Operational Guidance for Deployment of L4S in the Internet

draft-ietf-tsvwg-l4sops-02

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Scope & Status

• Addresses the concerns raised about possible rate-imbalance in shared-queue RFC3168 bottlenecks
  • Guidance for Operators of End-hosts, Operators of Networks, Researchers

• WG Draft Adopted on March 26
  • Draft-00 (May 2021)
  • Draft-01 (July 2021)
  • Draft-02 (October 2021)
  • No WG milestone identified
Outline

1. Introduction
2. Per-Flow Fairness
3. Flow Queuing Systems
4. Detection of Classic ECN Bottlenecks
   4.1. Recent Studies
   4.2. Future Experiments
5. Operator of an L4S host
   5.1 Server Type
   5.2 Server deployment environment
6. Operator of a Network Employing RFC3168 FIFO Bottlenecks
   6.1 Preferred Options
   6.2 Non-Preferred Options
   6.3 Last Resort Options
7. Operator of a Network Employing RFC3168 FQ Bottlenecks
8. Conclusion of the L4S experiment
   8.1. Termination of a successful L4S experiment
   8.2. Termination of an unsuccessful L4S experiment
ToDo in Section 5.2.2

• §5.2.2 provides suggestions for hosts that serve a wide variety of networks.

• Most recent study of RFC3168 AQM prevalence pointed to a small number of networks where it appeared to be deployed more heavily, and otherwise it was rare.

Therefore, it may be possible for a host to maintain a list of networks where L4S should not be enabled, and, for other networks, to cache a list of end host ip addresses where a RFC3168 bottleneck has been detected. Entries in such a cache would need to age-out after a period of time to account for IP address changes, path changes, equipment upgrades, etc.

• ToDo: provide more info on ways to cache/maintain such a list.

• Seeking input from the WG
Status / Next Steps

• No updates to the draft since last IETF
• No new contributions or comments received
  • WIP draft-03 has only typographical fixes
• Original plan was for this to remain a draft during the L4S experiment
  • Is this still the desired path forward?