Pantheon Report

Generated at 2018-03-20 19:38:15 (UTC).
Tested in mahimahi: mm-delay 10 mm-link 12mbps.trace 0.12mbps.trace
Repeate the test of 17 congestion control schemes 10 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
Increased UDP receive buffer to 16 MB (default) and 32 MB (max).
Tested BBR with qdisc of Fair Queuing (fq), and other schemes with the default Linux qdisc (pfifo_fast).

Git summary:
branch: master @ f12c42a2c63fdd9a862eefa0468859bf379b6623
third_party/calibrated_koho @ 3cb73c0d1c0322cdfae446ea37a522e53227db50
  M datagramp/sender.cc
third_party/fillp @ 828bbf95fd4941149b5ce90f281d1c69ae1a5c6
third_party/genericCC @ 9249e3a3238475c4d8c4a1443d28df70b6f6c4a2
third_party/indigo @ a9b206d39e4da2e8987e893e3eca2a6c7d0ab9
third_party/indigo-1-layer-128-unit @ 3ae9e4ef4230db7484501f82ce8b377695f266d
third_party/indigo-1-layer-32-unit @ 2601c92e4aa9d58d38dc4dfe0edc9f90c077e64d
third_party/indigo-1-layer-32-unit-no-calib @ 1f3a7f75b41135ed5b540c0fd3505939528e2a5f
third_party/indigo-no-calib @ 7224f2202e8a044d8306fa0b83a84360c53d89
third_party/koho_cc @ f0f2e693303ae82ea808e6928eac4f1083a6681
  M datagramp/sender.cc
third_party/libutp @ b3465b942e2826f2b179eaab4a9066e6bb7cf3cf
third_party/pantheon-tunnel @ fb1053193c2861a659b9a9013db26744ccfcff93
third_party/pcc @ 1afc958fa0d6618b623c091a55f6c872b4981e1
  M receiver/src/buffer.h
  M receiver/src/core.cpp
  M sender/src/buffer.h
  M sender/src/core.cpp
third_party/proto-quic @ 77961f1a82733a86b42f1bc8143b3c78f3cf42
third_party/scream @ c3370fcd7bd17265a79ae3e4016ad23f5965885
third_party/sourdough @ f1a1bbfe749737437f61b1eae6b7cb267cd6e81
third_party/sprout @ 6f2fe6e6588d91066a9f023df375e62665089ce
  M src/examples/cellsim.cc
  M src/examples/sproutbt2.cc
  M src/network/sproutcomm.cc
third_party/verus @ d4b4a477ea74c6c60a261149af2629562539f9a494
  M src/verus.hpp
  M tools/plot.py
third_party/vivace @ 7a4ba531e75b4a6f66f5c4580192120401784ce3
third_party/webrtc @ a488197d041ace68a42849b2540ad834825f42
local test in mahimahi, 10 runs of 30s each per scheme
3 flows with 10s interval between flows (mean of all runs by scheme)
<table>
<thead>
<tr>
<th>scheme</th>
<th># runs</th>
<th>mean avg tput (Mbit/s)</th>
<th>mean 95th-%ile delay (ms)</th>
<th>mean loss rate (%)</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>flow 1</td>
<td>flow 2</td>
<td>flow 3</td>
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<tr>
<td>TCP BBR</td>
<td>10</td>
<td>2.19</td>
<td>1.27</td>
<td>1.51</td>
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<td>TCP Cubic</td>
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<td>3.97</td>
<td>0.14</td>
<td>0.00</td>
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<td>LEDBAT</td>
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<td>1.97</td>
<td>0.44</td>
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<td>4.04</td>
<td>5.56</td>
<td>0.00</td>
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<td>2.58</td>
<td>0.75</td>
<td>0.16</td>
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<td>0.21</td>
<td>0.22</td>
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<td>WebRTC media</td>
<td>10</td>
<td>2.26</td>
<td>1.36</td>
<td>0.37</td>
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<td>Sprout</td>
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<td>5.54</td>
<td>3.71</td>
<td>0.64</td>
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<td>TaoVA-100x</td>
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<td>1.13</td>
<td>0.89</td>
<td>0.80</td>
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<td>2.10</td>
<td>1.66</td>
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<td>Verus</td>
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<td>0.65</td>
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<tr>
<td>Copa</td>
<td>10</td>
<td>0.61</td>
<td>0.87</td>
<td>0.71</td>
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<td>FillP</td>
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<td>11.84</td>
<td>0.00</td>
<td>N/A</td>
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<td>Indigo-1-32</td>
<td>10</td>
<td>1.00</td>
<td>0.71</td>
<td>0.75</td>
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<td>Vivace-latency</td>
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<td>0.00</td>
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<td>Vivace-loss</td>
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<td>10.95</td>
<td>0.00</td>
<td>0.00</td>
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<td>Vivace-LTE</td>
<td>10</td>
<td>1.44</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>
Run 1: Statistics of TCP BBR

Start at: 2018-03-20 17:59:36
End at: 2018-03-20 18:00:06

# Below is generated by plot.py at 2018-03-20 19:32:40
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.61 Mbit/s (30.1% utilization)
  95th percentile per-packet one-way delay: 14.779 ms
  Loss rate: 0.08%
-- Flow 1:
  Average throughput: 2.42 Mbit/s
  95th percentile per-packet one-way delay: 14.224 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 0.93 Mbit/s
  95th percentile per-packet one-way delay: 15.299 ms
  Loss rate: 0.19%
-- Flow 3:
  Average throughput: 1.71 Mbit/s
  95th percentile per-packet one-way delay: 15.607 ms
  Loss rate: 0.14%
Run 1: Report of TCP BBR — Data Link

Average capacity 12.00 Mbit/s (shaded region)

- Flow 1 ingress (mean 2.62 Mbit/s)
- Flow 1 egress (mean 2.42 Mbit/s)
- Flow 2 ingress (mean 0.93 Mbit/s)
- Flow 2 egress (mean 0.93 Mbit/s)
- Flow 3 ingress (mean 1.71 Mbit/s)
- Flow 3 egress (mean 1.71 Mbit/s)

Per packet one way delay (ms)

- Flow 1 (95th percentile 14.22 ms)
- Flow 2 (95th percentile 15.30 ms)
- Flow 3 (95th percentile 15.61 ms)
Run 2: Statistics of TCP BBR

Start at: 2018-03-20 18:09:50
End at: 2018-03-20 18:10:20

# Below is generated by plot.py at 2018-03-20 19:32:40
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.48 Mbit/s (29.0% utilization)
95th percentile per-packet one-way delay: 14.295 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 13.843 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 14.972 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 1.48 Mbit/s
95th percentile per-packet one-way delay: 14.823 ms
Loss rate: 0.16%
Run 2: Report of TCP BBR — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.36 Mbit/s)  Flow 1 egress (mean 2.33 Mbit/s)
Flow 2 ingress (mean 1.03 Mbit/s)  Flow 2 egress (mean 1.03 Mbit/s)
Flow 3 ingress (mean 1.48 Mbit/s)  Flow 3 egress (mean 1.48 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 13.84 ms)  Flow 2 (95th percentile 14.97 ms)  Flow 3 (95th percentile 14.82 ms)
Run 3: Statistics of TCP BBR

Start at: 2018-03-20 18:20:03
End at: 2018-03-20 18:20:33

# Below is generated by plot.py at 2018-03-20 19:32:40
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.42 Mbit/s (28.5% utilization)
  95th percentile per-packet one-way delay: 14.733 ms
  Loss rate: 0.13%
-- Flow 1:
  Average throughput: 1.91 Mbit/s
  95th percentile per-packet one-way delay: 13.962 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 1.61 Mbit/s
  95th percentile per-packet one-way delay: 14.974 ms
  Loss rate: 0.22%
-- Flow 3:
  Average throughput: 1.32 Mbit/s
  95th percentile per-packet one-way delay: 15.777 ms
  Loss rate: 0.27%
Run 3: Report of TCP BBR — Data Link
Run 4: Statistics of TCP BBR

Start at: 2018-03-20 18:30:16
End at: 2018-03-20 18:30:46

# Below is generated by plot.py at 2018-03-20 19:32:40
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.56 Mbit/s (29.7% utilization)
  95th percentile per-packet one-way delay: 14.119 ms
  Loss rate: 0.09%
-- Flow 1:
  Average throughput: 2.19 Mbit/s
  95th percentile per-packet one-way delay: 13.868 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 1.48 Mbit/s
  95th percentile per-packet one-way delay: 14.474 ms
  Loss rate: 0.16%
-- Flow 3:
  Average throughput: 1.18 Mbit/s
  95th percentile per-packet one-way delay: 14.533 ms
  Loss rate: 0.21%
Run 4: Report of TCP BBR — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.19 Mbit/s)  Flow 1 egress (mean 2.19 Mbit/s)
Flow 2 ingress (mean 1.46 Mbit/s)  Flow 2 egress (mean 1.46 Mbit/s)
Flow 3 ingress (mean 1.17 Mbit/s)  Flow 3 egress (mean 1.18 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 13.87 ms)  Flow 2 (95th percentile 14.47 ms)  Flow 3 (95th percentile 14.53 ms)
Run 5: Statistics of TCP BBR

Start at: 2018-03-20 18:40:30
End at: 2018-03-20 18:41:00

# Below is generated by plot.py at 2018-03-20 19:32:40
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.58 Mbit/s (29.8% utilization)
95th percentile per-packet one-way delay: 14.200 ms
Loss rate: 0.07%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 13.836 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 14.506 ms
Loss rate: 0.12%
-- Flow 3:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 14.932 ms
Loss rate: 0.22%
Run 5: Report of TCP BBR — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Flow 1 ingress (mean 2.08 Mbit/s)  Flow 1 egress (mean 2.08 Mbit/s)
Flow 2 ingress (mean 1.45 Mbit/s)  Flow 2 egress (mean 1.45 Mbit/s)
Flow 3 ingress (mean 1.62 Mbit/s)  Flow 3 egress (mean 1.62 Mbit/s)

Per packet one way delay (ms)

Flow 1 (95th percentile 13.84 ms)  Flow 2 (95th percentile 14.51 ms)  Flow 3 (95th percentile 14.93 ms)
Run 6: Statistics of TCP BBR

Start at: 2018-03-20 18:50:44
End at: 2018-03-20 18:51:14

# Below is generated by plot.py at 2018-03-20 19:32:40
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.53 Mbit/s (29.4% utilization)
95th percentile per-packet one-way delay: 14.662 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 14.405 ms
Loss rate: 0.02%
-- Flow 2:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 14.818 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 1.50 Mbit/s
95th percentile per-packet one-way delay: 14.887 ms
Loss rate: 0.16%
Run 6: Report of TCP BBR — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.08 Mbit/s) — Flow 1 egress (mean 2.08 Mbit/s)
Flow 2 ingress (mean 1.43 Mbit/s) — Flow 2 egress (mean 1.43 Mbit/s)
Flow 3 ingress (mean 1.50 Mbit/s) — Flow 3 egress (mean 1.50 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 14.40 ms) — Flow 2 (95th percentile 14.82 ms) — Flow 3 (95th percentile 14.89 ms)
Run 7: Statistics of TCP BBR

