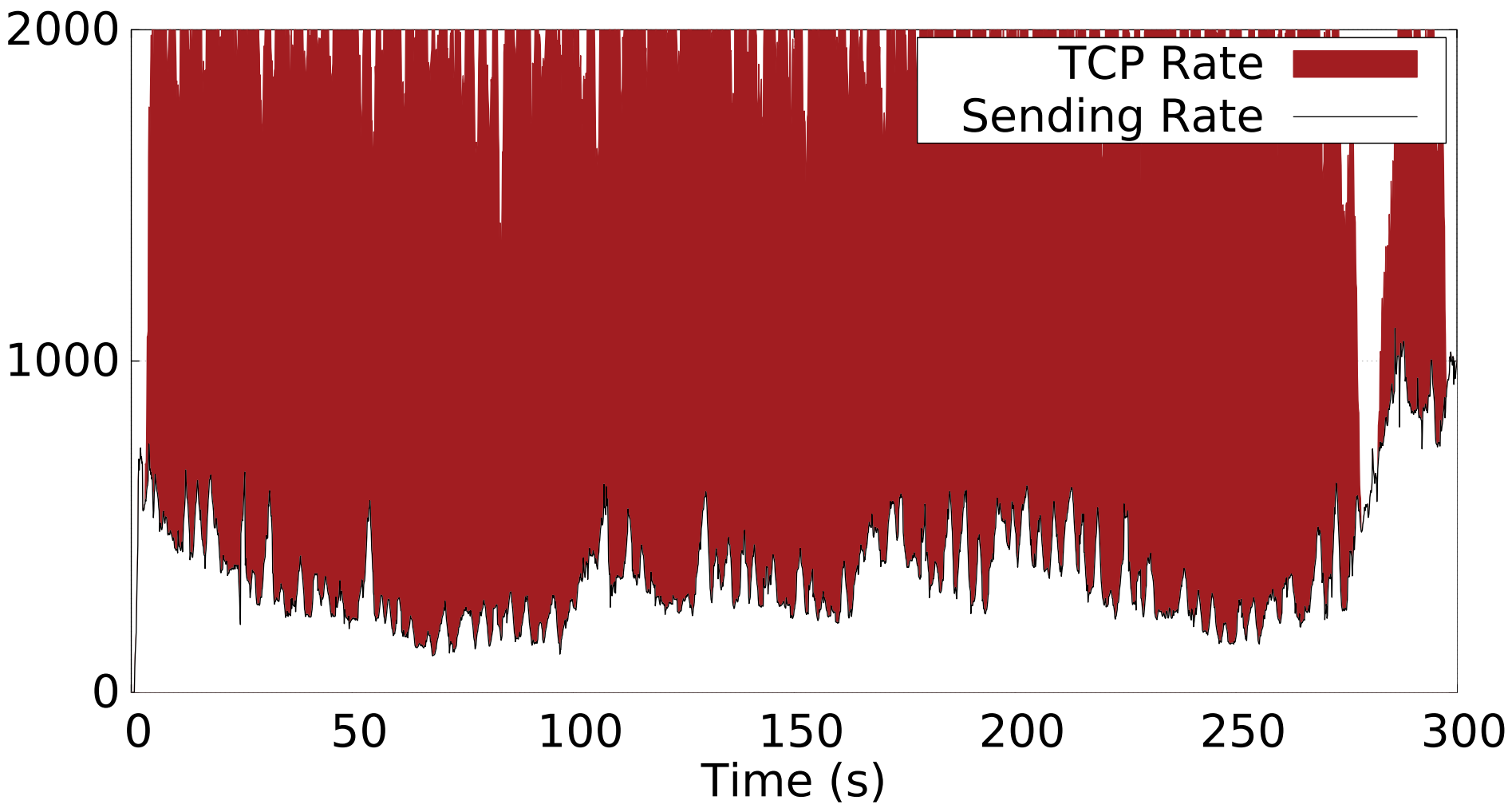
Test case 7(a): 50ms



Test case 7(b): 150ms



Test case 7(c): 300ms



Next Steps

- Generalized mechanism?
- Specific mechanism?