IETF Hackathon

IETF 108
L4S Summary
July 20-23, 2020
Online

Motivation

- Low Latency, Low Loss, Scalable Throughput (L4S) architecture is being worked on by the IETF TSVWG
- Evaluation has been conducted to date using small physical testbeds
- Network simulation (ns-3) offers some complementary benefits, including accessibility and ability to introduce various wireless (Wi-Fi access, 4G/5G) network models
- Shared testbeds (CloudLab) offer remote access to physical or virtual machines that can run L4S kernel code

Hackathon Plan

- What problems were you working on?
  - ns-3 simulation models for L4S, and testbed configuration
- What drafts/RFC's were involved?
  - draft-ietf-tsvwg-aqm-dualq-coupled-11
  - draft-ietf-tsvwg-l4s-arch-06.txt
- Specific problems to solve
  - TCP Prague RTT independence, L4S-aware FQ/CoDel, integration
- Create and experiment with integrated source tree; try to validate against Linux testbed results

What got done

- Key results
  - Integrated ns-3 Git branch with many L4S components; preparing for ns-3.32 release (Sept)
    - https://gitlab.com/tomhenderson/ns-3-dev/tree/hackathon/master
    - https://gitlab.com/tomhend/modules/l4s-evaluation/tree/hackathon/master
  - Scripts and documentation for creating an L4S testbed on CloudLab
  - Summary wiki page
  - No interop done at this hackathon (future interop possible)
  - No demos yet...

What we learned

- Lessons learned
  - Issues with existing drafts/RFCs: None found this week
  - New implementation guidance: None this week
  - New feedback to take to WG: New testing capabilities being developed
  - New work to take to WG: None

Wrap Up

Team members:

Tom Henderson (champion), Fraida Fund, Bhaskar Kataria Deepak Kumaraswamy, Harsha Sharma, Ashutosh Srivastava

First timers @ IETF/Hackathon:

Fraida, Bhaskar, Deepak, Harsha, Ashutosh

ns-3: https://www.nsnam.org

NYU Wireless: https://wireless.engineering.nyu.edu