Start at: 2018-03-20 19:00:59
End at: 2018-03-20 19:01:29

# Below is generated by plot.py at 2018-03-20 19:32:40
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.39 Mbit/s (28.3% utilization)
  95th percentile per-packet one-way delay: 14.216 ms
  Loss rate: 0.07%
-- Flow 1:
  Average throughput: 2.02 Mbit/s
  95th percentile per-packet one-way delay: 13.768 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 1.14 Mbit/s
  95th percentile per-packet one-way delay: 14.645 ms
  Loss rate: 0.05%
-- Flow 3:
  Average throughput: 1.88 Mbit/s
  95th percentile per-packet one-way delay: 14.758 ms
  Loss rate: 0.26%
Run 7: Report of TCP BBR — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.01 Mbit/s) — Flow 1 egress (mean 2.02 Mbit/s)
Flow 2 ingress (mean 1.14 Mbit/s) — Flow 2 egress (mean 1.14 Mbit/s)
Flow 3 ingress (mean 1.88 Mbit/s) — Flow 3 egress (mean 1.88 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 13.77 ms) — Flow 2 (95th percentile 14.64 ms) — Flow 3 (95th percentile 14.76 ms)
Run 8: Statistics of TCP BBR

Start at: 2018-03-20 19:11:13
End at: 2018-03-20 19:11:43

# Below is generated by plot.py at 2018-03-20 19:32:40
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.56 Mbit/s (29.7% utilization)
  95th percentile per-packet one-way delay: 14.354 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 2.10 Mbit/s
  95th percentile per-packet one-way delay: 13.934 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.30 Mbit/s
  95th percentile per-packet one-way delay: 14.596 ms
  Loss rate: 0.09%
-- Flow 3:
  Average throughput: 1.80 Mbit/s
  95th percentile per-packet one-way delay: 15.122 ms
  Loss rate: 0.20%
Run 8: Report of TCP BBR — Data Link

![Graph 1: Average capacity 12.00 Mbit/s (shaded region)]

![Graph 2: Per-packet end-to-end delay (ms)]
Run 9: Statistics of TCP BBR

Start at: 2018-03-20 19:21:27
End at: 2018-03-20 19:21:57

# Below is generated by plot.py at 2018-03-20 19:32:52
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.63 Mbit/s (30.2% utilization)
95th percentile per-packet one-way delay: 14.735 ms
Loss rate: 0.11%
-- Flow 1:
Average throughput: 2.31 Mbit/s
95th percentile per-packet one-way delay: 14.158 ms
Loss rate: 0.07%
-- Flow 2:
Average throughput: 1.32 Mbit/s
95th percentile per-packet one-way delay: 15.204 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 1.33 Mbit/s
95th percentile per-packet one-way delay: 15.681 ms
Loss rate: 0.27%
Run 9: Report of TCP BBR — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.33 Mbit/s)
Flow 1 egress (mean 2.33 Mbit/s)
Flow 2 ingress (mean 1.32 Mbit/s)
Flow 2 egress (mean 1.32 Mbit/s)
Flow 3 ingress (mean 1.33 Mbit/s)
Flow 3 egress (mean 1.33 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 14.16 ms)
Flow 2 (95th percentile 15.20 ms)
Flow 3 (95th percentile 15.68 ms)
Run 10: Statistics of TCP BBR

Start at: 2018-03-20 19:31:41
End at: 2018-03-20 19:32:11

# Below is generated by plot.py at 2018-03-20 19:32:53
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.62 Mbit/s (30.2% utilization)
  95th percentile per-packet one-way delay: 14.561 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 2.53 Mbit/s
  95th percentile per-packet one-way delay: 13.975 ms
  Loss rate: 0.05%
-- Flow 2:
  Average throughput: 0.99 Mbit/s
  95th percentile per-packet one-way delay: 15.176 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 1.30 Mbit/s
  95th percentile per-packet one-way delay: 15.551 ms
  Loss rate: 0.19%
Run 10: Report of TCP BBR — Data Link

![Graph](image)

**Average capacity 12.00 Mbit/s (shaded region)**

**Throughput (Mbit/s)**

- Flow 1 ingress (mean 2.53 Mbit/s)
- Flow 1 egress (mean 2.53 Mbit/s)
- Flow 2 ingress (mean 0.90 Mbit/s)
- Flow 2 egress (mean 0.90 Mbit/s)
- Flow 3 ingress (mean 1.30 Mbit/s)
- Flow 3 egress (mean 1.30 Mbit/s)

**Per-packet one-way delay (ms)**

- Flow 1 (95th percentile 13.97 ms)
- Flow 2 (95th percentile 15.18 ms)
- Flow 3 (95th percentile 15.55 ms)
Run 1: Statistics of TCP Cubic

Start at: 2018-03-20 17:56:45  
End at: 2018-03-20 17:57:15

# Below is generated by plot.py at 2018-03-20 19:32:53  
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 4.00 Mbit/s (33.3% utilization)
95th percentile per-packet one-way delay: 506.349 ms
Loss rate: 0.13%

-- Flow 1:
Average throughput: 3.93 Mbit/s
95th percentile per-packet one-way delay: 508.056 ms
Loss rate: 0.13%

-- Flow 2:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 78.088 ms
Loss rate: 0.00%

-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 476.305 ms
Loss rate: 0.00%
Run 1: Report of TCP Cubic — Data Link
Run 2: Statistics of TCP Cubic

Start at: 2018-03-20 18:06:59
End at: 2018-03-20 18:07:29

# Below is generated by plot.py at 2018-03-20 19:32:54
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 4.03 Mbit/s (33.6% utilization)
  95th percentile per-packet one-way delay: 533.361 ms
  Loss rate: 0.09%
-- Flow 1:
  Average throughput: 3.96 Mbit/s
  95th percentile per-packet one-way delay: 535.872 ms
  Loss rate: 0.09%
-- Flow 2:
  Average throughput: 0.13 Mbit/s
  95th percentile per-packet one-way delay: 70.046 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 446.435 ms
  Loss rate: 0.00%
Run 2: Report of TCP Cubic — Data Link

![Graph](image)

- **Average capacity 12.00 Mbit/s (shaded region)**

**Throughput (Mbit/s)**

- Flow 1 ingress (mean 3.95 Mbit/s)
- Flow 1 egress (mean 3.96 Mbit/s)
- Flow 2 ingress (mean 0.13 Mbit/s)
- Flow 2 egress (mean 0.13 Mbit/s)
- Flow 3 ingress (mean 0.00 Mbit/s)
- Flow 3 egress (mean 0.00 Mbit/s)

**Delay (one way delay, ms)**

- Flow 1 (95th percentile 535.87 ms)
- Flow 2 (95th percentile 70.05 ms)
- Flow 3 (95th percentile 446.44 ms)
Run 3: Statistics of TCP Cubic

Start at: 2018-03-20 18:17:12
End at: 2018-03-20 18:17:42

# Below is generated by plot.py at 2018-03-20 19:32:54
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.99 Mbit/s (33.2% utilization)
  95th percentile per-packet one-way delay: 497.385 ms
  Loss rate: 0.01%
  -- Flow 1:
  Average throughput: 4.01 Mbit/s
  95th percentile per-packet one-way delay: 495.585 ms
  Loss rate: 0.00%
  -- Flow 2:
  Average throughput: 0.11 Mbit/s
  95th percentile per-packet one-way delay: 513.300 ms
  Loss rate: 0.56%
  -- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 459.698 ms
  Loss rate: 0.00%

Run 3: Report of TCP Cubic — Data Link

![Throughput Graph]

![Per-packet one-way delay Graph]

Flow 1 ingress (mean 3.89 Mbit/s)  Flow 1 egress (mean 4.01 Mbit/s)
Flow 2 ingress (mean 0.11 Mbit/s)  Flow 2 egress (mean 0.11 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Flow 1 (95th percentile 495.58 ms)  Flow 2 (95th percentile 513.30 ms)  Flow 3 (95th percentile 459.70 ms)
Run 4: Statistics of TCP Cubic

Start at: 2018-03-20 18:27:26
End at: 2018-03-20 18:27:56

# Below is generated by plot.py at 2018-03-20 19:32:55
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 4.04 Mbit/s (33.6% utilization)
95th percentile per-packet one-way delay: 515.822 ms
Loss rate: 0.95%
-- Flow 1:
Average throughput: 3.97 Mbit/s
95th percentile per-packet one-way delay: 519.082 ms
Loss rate: 0.97%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 44.492 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 11.835 ms
Loss rate: 0.00%
Run 4: Report of TCP Cubic — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Flow 1 ingress (mean 4.06 Mbit/s)  Flow 1 egress (mean 3.97 Mbit/s)
Flow 2 ingress (mean 0.14 Mbit/s)  Flow 2 egress (mean 0.14 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Per packet one-way delay (ms)

Flow 1 (95th percentile 519.08 ms)  Flow 2 (95th percentile 44.49 ms)  Flow 3 (95th percentile 11.84 ms)
Run 5: Statistics of TCP Cubic

Start at: 2018-03-20 18:37:39
End at: 2018-03-20 18:38:09

# Below is generated by plot.py at 2018-03-20 19:32:55
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.99 Mbit/s (33.3% utilization)
  95th percentile per-packet one-way delay: 468.531 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 4.03 Mbit/s
  95th percentile per-packet one-way delay: 476.171 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.17 Mbit/s
  95th percentile per-packet one-way delay: 34.338 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 16.212 ms
  Loss rate: 0.00%
Run 5: Report of TCP Cubic — Data Link
Run 6: Statistics of TCP Cubic

Start at: 2018-03-20 18:47:54
End at: 2018-03-20 18:48:24

# Below is generated by plot.py at 2018-03-20 19:32:55
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 4.02 Mbit/s (33.5% utilization)
95th percentile per-packet one-way delay: 489.730 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 3.96 Mbit/s
95th percentile per-packet one-way delay: 492.670 ms
Loss rate: 0.89%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 185.372 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 91.776 ms
Loss rate: 0.00%
Run 6: Report of TCP Cubic — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 4.05 Mbit/s) Flow 1 egress (mean 3.96 Mbit/s)
Flow 2 ingress (mean 0.14 Mbit/s) Flow 2 egress (mean 0.14 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s) Flow 3 egress (mean 0.00 Mbit/s)

Per packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 492.67 ms) Flow 2 (95th percentile 185.37 ms) Flow 3 (95th percentile 91.78 ms)
Run 7: Statistics of TCP Cubic

Start at: 2018-03-20 18:58:08
End at: 2018-03-20 18:58:38

# Below is generated by plot.py at 2018-03-20 19:33:08
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.98 Mbit/s (33.2% utilization)
95th percentile per-packet one-way delay: 486.801 ms
Loss rate: 0.01%

-- Flow 1:
Average throughput: 4.07 Mbit/s
95th percentile per-packet one-way delay: 476.195 ms
Loss rate: 0.00%

-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 570.997 ms
Loss rate: 0.44%

-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 588.621 ms
Loss rate: 0.00%
Run 7: Report of TCP Cubic — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Flow 1 ingress (mean 4.14 Mbit/s)  Flow 1 egress (mean 4.07 Mbit/s)
Flow 2 ingress (mean 0.14 Mbit/s)  Flow 2 egress (mean 0.14 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Per packet one-way delay (ms)

