Advice on network buffering

draft-fairhurst-tsvwg-buffers-00

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Existing buffering advice: § 13 RFC3819
Advice for Internet Subnetwork Designers (BCP)

- Tentatively recommended RED & ECN
- Recommended large buffers
  - \( \text{link} \_\text{bandwidth} \times \text{link} \_\text{delay} \text{ product} \times N \)
- At that time
  - L2 equipment had very short buffers
  - research on sizing buffers was immature (just) [McKeown Sizing Router Buffers, SIGCOMM’ 04]
- We want to fix the advice
Proposed flow of logic

• A long-running TCP will fill a tail-drop buffer if it is the bottleneck
  • hard to test, because intermittent
  • conditional on coincidence of 4 pathologies
• Therefore implementers should use AQM & ECN
  • in every buffer: subnet, router, middlebox or host
  • later section lists candidate AQMs
• If line rate adjusts, buffer should adjust accordingly
• If no AQM in existing buffers
  • advice for operator on buffer sizing
• If no auto-adjustment in existing buffers
  • advice for operator on static buffer sizing
enlisting help of ICCRG

- draft is currently a fairly empty vessel
  - individual -00 version
  - intended for IETF tsvwg
  - intended status: best current practice (BCP)

- specific sections on buffer sizing for
  - host, router/switch/middlebox (edge & core)
  - flow isolation

- need consensus on content for these sections