

Faster Restart for TCP Friendly Rate Control (TFRC)

[draft-ietf-dccp-tfrc-faster-restart-06.txt](#)

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Issues

- RFC 3448 had inherent problems with bursty applications in idle and data-limited periods.
- Faster Restart was proposed for idle periods
 - Showed very good performance improvements.
- Simultaneously, RFC 3448 was reopened.
 - More for data-limited periods.
 - RFC 5348 mitigated the data-limited problem.
 - Good result of the Faster Restart work item.

Application Issues

- Faster Restart no effect for continuous bulk applications:
 - e.g. Streaming media.
- Thought to be useful for conversational class:
 - e.g. VoIP, Videoconferencing, Any other applications?
- VoIP traffic is more data-limited, than idle (in low congestion).
 - VoIP traffic model: Exponential distribution, mean burst = 0.352s, mean idle = 0.65s.
 - Sriram & Whitt, Globecomm 1985.
- Simulations show Faster Restart offers *slight* improvements compared RFC 5348 for these parameters.

Network Issues

- Results examining path change from high to low capacity:
 - Worst case scenario – where all flows reached encoding rates, went idle, path changes and then restarted.
 - e.g. 100 Mbps, 100 ms link, eight 512 kbps flows, went idle for 5 seconds, then link changed to 1 Mbps. Flows restart randomly. Packet drop-rate at router measured for 5 seconds.
 - 36% packet droprates for RFC5348 and 38% packet droprates for Faster Restart!!
- But, is this *bad*?

Status

- Extensive simulations have been performed.
- No changes have been made to the draft.
- More work needs to be done:
 - Better application models required.