Flow 1 (95th percentile 476.19 ms)  Flow 2 (95th percentile 571.00 ms)  Flow 3 (95th percentile 588.62 ms)
Run 8: Statistics of TCP Cubic

Start at: 2018-03-20 19:08:22
End at: 2018-03-20 19:08:52

# Below is generated by plot.py at 2018-03-20 19:33:08
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.87 Mbit/s (32.3% utilization)
  95th percentile per-packet one-way delay: 468.412 ms
  Loss rate: 5.75%
  -- Flow 1:
  Average throughput: 3.80 Mbit/s
  95th percentile per-packet one-way delay: 472.881 ms
  Loss rate: 5.84%
  -- Flow 2:
  Average throughput: 0.13 Mbit/s
  95th percentile per-packet one-way delay: 42.088 ms
  Loss rate: 0.00%
  -- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 421.492 ms
  Loss rate: 0.00%
Run 8: Report of TCP Cubic — Data Link

![Graph 1: Average capacity 12.00 Mbit/s (shaded region)]

![Graph 2: Per packet one-way delay (ms)]
Run 9: Statistics of TCP Cubic

Start at: 2018-03-20 19:18:36
End at: 2018-03-20 19:19:06

# Below is generated by plot.py at 2018-03-20 19:33:09
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 4.00 Mbit/s (33.3% utilization)
  95th percentile per-packet one-way delay: 474.882 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 4.02 Mbit/s
  95th percentile per-packet one-way delay: 478.356 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.13 Mbit/s
  95th percentile per-packet one-way delay: 54.262 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 182.196 ms
  Loss rate: 0.00%
Run 9: Report of TCP Cubic — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

0.0  5.0  10.0  15.0  20.0  25.0  30.0

Time (s)

Flow 1 ingress (mean 3.86 Mbit/s)  Flow 1 egress (mean 4.02 Mbit/s)
Flow 2 ingress (mean 0.13 Mbit/s)  Flow 2 egress (mean 0.13 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Delay (jitter) one way delay (ms)

0  100  200  300  400  500  600  700

Time (s)

Flow 1 (95th percentile 478.36 ms)  Flow 2 (95th percentile 54.26 ms)  Flow 3 (95th percentile 182.20 ms)
Run 10: Statistics of TCP Cubic

Start at: 2018-03-20 19:28:50
End at: 2018-03-20 19:29:20

# Below is generated by plot.py at 2018-03-20 19:33:09
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 4.00 Mbit/s (33.3% utilization)
95th percentile per-packet one-way delay: 487.451 ms
Loss rate: 1.13%
-- Flow 1:
Average throughput: 3.93 Mbit/s
95th percentile per-packet one-way delay: 489.674 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 40.102 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.583 ms
Loss rate: 0.00%
Run 10: Report of TCP Cubic — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 3.97 Mbit/s)  Flow 1 egress (mean 3.93 Mbit/s)
Flow 2 ingress (mean 0.14 Mbit/s)  Flow 2 egress (mean 0.14 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 489.67 ms)  Flow 2 (95th percentile 40.10 ms)  Flow 3 (95th percentile 12.58 ms)
Run 1: Statistics of LEDBAT

Start at: 2018-03-20 17:58:28
End at: 2018-03-20 17:58:58

# Below is generated by plot.py at 2018-03-20 19:33:09
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 2.29 Mbit/s (19.1% utilization)
95th percentile per-packet one-way delay: 29.896 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 1.96 Mbit/s
95th percentile per-packet one-way delay: 29.937 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 27.612 ms
Loss rate: 0.27%
-- Flow 3:
Average throughput: 0.12 Mbit/s
95th percentile per-packet one-way delay: 27.928 ms
Loss rate: 0.00%
Run 1: Report of LEDBAT — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.97 Mbit/s)  Flow 1 egress (mean 1.96 Mbit/s)
Flow 2 ingress (mean 0.44 Mbit/s)  Flow 2 egress (mean 0.44 Mbit/s)
Flow 3 ingress (mean 0.12 Mbit/s)  Flow 3 egress (mean 0.12 Mbit/s)

Packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 29.94 ms)  Flow 2 (95th percentile 27.61 ms)  Flow 3 (95th percentile 27.93 ms)
Run 2: Statistics of LEDBAT

Start at: 2018-03-20 18:08:42
End at: 2018-03-20 18:09:12

# Below is generated by plot.py at 2018-03-20 19:33:09
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 2.29 Mbit/s (19.1% utilization)
  95th percentile per-packet one-way delay: 29.930 ms
  Loss rate: 0.26%
-- Flow 1:
  Average throughput: 1.97 Mbit/s
  95th percentile per-packet one-way delay: 29.956 ms
  Loss rate: 0.24%
-- Flow 2:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 27.726 ms
  Loss rate: 0.14%
-- Flow 3:
  Average throughput: 0.11 Mbit/s
  95th percentile per-packet one-way delay: 31.341 ms
  Loss rate: 2.02%
Run 2: Report of LEDBAT — Data Link

Average capacity 12.00 Mbit/s (shaded region)

0 2 4 6 8 10 12

0 5 10 15 20 25 30

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.96 Mbit/s)
Flow 1 egress (mean 1.97 Mbit/s)
Flow 2 ingress (mean 0.43 Mbit/s)
Flow 2 egress (mean 0.43 Mbit/s)
Flow 3 ingress (mean 0.12 Mbit/s)
Flow 3 egress (mean 0.11 Mbit/s)

5

10 15 20 25 30

Time (s)

Flow 1 (95th percentile 29.96 ms)
Flow 2 (95th percentile 27.73 ms)
Flow 3 (95th percentile 31.34 ms)
Run 3: Statistics of LEDBAT

Start at: 2018-03-20 18:18:55
End at: 2018-03-20 18:19:25

# Below is generated by plot.py at 2018-03-20 19:33:09
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 2.30 Mbit/s (19.2% utilization)
95th percentile per-packet one-way delay: 29.917 ms
Loss rate: 0.24%
-- Flow 1:
Average throughput: 1.97 Mbit/s
95th percentile per-packet one-way delay: 29.951 ms
Loss rate: 0.24%
-- Flow 2:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 27.836 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 23.526 ms
Loss rate: 2.02%
Run 3: Report of LEDBAT — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.96 Mbit/s)  Flow 1 egress (mean 1.97 Mbit/s)
Flow 2 ingress (mean 0.43 Mbit/s)  Flow 2 egress (mean 0.43 Mbit/s)
Flow 3 ingress (mean 0.12 Mbit/s)  Flow 3 egress (mean 0.11 Mbit/s)

Round trip packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 29.95 ms)  Flow 2 (95th percentile 27.84 ms)  Flow 3 (95th percentile 23.53 ms)
Run 4: Statistics of LEDBAT

Start at: 2018-03-20 18:29:08
End at: 2018-03-20 18:29:38

# Below is generated by plot.py at 2018-03-20 19:33:09
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 2.30 Mbit/s (19.2% utilization)
95th percentile per-packet one-way delay: 29.918 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 29.953 ms
Loss rate: 0.20%
-- Flow 2:
Average throughput: 0.43 Mbit/s
95th percentile per-packet one-way delay: 27.792 ms
Loss rate: 0.54%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 27.644 ms
Loss rate: 2.02%
Run 4: Report of LEDBAT — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.96 Mbit/s) — Flow 1 egress (mean 1.96 Mbit/s)
Flow 2 ingress (mean 0.44 Mbit/s) — Flow 2 egress (mean 0.43 Mbit/s)
Flow 3 ingress (mean 0.12 Mbit/s) — Flow 3 egress (mean 0.11 Mbit/s)

Round trip one way delay (ms)

Time (s)

Flow 1 (95th percentile 29.95 ms) — Flow 2 (95th percentile 27.79 ms) — Flow 3 (95th percentile 27.64 ms)
Run 5: Statistics of LEDBAT

Start at: 2018-03-20 18:39:22
End at: 2018-03-20 18:39:52

# Below is generated by plot.py at 2018-03-20 19:33:18
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 2.29 Mbit/s (19.1% utilization)
  95th percentile per-packet one-way delay: 29.898 ms
  Loss rate: 0.27%
-- Flow 1:
  Average throughput: 1.97 Mbit/s
  95th percentile per-packet one-way delay: 29.963 ms
  Loss rate: 0.28%
-- Flow 2:
  Average throughput: 0.44 Mbit/s
  95th percentile per-packet one-way delay: 26.852 ms
  Loss rate: 0.13%
-- Flow 3:
  Average throughput: 0.11 Mbit/s
  95th percentile per-packet one-way delay: 27.824 ms
  Loss rate: 1.10%
Run 5: Report of LEDBAT — Data Link

**Average capacity 12.00 Mbit/s (shaded region)**

- **Throughput (Mbit/s)**
  - Time (s)
  - 0 5 10 15 20 25 30

**Throughput vs Time**

- **Flow 1 ingress (mean 1.97 Mbit/s)**
- **Flow 1 egress (mean 1.97 Mbit/s)**
- **Flow 2 ingress (mean 0.44 Mbit/s)**
- **Flow 2 egress (mean 0.44 Mbit/s)**
- **Flow 3 ingress (mean 0.11 Mbit/s)**
- **Flow 3 egress (mean 0.11 Mbit/s)**

**Packet Error Rate**

- **Delay (ms)**
  - Time (s) 0 5 10 15 20 25 30

- **Flow 1 (95th percentile 29.96 ms)**
- **Flow 2 (95th percentile 26.85 ms)**
- **Flow 3 (95th percentile 27.82 ms)**
Run 6: Statistics of LEDBAT

Start at: 2018-03-20 18:49:36
End at: 2018-03-20 18:50:06

# Below is generated by plot.py at 2018-03-20 19:33:19
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 2.30 Mbit/s (19.2% utilization)
95th percentile per-packet one-way delay: 29.938 ms
Loss rate: 0.29%
-- Flow 1:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 29.975 ms
Loss rate: 0.28%
-- Flow 2:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 27.801 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 27.952 ms
Loss rate: 3.06%
Run 6: Report of LEDBAT — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.96 Mbit/s) — Flow 1 egress (mean 1.96 Mbit/s)
Flow 2 ingress (mean 0.44 Mbit/s) — Flow 2 egress (mean 0.44 Mbit/s)
Flow 3 ingress (mean 0.12 Mbit/s) — Flow 3 egress (mean 0.11 Mbit/s)

Packet error rate (y-axis)

Time (s)

Flow 1 (95th percentile 29.98 ms) — Flow 2 (95th percentile 27.80 ms) — Flow 3 (95th percentile 27.95 ms)
Run 7: Statistics of LEDBAT

Start at: 2018-03-20 18:59:51
End at: 2018-03-20 19:00:21

# Below is generated by plot.py at 2018-03-20 19:33:19
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 2.29 Mbit/s (19.0% utilization)
  95th percentile per-packet one-way delay: 29.855 ms
  Loss rate: 0.31%
-- Flow 1:
  Average throughput: 1.96 Mbit/s
  95th percentile per-packet one-way delay: 29.909 ms
  Loss rate: 0.18%
-- Flow 2:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 27.699 ms
  Loss rate: 0.68%
-- Flow 3:
  Average throughput: 0.11 Mbit/s
  95th percentile per-packet one-way delay: 28.869 ms
  Loss rate: 4.08%
Run 7: Report of LEDBAT — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Time (s)

Throughput (Mbit/s)

Flow 1 ingress (mean 1.96 Mbit/s) — Flow 1 egress (mean 1.96 Mbit/s)
Flow 2 ingress (mean 0.43 Mbit/s) — Flow 2 egress (mean 0.43 Mbit/s)
Flow 3 ingress (mean 0.12 Mbit/s) — Flow 3 egress (mean 0.11 Mbit/s)

Packet delay (ms)

Time (s)

Flow 1 (95th percentile 29.91 ms) — Flow 2 (95th percentile 27.70 ms) — Flow 3 (95th percentile 28.87 ms)
Run 8: Statistics of LEDBAT

Start at: 2018-03-20 19:10:05
End at: 2018-03-20 19:10:35

# Below is generated by plot.py at 2018-03-20 19:33:19
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 2.29 Mbit/s (19.1% utilization)
95th percentile per-packet one-way delay: 29.916 ms
Loss rate: 0.27%
-- Flow 1:
Average throughput: 1.98 Mbit/s
95th percentile per-packet one-way delay: 29.958 ms
Loss rate: 0.16%
-- Flow 2:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 27.093 ms
Loss rate: 0.84%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 26.735 ms
Loss rate: 2.22%
Run 8: Report of LEDBAT — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Flow 1 ingress (mean 1.96 Mbit/s)
Flow 1 egress (mean 1.96 Mbit/s)
Flow 2 ingress (mean 0.42 Mbit/s)
Flow 2 egress (mean 0.42 Mbit/s)
Flow 3 ingress (mean 0.11 Mbit/s)
Flow 3 egress (mean 0.11 Mbit/s)

Delay per packet one way [ms]

Flow 1 (95th percentile 29.96 ms)
Flow 2 (95th percentile 27.09 ms)
Flow 3 (95th percentile 26.73 ms)
Run 9: Statistics of LEDBAT

Start at: 2018-03-20 19:20:19
End at: 2018-03-20 19:20:49

# Below is generated by plot.py at 2018-03-20 19:33:20
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 2.29 Mbit/s (19.1% utilization)
95th percentile per-packet one-way delay: 29.888 ms
Loss rate: 0.34%
-- Flow 1:
Average throughput: 1.96 Mbit/s
95th percentile per-packet one-way delay: 29.944 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 0.45 Mbit/s
95th percentile per-packet one-way delay: 27.784 ms
Loss rate: 1.31%
-- Flow 3:
Average throughput: 0.11 Mbit/s
95th percentile per-packet one-way delay: 26.758 ms
Loss rate: 6.31%
Run 9: Report of LEDBAT — Data Link
Run 10: Statistics of LEDBAT

Start at: 2018-03-20 19:30:33
End at: 2018-03-20 19:31:03

# Below is generated by plot.py at 2018-03-20 19:33:20
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 2.29 Mbit/s (19.1% utilization)
  95th percentile per-packet one-way delay: 29.904 ms
  Loss rate: 0.31%
-- Flow 1:
  Average throughput: 1.95 Mbit/s
  95th percentile per-packet one-way delay: 29.945 ms
  Loss rate: 0.32%
-- Flow 2:
  Average throughput: 0.45 Mbit/s
  95th percentile per-packet one-way delay: 27.052 ms
  Loss rate: 0.26%
-- Flow 3:
  Average throughput: 0.11 Mbit/s
  95th percentile per-packet one-way delay: 27.967 ms
  Loss rate: 0.00%
Run 10: Report of LEDBAT — Data Link

![Graph showing throughput and packet delay over time](image)

- Average capacity 12.00 Mbit/s (shaded region)
- Throughput (Mbps)
- Time (s)
- Flow 1 ingress (mean 1.96 Mbit/s)
- Flow 1 egress (mean 1.95 Mbit/s)
- Flow 2 ingress (mean 0.45 Mbit/s)
- Flow 2 egress (mean 0.45 Mbit/s)
- Flow 3 ingress (mean 0.11 Mbit/s)
- Flow 3 egress (mean 0.11 Mbit/s)

![Graph showing packet delay over time](image)

- Flow 1 (95th percentile 29.95 ms)
- Flow 2 (95th percentile 27.05 ms)
- Flow 3 (95th percentile 27.97 ms)
Run 1: Statistics of PCC

Start at: 2018-03-20 17:51:38
End at: 2018-03-20 17:52:09

# Below is generated by plot.py at 2018-03-20 19:33:26
# Datalink statistics
  -- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 5.54 Mbit/s (46.2% utilization)
  95th percentile per-packet one-way delay: 12.992 ms
  Loss rate: 0.04%
  -- Flow 1:
  Average throughput: 4.06 Mbit/s
  95th percentile per-packet one-way delay: 12.528 ms
  Loss rate: 0.04%
  -- Flow 2:
  Average throughput: 2.22 Mbit/s
  95th percentile per-packet one-way delay: 30.374 ms
  Loss rate: 0.05%
  -- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 12.598 ms
  Loss rate: 0.00%
Run 1: Report of PCC — Data Link

![Graph 1](image1.png)

Average capacity 12.00 Mbit/s (shaded region)

![Graph 2](image2.png)

- Flow 1 ingress (mean 4.06 Mbit/s)
- Flow 1 egress (mean 4.06 Mbit/s)
- Flow 2 ingress (mean 2.22 Mbit/s)
- Flow 2 egress (mean 2.22 Mbit/s)
- Flow 3 ingress (mean 0.00 Mbit/s)
- Flow 3 egress (mean 0.00 Mbit/s)

![Graph 3](image3.png)

- Flow 1 (95th percentile 12.53 ms)
- Flow 2 (95th percentile 30.37 ms)
- Flow 3 (95th percentile 12.60 ms)
Run 2: Statistics of PCC

Start at: 2018-03-20 18:01:52
End at: 2018-03-20 18:02:22

# Below is generated by plot.py at 2018-03-20 19:33:26
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 6.07 Mbit/s (50.6% utilization)
95th percentile per-packet one-way delay: 13.326 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 4.57 Mbit/s
95th percentile per-packet one-way delay: 12.543 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 84.327 ms
Loss rate: 0.05%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.359 ms
Loss rate: 0.00%
Run 2: Report of PCC — Data Link

![Graph showing average network capacity and packet delay over time for different flows.](image-url)

- **Average capacity**: 12.00 Mbit/s (shaded region)
- **Throughput (Mbps)**
  - Time (s): 0 to 30
  - Flow 1 ingress (mean 4.37 Mbit/s)
  - Flow 1 egress (mean 4.37 Mbit/s)
  - Flow 2 ingress (mean 2.27 Mbit/s)
  - Flow 2 egress (mean 2.27 Mbit/s)
  - Flow 3 ingress (mean 0.00 Mbit/s)
  - Flow 3 egress (mean 0.00 Mbit/s)

- **Per-packet one-way delay (ms)**
  - Time (s): 0 to 30
  - Flow 1 (95th percentile 12.54 ms)
  - Flow 2 (95th percentile 84.33 ms)
  - Flow 3 (95th percentile 12.36 ms)
Run 3: Statistics of PCC

Start at: 2018-03-20 18:12:05
End at: 2018-03-20 18:12:35

# Below is generated by plot.py at 2018-03-20 19:33:34
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 4.95 Mbit/s (41.3% utilization)
  95th percentile per-packet one-way delay: 12.830 ms
  Loss rate: 0.05%
-- Flow 1:
  Average throughput: 3.51 Mbit/s
  95th percentile per-packet one-way delay: 12.831 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 2.16 Mbit/s
  95th percentile per-packet one-way delay: 12.825 ms
  Loss rate: 0.07%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 12.795 ms
  Loss rate: 0.00%

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Run 3: Report of PCC — Data Link

![Graphs showing data link performance metrics including average capacity, throughput, and packet delay over time.](image-url)
Run 4: Statistics of PCC

Start at: 2018-03-20 18:22:19
End at: 2018-03-20 18:22:49

# Below is generated by plot.py at 2018-03-20 19:33:37
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 6.73 Mbit/s (56.0% utilization)
95th percentile per-packet one-way delay: 412.843 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 3.66 Mbit/s
95th percentile per-packet one-way delay: 148.939 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 4.61 Mbit/s
95th percentile per-packet one-way delay: 526.693 ms
Loss rate: 0.04%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.580 ms
Loss rate: 0.00%
Run 4: Report of PCC — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 3.66 Mbit/s)  Flow 1 egress (mean 3.66 Mbit/s)
Flow 2 ingress (mean 4.61 Mbit/s)  Flow 2 egress (mean 4.61 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Per packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 148.94 ms)  Flow 2 (95th percentile 526.69 ms)  Flow 3 (95th percentile 12.58 ms)
Run 5: Statistics of PCC

Start at: 2018-03-20 18:32:32
End at: 2018-03-20 18:33:02

# Below is generated by plot.py at 2018-03-20 19:33:37
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 5.80 Mbit/s (48.4% utilization)
95th percentile per-packet one-way delay: 13.858 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 4.33 Mbit/s
95th percentile per-packet one-way delay: 12.956 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 2.22 Mbit/s
95th percentile per-packet one-way delay: 21.072 ms
Loss rate: 0.06%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.449 ms
Loss rate: 0.00%
Run 5: Report of PCC — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Flow 1 ingress (mean 4.33 Mbit/s)  Flow 1 egress (mean 4.33 Mbit/s)
Flow 2 ingress (mean 2.22 Mbit/s)  Flow 2 egress (mean 2.22 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Per-packet one-way delay (ms)

Flow 1 (95th percentile 12.96 ms)  Flow 2 (95th percentile 21.07 ms)  Flow 3 (95th percentile 12.45 ms)
Run 6: Statistics of PCC

Start at: 2018-03-20 18:42:46
End at: 2018-03-20 18:43:16

# Below is generated by plot.py at 2018-03-20 19:33:51
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 10.54 Mbit/s (87.8% utilization)
  95th percentile per-packet one-way delay: 14892.520 ms
  Loss rate: 67.08%
-- Flow 1:
  Average throughput: 3.83 Mbit/s
  95th percentile per-packet one-way delay: 561.465 ms
  Loss rate: 52.83%
-- Flow 2:
  Average throughput: 10.11 Mbit/s
  95th percentile per-packet one-way delay: 15410.109 ms
  Loss rate: 71.90%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
Run 6: Report of PCC — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

0 5 10 15 20 25 30

Flow 1 ingress (mean 8.09 Mbit/s)  Flow 1 egress (mean 3.83 Mbit/s)
Flow 2 ingress (mean 35.96 Mbit/s)  Flow 2 egress (mean 10.11 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

0 5 10 15 20 25 30

Flow 1 (95th percentile 561.47 ms)  Flow 2 (95th percentile 15410.11 ms)
Run 7: Statistics of PCC

Start at: 2018-03-20 18:53:01
End at: 2018-03-20 18:53:31

# Below is generated by plot.py at 2018-03-20 19:33:52
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 10.59 Mbit/s (88.2% utilization)
  95th percentile per-packet one-way delay: 14596.789 ms
  Loss rate: 71.08%
-- Flow 1:
  Average throughput: 4.02 Mbit/s
  95th percentile per-packet one-way delay: 578.541 ms
  Loss rate: 52.95%
-- Flow 2:
  Average throughput: 9.90 Mbit/s
  95th percentile per-packet one-way delay: 15138.440 ms
  Loss rate: 76.57%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
Run 7: Report of PCC — Data Link

![Graph 1: Throughput (Mbps)](image1)

- Average capacity 12.00 Mbps (shaded region)
- Flow 1 ingress (mean 8.51 Mbps), Flow 1 egress (mean 4.02 Mbps)
- Flow 2 ingress (mean 42.25 Mbps), Flow 2 egress (mean 9.90 Mbps)
- Flow 3 ingress (mean 0.00 Mbps), Flow 3 egress (mean 0.00 Mbps)

![Graph 2: Per packet one way delay (ms)](image2)

- Flow 1 (99th percentile 578.54 ms)
- Flow 2 (99th percentile 15138.44 ms)
Run 8: Statistics of PCC

Start at: 2018-03-20 19:03:15
End at: 2018-03-20 19:03:45

# Below is generated by plot.py at 2018-03-20 19:33:52
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 5.86 Mbit/s (48.8% utilization)
  95th percentile per-packet one-way delay: 12.983 ms
  Loss rate: 0.04%
-- Flow 1:
  Average throughput: 4.36 Mbit/s
  95th percentile per-packet one-way delay: 12.569 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 2.25 Mbit/s
  95th percentile per-packet one-way delay: 53.318 ms
  Loss rate: 0.05%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 13.523 ms
  Loss rate: 0.00%
Run 8: Report of PCC — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

0 2 4 6 8 10 12
0 5 10 15 20 25 30

Flow 1 ingress (mean 4.36 Mbit/s)  Flow 1 egress (mean 4.36 Mbit/s)
Flow 2 ingress (mean 2.25 Mbit/s)  Flow 2 egress (mean 2.25 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Per packet one way delay (ms)

20 40 60 80 100 120 140 160
0 10 20 30 40 50 60 70 80 90 100

Flow 1 (95th percentile 12.57 ms)  Flow 2 (95th percentile 53.32 ms)  Flow 3 (95th percentile 13.52 ms)
Run 9: Statistics of PCC

Start at: 2018-03-20 19:13:29
End at: 2018-03-20 19:13:59

# Below is generated by plot.py at 2018-03-20 19:34:03
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 10.65 Mbit/s (88.7% utilization)
95th percentile per-packet one-way delay: 14665.014 ms
Loss rate: 73.51%
-- Flow 1:
Average throughput: 4.03 Mbit/s
95th percentile per-packet one-way delay: 629.910 ms
Loss rate: 52.54%
-- Flow 2:
Average throughput: 9.96 Mbit/s
95th percentile per-packet one-way delay: 15208.721 ms
Loss rate: 79.12%
-- Flow 3:
Average throughput: 0.00 Mbit/s
Run 9: Report of PCC — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Flow 1 ingress (mean 8.48 Mbit/s)  Flow 1 egress (mean 4.03 Mbit/s)
Flow 2 ingress (mean 47.68 Mbit/s) Flow 2 egress (mean 9.96 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Per packet one way delay (ms)

Flow 1 (95th percentile 629.91 ms)  Flow 2 (95th percentile 15208.72 ms)
Run 10: Statistics of PCC

Start at: 2018-03-20 19:23:43
End at: 2018-03-20 19:24:13

# Below is generated by plot.py at 2018-03-20 19:34:03
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 10.58 Mbit/s (88.2% utilization)
  95th percentile per-packet one-way delay: 14565.796 ms
  Loss rate: 71.02%
-- Flow 1:
  Average throughput: 4.02 Mbit/s
  95th percentile per-packet one-way delay: 593.370 ms
  Loss rate: 51.59%
-- Flow 2:
  Average throughput: 9.88 Mbit/s
  95th percentile per-packet one-way delay: 15108.794 ms
  Loss rate: 76.73%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
Run 10: Report of PCC — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mb/s) vs Time (s)

Flow 1 ingress (mean 8.29 Mbit/s)  Flow 1 egress (mean 4.02 Mbit/s)
Flow 2 ingress (mean 42.43 Mbit/s)  Flow 2 egress (mean 9.88 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Packet one way delay (ms)

Flow 1 (95th percentile 593.37 ms)  Flow 2 (95th percentile 15108.79 ms)
Run 1: Statistics of QUIC Cubic

Start at: 2018-03-20 17:53:21
End at: 2018-03-20 17:53:51

# Below is generated by plot.py at 2018-03-20 19:34:03
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.09 Mbit/s (25.7% utilization)
  95th percentile per-packet one-way delay: 12.260 ms
  Loss rate: 0.04%
-- Flow 1:
  Average throughput: 2.63 Mbit/s
  95th percentile per-packet one-way delay: 12.198 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 0.65 Mbit/s
  95th percentile per-packet one-way delay: 12.824 ms
  Loss rate: 0.09%
-- Flow 3:
  Average throughput: 0.17 Mbit/s
  95th percentile per-packet one-way delay: 18.364 ms
  Loss rate: 0.00%
Run 1: Report of QUIC Cubic — Data Link
Run 2: Statistics of QUIC Cubic

Start at: 2018-03-20 18:03:34
End at: 2018-03-20 18:04:04

# Below is generated by plot.py at 2018-03-20 19:34:03
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.11 Mbit/s (25.9% utilization)
95th percentile per-packet one-way delay: 12.265 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 2.54 Mbit/s
95th percentile per-packet one-way delay: 12.194 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 12.794 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 17.484 ms
Loss rate: 0.00%
Run 3: Statistics of QUIC Cubic

Start at: 2018-03-20 18:13:48
End at: 2018-03-20 18:14:18

# Below is generated by plot.py at 2018-03-20 19:34:03
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.08 Mbit/s (25.7% utilization)
  95th percentile per-packet one-way delay: 12.302 ms
  Loss rate: 0.02%
-- Flow 1:
  Average throughput: 2.65 Mbit/s
  95th percentile per-packet one-way delay: 12.217 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 0.60 Mbit/s
  95th percentile per-packet one-way delay: 12.841 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.17 Mbit/s
  95th percentile per-packet one-way delay: 17.489 ms
  Loss rate: 0.00%
Run 3: Report of QUIC Cubic — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

0  5  10  15  20  25  30

Flow 1 ingress (mean 2.65 Mbit/s)  Flow 1 egress (mean 2.65 Mbit/s)
Flow 2 ingress (mean 0.60 Mbit/s)  Flow 2 egress (mean 0.60 Mbit/s)
Flow 3 ingress (mean 0.17 Mbit/s)  Flow 3 egress (mean 0.17 Mbit/s)

Per packet one way delay (ms)

0  5  10  15  20  25  30

Flow 1 (95th percentile 12.22 ms)  Flow 2 (95th percentile 12.84 ms)  Flow 3 (95th percentile 17.49 ms)
Run 4: Statistics of QUIC Cubic

Start at: 2018-03-20 18:24:01
End at: 2018-03-20 18:24:31

# Below is generated by plot.py at 2018-03-20 19:34:03
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.11 Mbit/s (25.9% utilization)
95th percentile per-packet one-way delay: 12.294 ms
Loss rate: 0.02%
-- Flow 1:
Average throughput: 2.56 Mbit/s
95th percentile per-packet one-way delay: 12.214 ms
Loss rate: 0.01%
-- Flow 2:
Average throughput: 0.80 Mbit/s
95th percentile per-packet one-way delay: 12.787 ms
Loss rate: 0.07%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 18.442 ms
Loss rate: 0.00%
Run 4: Report of QUIC Cubic — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.56 Mbit/s)  
Flow 1 egress (mean 2.56 Mbit/s)
Flow 2 ingress (mean 0.80 Mbit/s)  
Flow 2 egress (mean 0.80 Mbit/s)
Flow 3 ingress (mean 0.14 Mbit/s)  
Flow 3 egress (mean 0.14 Mbit/s)

Per packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 12.21 ms)  
Flow 2 (95th percentile 12.79 ms)  
Flow 3 (95th percentile 18.44 ms)
Run 5: Statistics of QUIC Cubic

Start at: 2018-03-20 18:34:15
End at: 2018-03-20 18:34:45

# Below is generated by plot.py at 2018-03-20 19:34:03
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.12 Mbit/s (26.0% utilization)
95th percentile per-packet one-way delay: 12.325 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 2.56 Mbit/s
95th percentile per-packet one-way delay: 12.194 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 12.769 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 0.17 Mbit/s
95th percentile per-packet one-way delay: 16.024 ms
Loss rate: 0.80%
Run 5: Report of QUIC Cubic — Data Link
Run 6: Statistics of QUIC Cubic

Start at: 2018-03-20 18:44:29
End at: 2018-03-20 18:44:59

# Below is generated by plot.py at 2018-03-20 19:34:03
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.11 Mbit/s (25.9% utilization)
  95th percentile per-packet one-way delay: 12.278 ms
  Loss rate: 0.04%
  -- Flow 1:
  Average throughput: 2.55 Mbit/s
  95th percentile per-packet one-way delay: 12.199 ms
  Loss rate: 0.03%
  -- Flow 2:
  Average throughput: 0.81 Mbit/s
  95th percentile per-packet one-way delay: 12.749 ms
  Loss rate: 0.07%
  -- Flow 3:
  Average throughput: 0.18 Mbit/s
  95th percentile per-packet one-way delay: 16.665 ms
  Loss rate: 0.00%
Run 6: Report of QUIC Cubic — Data Link

\[ \text{Average capacity 12.00 Mbit/s (shaded region)} \]

Throughput (Mbit/s)

\[ \text{Time (s)} \]

Flow 1 ingress (mean 2.95 Mbit/s)
Flow 1 egress (mean 2.95 Mbit/s)
Flow 2 ingress (mean 0.81 Mbit/s)
Flow 2 egress (mean 0.81 Mbit/s)
Flow 3 ingress (mean 0.18 Mbit/s)
Flow 3 egress (mean 0.18 Mbit/s)

Per packet one way delay (ms)

\[ \text{Time (s)} \]

Flow 1 (95th percentile 12.20 ms)
Flow 2 (95th percentile 12.75 ms)
Flow 3 (95th percentile 16.66 ms)
Run 7: Statistics of QUIC Cubic

Start at: 2018-03-20 18:54:43
End at: 2018-03-20 18:55:13

# Below is generated by plot.py at 2018-03-20 19:34:03
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.10 Mbit/s (25.9% utilization)
95th percentile per-packet one-way delay: 12.288 ms
Loss rate: 0.05%
-- Flow 1:
Average throughput: 2.56 Mbit/s
95th percentile per-packet one-way delay: 12.203 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 12.765 ms
Loss rate: 0.15%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 17.252 ms
Loss rate: 0.00%
Run 7: Report of QUIC Cubic — Data Link

![Graph showing throughput and packet delay over time.]

- Average capacity 12.00 Mbit/s (shaded region)
- Throughput in Mbps over time (0-30 seconds).
- Packet delay in ms over time (0-30 seconds).

Legend:
- Flow 1 ingress (mean 2.96 Mbit/s)
- Flow 1 egress (mean 2.96 Mbit/s)
- Flow 2 ingress (mean 0.78 Mbit/s)
- Flow 2 egress (mean 0.78 Mbit/s)
- Flow 3 ingress (mean 0.14 Mbit/s)
- Flow 3 egress (mean 0.14 Mbit/s)
Run 8: Statistics of QUIC Cubic

Start at: 2018-03-20 19:04:58
End at: 2018-03-20 19:05:28

# Below is generated by plot.py at 2018-03-20 19:34:03
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.11 Mbit/s (25.9% utilization)
95th percentile per-packet one-way delay: 12.257 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 2.56 Mbit/s
95th percentile per-packet one-way delay: 12.184 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 12.757 ms
Loss rate: 0.08%
-- Flow 3:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 17.645 ms
Loss rate: 0.00%
Run 8: Report of QUIC Cubic — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.56 Mbit/s) — Flow 1 egress (mean 2.56 Mbit/s)
Flow 2 ingress (mean 0.78 Mbit/s) — Flow 2 egress (mean 0.78 Mbit/s)
Flow 3 ingress (mean 0.14 Mbit/s) — Flow 3 egress (mean 0.14 Mbit/s)

Delay

One-way delay (ms)

Time (s)

Flow 1 (95th percentile 12.18 ms) — Flow 2 (95th percentile 12.76 ms) — Flow 3 (95th percentile 17.64 ms)
Run 9: Statistics of QUIC Cubic

Start at: 2018-03-20 19:15:12
End at: 2018-03-20 19:15:42

# Below is generated by plot.py at 2018-03-20 19:34:06
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.11 Mbit/s (25.9% utilization)
  95th percentile per-packet one-way delay: 12.376 ms
  Loss rate: 0.04%
-- Flow 1:
  Average throughput: 2.64 Mbit/s
  95th percentile per-packet one-way delay: 12.219 ms
  Loss rate: 0.01%
-- Flow 2:
  Average throughput: 0.62 Mbit/s
  95th percentile per-packet one-way delay: 12.810 ms
  Loss rate: 0.10%
-- Flow 3:
  Average throughput: 0.26 Mbit/s
  95th percentile per-packet one-way delay: 15.447 ms
  Loss rate: 0.53%
Run 9: Report of QUIC Cubic — Data Link
Run 10: Statistics of QUIC Cubic

Start at: 2018-03-20 19:25:26
End at: 2018-03-20 19:25:56

# Below is generated by plot.py at 2018-03-20 19:34:08
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.11 Mbit/s (25.9% utilization)
95th percentile per-packet one-way delay: 12.258 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 2.55 Mbit/s
95th percentile per-packet one-way delay: 12.177 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 0.83 Mbit/s
95th percentile per-packet one-way delay: 12.791 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.13 Mbit/s
95th percentile per-packet one-way delay: 16.883 ms
Loss rate: 0.00%
Run 10: Report of QUIC Cubic — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.55 Mbit/s)
Flow 1 egress (mean 2.55 Mbit/s)
Flow 2 ingress (mean 0.83 Mbit/s)
Flow 2 egress (mean 0.83 Mbit/s)
Flow 3 ingress (mean 0.13 Mbit/s)
Flow 3 egress (mean 0.13 Mbit/s)

Throughput per packet over time (ms)

Time (s)

Flow 1 (95th percentile 12.18 ms)
Flow 2 (95th percentile 12.79 ms)
Flow 3 (95th percentile 16.88 ms)
Run 1: Statistics of SCReAM

Start at: 2018-03-20 17:49:57
End at: 2018-03-20 17:50:27

# Below is generated by plot.py at 2018-03-20 19:34:08
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 0.43 Mbit/s (3.6% utilization)
95th percentile per-packet one-way delay: 11.539 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 11.544 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 11.485 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 11.636 ms
Loss rate: 0.00%
Run 1: Report of SCReAM — Data Link

![Graph showing data link performance with average capacity 12.00 Mbit/s (shaded region).](image)

- **Flow 1** ingress (mean 0.22 Mbit/s)
- **Flow 1** egress (mean 0.22 Mbit/s)
- **Flow 2** ingress (mean 0.22 Mbit/s)
- **Flow 2** egress (mean 0.22 Mbit/s)
- **Flow 3** ingress (mean 0.22 Mbit/s)
- **Flow 3** egress (mean 0.22 Mbit/s)

![Graph showing packet delay distribution.](image)

- **Flow 1** (95th percentile 11.54 ms)
- **Flow 2** (95th percentile 11.48 ms)
- **Flow 3** (95th percentile 11.64 ms)
Run 2: Statistics of SCReAM

Start at: 2018-03-20 18:00:10
End at: 2018-03-20 18:00:40

# Below is generated by plot.py at 2018-03-20 19:34:10
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 0.43 Mbit/s (3.6% utilization)
  95th percentile per-packet one-way delay: 11.562 ms
  Loss rate: 0.00%
  -- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 11.563 ms
  Loss rate: 0.00%
  -- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 11.491 ms
  Loss rate: 0.00%
  -- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 11.578 ms
  Loss rate: 0.00%
Run 2: Report of SCReAM — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Flow 1 ingress (mean 0.21 Mbit/s)  Flow 1 egress (mean 0.21 Mbit/s)
Flow 2 ingress (mean 0.22 Mbit/s)  Flow 2 egress (mean 0.22 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s)  Flow 3 egress (mean 0.22 Mbit/s)

Per-packet one-way delay (ms)

Flow 1 (95th percentile 11.56 ms)  Flow 2 (95th percentile 11.49 ms)  Flow 3 (95th percentile 11.58 ms)
Run 3: Statistics of SCReAM

Start at: 2018-03-20 18:10:24
End at: 2018-03-20 18:10:54

# Below is generated by plot.py at 2018-03-20 19:34:13
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 0.43 Mbit/s (3.6% utilization)
  95th percentile per-packet one-way delay: 11.982 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 12.000 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 11.553 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 11.658 ms
  Loss rate: 0.00%
Run 3: Report of SCReAM — Data Link
Run 4: Statistics of SCReAM

Start at: 2018-03-20 18:20:37
End at: 2018-03-20 18:21:07

# Below is generated by plot.py at 2018-03-20 19:34:14
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 0.43 Mbit/s (3.6% utilization)
  95th percentile per-packet one-way delay: 11.589 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 11.544 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 11.583 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 11.646 ms
  Loss rate: 0.00%
Run 4: Report of SCReAM — Data Link

---

**Average capacity 12.00 Mbit/s (shaded region)**

- **Throughput (Mbit/s)**
  - 0 to 12

**Time (s)**
- 0 to 30

- **Flow 1 ingress (mean 0.22 Mbit/s)**
- **Flow 1 egress (mean 0.22 Mbit/s)**
- **Flow 2 ingress (mean 0.22 Mbit/s)**
- **Flow 2 egress (mean 0.22 Mbit/s)**
- **Flow 3 ingress (mean 0.22 Mbit/s)**
- **Flow 3 egress (mean 0.22 Mbit/s)**

---

**Per packet one way delay (ms)**

- 11.0 to 14.0

**Time (s)**
- 0 to 30

- **Flow 1 (95th percentile 11.54 ms)**
- **Flow 2 (95th percentile 11.58 ms)**
- **Flow 3 (95th percentile 11.65 ms)**
Run 5: Statistics of SCReAM

Start at: 2018-03-20 18:30:51
End at: 2018-03-20 18:31:21

# Below is generated by plot.py at 2018-03-20 19:34:14
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 0.43 Mbit/s (3.6% utilization)
  95th percentile per-packet one-way delay: 11.605 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 11.583 ms
  Loss rate: 0.13%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 11.542 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 11.687 ms
  Loss rate: 0.00%
Run 5: Report of SCReAM — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.23 Mbit/s) — Flow 1 egress (mean 0.23 Mbit/s)
Flow 2 ingress (mean 0.22 Mbit/s) — Flow 2 egress (mean 0.22 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s) — Flow 3 egress (mean 0.22 Mbit/s)

Packet end-to-end delay (ms)

Time (s)

Flow 1 (95th percentile 11.58 ms) — Flow 2 (95th percentile 11.54 ms) — Flow 3 (95th percentile 11.69 ms)
Run 6: Statistics of SCReAM

Start at: 2018-03-20 18:41:04
End at: 2018-03-20 18:41:34

# Below is generated by plot.py at 2018-03-20 19:34:14
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 0.43 Mbit/s (3.6% utilization)
95th percentile per-packet one-way delay: 11.818 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 11.842 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 11.712 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 11.123 ms
Loss rate: 0.00%
Run 6: Report of SCReAM — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Flow 1 ingress (mean 0.22 Mbit/s)  Flow 1 egress (mean 0.22 Mbit/s)
Flow 2 ingress (mean 0.22 Mbit/s)  Flow 2 egress (mean 0.22 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s)  Flow 3 egress (mean 0.22 Mbit/s)

Throughput (Mbit/s)

Time (s)

Per-packet one-way delay (ms)

Flow 1 (95th percentile 11.84 ms)  Flow 2 (95th percentile 11.71 ms)  Flow 3 (95th percentile 11.12 ms)
Run 7: Statistics of SCReAM

Start at: 2018-03-20 18:51:18
End at: 2018-03-20 18:51:48

# Below is generated by plot.py at 2018-03-20 19:34:16
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 0.43 Mbit/s (3.6% utilization)
95th percentile per-packet one-way delay: 11.559 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 11.567 ms
Loss rate: 0.13%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 11.499 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 11.568 ms
Loss rate: 0.00%
Run 7: Report of SCReAM — Data Link

![Graph of Average capacity 12.00 Mbit/s (shaded region)]

- Flow 1 ingress (mean 0.21 Mbit/s)
- Flow 1 egress (mean 0.21 Mbit/s)
- Flow 2 ingress (mean 0.22 Mbit/s)
- Flow 2 egress (mean 0.22 Mbit/s)
- Flow 3 ingress (mean 0.22 Mbit/s)
- Flow 3 egress (mean 0.22 Mbit/s)

![Graph of Per-packet one-way delay (ms)]

- Flow 1 (95th percentile 11.57 ms)
- Flow 2 (95th percentile 11.50 ms)
- Flow 3 (95th percentile 11.57 ms)
Run 8: Statistics of SCReAM

Start at: 2018-03-20 19:01:33
End at: 2018-03-20 19:02:03

# Below is generated by plot.py at 2018-03-20 19:34:19
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 0.43 Mbit/s (3.6% utilization)
95th percentile per-packet one-way delay: 12.082 ms
Loss rate: 0.00%

-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 12.096 ms
Loss rate: 0.00%

-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 11.645 ms
Loss rate: 0.00%

-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 11.493 ms
Loss rate: 0.00%
Run 8: Report of SCReAM — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.22 Mbit/s)  Flow 1 egress (mean 0.22 Mbit/s)
Flow 2 ingress (mean 0.22 Mbit/s)  Flow 2 egress (mean 0.22 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s)  Flow 3 egress (mean 0.22 Mbit/s)

Get packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 12.10 ms)  Flow 2 (95th percentile 11.64 ms)  Flow 3 (95th percentile 11.49 ms)
Run 9: Statistics of SCReAM

Start at: 2018-03-20 19:11:47
End at: 2018-03-20 19:12:17

# Below is generated by plot.py at 2018-03-20 19:34:19
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 0.43 Mbit/s (3.6% utilization)
  95th percentile per-packet one-way delay: 11.535 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 0.21 Mbit/s
  95th percentile per-packet one-way delay: 11.542 ms
  Loss rate: 0.13%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 11.507 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 11.510 ms
  Loss rate: 0.00%
Run 9: Report of SCReAM — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.21 Mbit/s)  Flow 1 egress (mean 0.21 Mbit/s)
Flow 2 ingress (mean 0.22 Mbit/s)  Flow 2 egress (mean 0.22 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s)  Flow 3 egress (mean 0.22 Mbit/s)

Per-Queue one-way delay (ms)

Time (s)

Flow 1 (95th percentile 11.54 ms)  Flow 2 (95th percentile 11.51 ms)  Flow 3 (95th percentile 11.51 ms)
Run 10: Statistics of SCReAM

Start at: 2018-03-20 19:22:01
End at: 2018-03-20 19:22:31

# Below is generated by plot.py at 2018-03-20 19:34:21
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 0.43 Mbit/s (3.6% utilization)
95th percentile per-packet one-way delay: 12.063 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 11.573 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 12.093 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 11.607 ms
Loss rate: 0.00%
Run 10: Report of SCReAM — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Flow 1 ingress (mean 0.21 Mbit/s)  Flow 1 egress (mean 0.21 Mbit/s)
Flow 2 ingress (mean 0.22 Mbit/s)  Flow 2 egress (mean 0.22 Mbit/s)
Flow 3 ingress (mean 0.22 Mbit/s)  Flow 3 egress (mean 0.22 Mbit/s)

Per packet core wan delay (ms)

Flow 1 (95th percentile 11.57 ms)  Flow 2 (95th percentile 12.09 ms)  Flow 3 (95th percentile 11.61 ms)
Run 1: Statistics of WebRTC media

Start at: 2018-03-20 17:52:13
End at: 2018-03-20 17:52:43

# Below is generated by plot.py at 2018-03-20 19:34:30
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 4.10 Mbit/s (34.2% utilization)
95th percentile per-packet one-way delay: 30.015 ms
Loss rate: 0.13%

-- Flow 1:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 27.740 ms
Loss rate: 0.14%

-- Flow 2:
Average throughput: 1.39 Mbit/s
95th percentile per-packet one-way delay: 30.245 ms
Loss rate: 0.00%

-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 37.855 ms
Loss rate: 0.47%
Run 1: Report of WebRTC media — Data Link

![Graph showing data link throughput and packet delay over time.](image)

**Average capacity 12.00 Mbit/s (shaded region)**

**Graph Legend:**
- Flow 1 ingress (mean 2.28 Mbit/s)
- Flow 1 egress (mean 2.27 Mbit/s)
- Flow 2 ingress (mean 1.39 Mbit/s)
- Flow 2 egress (mean 1.39 Mbit/s)
- Flow 3 ingress (mean 0.45 Mbit/s)
- Flow 3 egress (mean 0.44 Mbit/s)

![Graph showing packet delay over time.](image)

**Graph Legend:**
- Flow 1 (95th percentile 27.74 ms)
- Flow 2 (95th percentile 30.25 ms)
- Flow 3 (95th percentile 37.85 ms)
Run 2: Statistics of WebRTC media

Start at: 2018-03-20 18:02:26
End at: 2018-03-20 18:02:56

# Below is generated by plot.py at 2018-03-20 19:34:31
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 4.06 Mbit/s (33.9% utilization)
  95th percentile per-packet one-way delay: 29.313 ms
  Loss rate: 0.11%
-- Flow 1:
  Average throughput: 2.27 Mbit/s
  95th percentile per-packet one-way delay: 27.332 ms
  Loss rate: 0.19%
-- Flow 2:
  Average throughput: 1.37 Mbit/s
  95th percentile per-packet one-way delay: 28.953 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 36.601 ms
  Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link

![Graph showing throughput over time for different flows with average capacity of 12.00 Mbit/s shaded.](image1)

![Graph showing packet delay over time with 95th percentile delays for different flows.](image2)
Run 3: Statistics of WebRTC media

Start at: 2018-03-20 18:12:40
End at: 2018-03-20 18:13:10

# Below is generated by plot.py at 2018-03-20 19:34:31
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.94 Mbit/s (32.8% utilization)
  95th percentile per-packet one-way delay: 29.376 ms
  Loss rate: 0.17%
-- Flow 1:
  Average throughput: 2.28 Mbit/s
  95th percentile per-packet one-way delay: 27.346 ms
  Loss rate: 0.17%
-- Flow 2:
  Average throughput: 1.38 Mbit/s
  95th percentile per-packet one-way delay: 29.412 ms
  Loss rate: 0.20%
-- Flow 3:
  Average throughput: 0.29 Mbit/s
  95th percentile per-packet one-way delay: 36.224 ms
  Loss rate: 0.10%
Run 3: Report of WebRTC media — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.28 Mbit/s)  Flow 1 egress (mean 2.28 Mbit/s)
Flow 2 ingress (mean 1.38 Mbit/s)  Flow 2 egress (mean 1.38 Mbit/s)
Flow 3 ingress (mean 0.29 Mbit/s)  Flow 3 egress (mean 0.29 Mbit/s)

Delay (ms)

Time (s)

Flow 1 (95th percentile 27.35 ms)  Flow 2 (95th percentile 29.41 ms)  Flow 3 (95th percentile 36.22 ms)
Run 4: Statistics of WebRTC media

End at: 2018-03-20 18:23:23

# Below is generated by plot.py at 2018-03-20 19:34:31
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 4.05 Mbit/s (33.8% utilization)
95th percentile per-packet one-way delay: 30.308 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 2.26 Mbit/s
95th percentile per-packet one-way delay: 28.280 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 1.38 Mbit/s
95th percentile per-packet one-way delay: 30.126 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.42 Mbit/s
95th percentile per-packet one-way delay: 38.767 ms
Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

0 10 20 30

Time (s)

- Flow 1 ingress (mean 2.26 Mbit/s)
- Flow 1 egress (mean 2.26 Mbit/s)
- Flow 2 ingress (mean 1.38 Mbit/s)
- Flow 2 egress (mean 1.38 Mbit/s)
- Flow 3 ingress (mean 0.42 Mbit/s)
- Flow 3 egress (mean 0.42 Mbit/s)

Packet error rate (%) vs. Time (s)

- Flow 1 (95th percentile 28.28 ms)
- Flow 2 (95th percentile 30.13 ms)
- Flow 3 (95th percentile 38.77 ms)
Run 5: Statistics of WebRTC media

Start at: 2018-03-20 18:33:07
End at: 2018-03-20 18:33:37

# Below is generated by plot.py at 2018-03-20 19:34:34
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.88 Mbit/s (32.4% utilization)
95th percentile per-packet one-way delay: 28.023 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 2.27 Mbit/s
95th percentile per-packet one-way delay: 27.235 ms
Loss rate: 0.19%
-- Flow 2:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 27.777 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 0.27 Mbit/s
95th percentile per-packet one-way delay: 32.391 ms
Loss rate: 0.48%
Run 5: Report of WebRTC media — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.27 Mbit/s)
Flow 1 egress (mean 2.27 Mbit/s)
Flow 2 ingress (mean 1.35 Mbit/s)
Flow 2 egress (mean 1.35 Mbit/s)
Flow 3 ingress (mean 0.27 Mbit/s)
Flow 3 egress (mean 0.27 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 27.23 ms)
Flow 2 (95th percentile 27.78 ms)
Flow 3 (95th percentile 32.39 ms)
Run 6: Statistics of WebRTC media

Start at: 2018-03-20 18:43:21
End at: 2018-03-20 18:43:51

# Below is generated by plot.py at 2018-03-20 19:34:37
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 4.06 Mbit/s (33.9% utilization)
  95th percentile per-packet one-way delay: 29.515 ms
  Loss rate: 0.18%
-- Flow 1:
  Average throughput: 2.27 Mbit/s
  95th percentile per-packet one-way delay: 27.154 ms
  Loss rate: 0.12%
-- Flow 2:
  Average throughput: 1.36 Mbit/s
  95th percentile per-packet one-way delay: 28.067 ms
  Loss rate: 0.17%
-- Flow 3:
  Average throughput: 0.43 Mbit/s
  95th percentile per-packet one-way delay: 34.907 ms
  Loss rate: 0.55%
Run 6: Report of WebRTC media — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.28 Mbit/s)  
Flow 1 egress (mean 2.27 Mbit/s)  
Flow 2 ingress (mean 1.36 Mbit/s)  
Flow 2 egress (mean 1.36 Mbit/s)  
Flow 3 ingress (mean 0.44 Mbit/s)  
Flow 3 egress (mean 0.43 Mbit/s)

Packet round-trip delay (ms)

Time (s)

Flow 1 (95th percentile 27.15 ms)  
Flow 2 (95th percentile 28.07 ms)  
Flow 3 (95th percentile 34.91 ms)
Run 7: Statistics of WebRTC media

Start at: 2018-03-20 18:53:35
End at: 2018-03-20 18:54:05

# Below is generated by plot.py at 2018-03-20 19:34:37
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.94 Mbit/s (32.8% utilization)
  95th percentile per-packet one-way delay: 29.295 ms
  Loss rate: 0.22%
-- Flow 1:
  Average throughput: 2.23 Mbit/s
  95th percentile per-packet one-way delay: 26.960 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.33 Mbit/s
  95th percentile per-packet one-way delay: 29.926 ms
  Loss rate: 0.33%
-- Flow 3:
  Average throughput: 0.39 Mbit/s
  95th percentile per-packet one-way delay: 33.005 ms
  Loss rate: 1.06%
Run 7: Report of WebRTC media — Data Link
Run 8: Statistics of WebRTC media

Start at: 2018-03-20 19:03:49
End at: 2018-03-20 19:04:19

# Below is generated by plot.py at 2018-03-20 19:34:38
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.84 Mbit/s (32.0% utilization)
95th percentile per-packet one-way delay: 25.224 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 2.24 Mbit/s
95th percentile per-packet one-way delay: 23.909 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 1.35 Mbit/s
95th percentile per-packet one-way delay: 26.533 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 28.499 ms
Loss rate: 0.62%
Run 8: Report of WebRTC media — Data Link

![Graph showing network throughput and packet delay over time for different flows.]

- **Average capacity**: 12.00 Mbit/s (shaded region)

**Throughput (Mbps)**

<table>
<thead>
<tr>
<th>Time (s)</th>
<th>0</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
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<tbody>
<tr>
<td>Flow 1</td>
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<td>Flow 2</td>
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<td>Flow 3</td>
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</tbody>
</table>

**Flow 1**
- Ingress: mean 2.76 Mbps
- Egress: mean 2.76 Mbps

**Flow 2**
- Ingress: mean 1.35 Mbps
- Egress: mean 1.35 Mbps

**Flow 3**
- Ingress: mean 0.27 Mbps
- Egress: mean 0.26 Mbps

**Packet Delay (ms)**

<table>
<thead>
<tr>
<th>Time (s)</th>
<th>0</th>
<th>5</th>
<th>10</th>
<th>15</th>
<th>20</th>
<th>25</th>
<th>30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flow 1</td>
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<td>Flow 2</td>
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<td>Flow 3</td>
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</tbody>
</table>

- Flow 1 (95th percentile: 23.91 ms)
- Flow 2 (95th percentile: 26.53 ms)
- Flow 3 (95th percentile: 28.50 ms)
Run 9: Statistics of WebRTC media

Start at: 2018-03-20 19:14:04
End at: 2018-03-20 19:14:34

# Below is generated by plot.py at 2018-03-20 19:34:45
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.99 Mbit/s (33.2% utilization)
95th percentile per-packet one-way delay: 28.257 ms
Loss rate: 0.21%
-- Flow 1:
Average throughput: 2.28 Mbit/s
95th percentile per-packet one-way delay: 26.562 ms
Loss rate: 0.18%
-- Flow 2:
Average throughput: 1.36 Mbit/s
95th percentile per-packet one-way delay: 28.863 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 0.35 Mbit/s
95th percentile per-packet one-way delay: 32.398 ms
Loss rate: 0.00%
Run 9: Report of WebRTC media — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.28 Mbit/s)
Flow 1 egress (mean 2.28 Mbit/s)
Flow 2 ingress (mean 1.37 Mbit/s)
Flow 2 egress (mean 1.36 Mbit/s)
Flow 3 ingress (mean 0.35 Mbit/s)
Flow 3 egress (mean 0.35 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 26.56 ms)
Flow 2 (95th percentile 28.86 ms)
Flow 3 (95th percentile 32.40 ms)
Run 10: Statistics of WebRTC media

Start at: 2018-03-20 19:24:18
End at: 2018-03-20 19:24:48

# Below is generated by plot.py at 2018-03-20 19:34:46
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 4.04 Mbit/s (33.7% utilization)
  95th percentile per-packet one-way delay: 28.039 ms
  Loss rate: 0.05%
-- Flow 1:
  Average throughput: 2.22 Mbit/s
  95th percentile per-packet one-way delay: 26.271 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.38 Mbit/s
  95th percentile per-packet one-way delay: 27.879 ms
  Loss rate: 0.02%
-- Flow 3:
  Average throughput: 0.45 Mbit/s
  95th percentile per-packet one-way delay: 32.787 ms
  Loss rate: 0.34%
Run 10: Report of WebRTC media — Data Link

![Graph 1: Average capacity 12.00 Mbit/s (shaded region)]

![Graph 2: Packet error rate (PER) per flow]
Run 1: Statistics of Sprout

Start at: 2018-03-20 17:56:11
End at: 2018-03-20 17:56:41

# Below is generated by plot.py at 2018-03-20 19:34:54
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 9.78 Mbit/s (81.5% utilization)
  95th percentile per-packet one-way delay: 162.939 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 6.48 Mbit/s
  95th percentile per-packet one-way delay: 157.226 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 3.75 Mbit/s
  95th percentile per-packet one-way delay: 165.931 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 2.48 Mbit/s
  95th percentile per-packet one-way delay: 174.354 ms
  Loss rate: 0.00%
Run 1: Report of Sprout — Data Link

![Graph showing throughput and packet loss over time for different flows.]

- **Throughput (Mbps):**
  - Average capacity: 12.00 Mbps (shaded region)

- **Time (s):**
  - 0 to 30 seconds

- **Flow 1:**
  - Ingress (mean 6.48 Mbps)
  - Egress (mean 6.68 Mbps)

- **Flow 2:**
  - Ingress (mean 3.74 Mbps)
  - Egress (mean 3.75 Mbps)

- **Flow 3:**
  - Ingress (mean 2.44 Mbps)
  - Egress (mean 2.48 Mbps)

- **Packet Loss (ms):**
  - 0 to 200 milliseconds

- **Time (s):**
  - 0 to 30 seconds

- **Flow 1:** (95th percentile 157.23 ms)
- **Flow 2:** (95th percentile 165.93 ms)
- **Flow 3:** (95th percentile 174.35 ms)
Run 2: Statistics of Sprout

Start at: 2018-03-20 18:06:25
End at: 2018-03-20 18:06:55

# Below is generated by plot.py at 2018-03-20 19:34:54
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 8.39 Mbit/s (69.9% utilization)
  95th percentile per-packet one-way delay: 124.151 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 6.18 Mbit/s
  95th percentile per-packet one-way delay: 116.329 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 3.21 Mbit/s
  95th percentile per-packet one-way delay: 136.574 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.26 Mbit/s
  95th percentile per-packet one-way delay: 109.866 ms
  Loss rate: 0.00%
Run 2: Report of Sprout — Data Link

![Graph showing data link throughput and packet delay over time.]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 6.18 Mbps)
  - Flow 1 egress (mean 6.18 Mbps)
  - Flow 2 ingress (mean 3.20 Mbps)
  - Flow 2 egress (mean 3.23 Mbps)
  - Flow 3 ingress (mean 0.26 Mbps)
  - Flow 3 egress (mean 0.26 Mbps)

- **Packet Delay:**
  - Flow 1 (95th percentile 116.33 ms)
  - Flow 2 (95th percentile 136.57 ms)
  - Flow 3 (95th percentile 109.87 ms)
Run 3: Statistics of Sprout

Start at: 2018-03-20 18:16:38
End at: 2018-03-20 18:17:08

# Below is generated by plot.py at 2018-03-20 19:34:55
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 8.73 Mbit/s (72.7% utilization)
95th percentile per-packet one-way delay: 158.957 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.15 Mbit/s
95th percentile per-packet one-way delay: 156.393 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.74 Mbit/s
95th percentile per-packet one-way delay: 161.269 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.30 Mbit/s
95th percentile per-packet one-way delay: 166.862 ms
Loss rate: 0.00%
Run 3: Report of Sprout — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 6.15 Mbit/s)  Flow 1 egress (mean 6.15 Mbit/s)
Flow 2 ingress (mean 3.73 Mbit/s)  Flow 2 egress (mean 3.74 Mbit/s)
Flow 3 ingress (mean 0.30 Mbit/s)  Flow 3 egress (mean 0.30 Mbit/s)

Per-packet end-to-end delay (ms)

Time (s)

Flow 1 (95th percentile 156.39 ms)  Flow 2 (95th percentile 161.27 ms)  Flow 3 (95th percentile 166.86 ms)
Run 4: Statistics of Sprout

Start at: 2018-03-20 18:26:52
End at: 2018-03-20 18:27:22

# Below is generated by plot.py at 2018-03-20 19:34:57
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 8.79 Mbit/s (73.3% utilization)
  95th percentile per-packet one-way delay: 159.146 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 6.46 Mbit/s
  95th percentile per-packet one-way delay: 151.936 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 3.38 Mbit/s
  95th percentile per-packet one-way delay: 165.757 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.27 Mbit/s
  95th percentile per-packet one-way delay: 143.813 ms
  Loss rate: 0.00%
Run 4: Report of Sprout — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

0  5  10  15  20  25  30
0  2  4  6  8 10

Flow 1 ingress (mean 6.46 Mbit/s)  Flow 1 egress (mean 6.46 Mbit/s)
Flow 2 ingress (mean 3.38 Mbit/s)  Flow 2 egress (mean 3.38 Mbit/s)
Flow 3 ingress (mean 0.27 Mbit/s)  Flow 3 egress (mean 0.27 Mbit/s)

Per-packet end-to-end delay (ms)

200  20  150  125  100  75  50  25
0  5  10  15  20  25  30

Flow 1 (95th percentile 151.94 ms)  Flow 2 (95th percentile 165.76 ms)  Flow 3 (95th percentile 143.81 ms)
Run 5: Statistics of Sprout

Start at: 2018-03-20 18:37:05
End at: 2018-03-20 18:37:35

# Below is generated by plot.py at 2018-03-20 19:34:58
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 9.55 Mbit/s (79.6% utilization)
95th percentile per-packet one-way delay: 170.676 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 6.82 Mbit/s
95th percentile per-packet one-way delay: 169.493 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.90 Mbit/s
95th percentile per-packet one-way delay: 173.293 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 140.955 ms
Loss rate: 0.00%
Run 5: Report of Sprout — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 6.82 Mbit/s)  Flow 1 egress (mean 6.82 Mbit/s)
Flow 2 ingress (mean 3.80 Mbit/s)  Flow 2 egress (mean 3.90 Mbit/s)
Flow 3 ingress (mean 0.43 Mbit/s)  Flow 3 egress (mean 0.44 Mbit/s)

Per packet end-to-end delay (ms)

Time (s)

Flow 1 (95th percentile 169.49 ms)  Flow 2 (95th percentile 173.29 ms)  Flow 3 (95th percentile 140.96 ms)
Run 6: Statistics of Sprout

Start at: 2018-03-20 18:47:19
End at: 2018-03-20 18:47:50

# Below is generated by plot.py at 2018-03-20 19:34:59
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 9.28 Mbit/s (77.3% utilization)
  95th percentile per-packet one-way delay: 169.776 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 6.44 Mbit/s
  95th percentile per-packet one-way delay: 164.441 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 3.58 Mbit/s
  95th percentile per-packet one-way delay: 175.833 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 1.43 Mbit/s
  95th percentile per-packet one-way delay: 175.225 ms
  Loss rate: 0.00%
Run 6: Report of Sprout — Data Link

![Graph showing throughput and packet error delay](image)

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 6.64 Mbit/s)  Flow 1 egress (mean 6.64 Mbit/s)
Flow 2 ingress (mean 3.57 Mbit/s)  Flow 2 egress (mean 3.58 Mbit/s)
Flow 3 ingress (mean 1.41 Mbit/s)  Flow 3 egress (mean 1.43 Mbit/s)

Per-packet error delay (ms)

Time (s)

Flow 1 (95th percentile 164.44 ms)  Flow 2 (95th percentile 175.83 ms)  Flow 3 (95th percentile 175.22 ms)
Run 7: Statistics of Sprout

Start at: 2018-03-20 18:57:34
End at: 2018-03-20 18:58:04

# Below is generated by plot.py at 2018-03-20 19:35:10
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 9.26 Mbit/s (77.1% utilization)
  95th percentile per-packet one-way delay: 162.052 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 6.43 Mbit/s
  95th percentile per-packet one-way delay: 159.015 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 4.16 Mbit/s
  95th percentile per-packet one-way delay: 165.209 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.20 Mbit/s
  95th percentile per-packet one-way delay: 142.622 ms
  Loss rate: 0.00%
Run 7: Report of Sprout — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 6.43 Mbit/s)  Flow 1 egress (mean 6.43 Mbit/s)
Flow 2 ingress (mean 4.15 Mbit/s)  Flow 2 egress (mean 4.16 Mbit/s)
Flow 3 ingress (mean 0.20 Mbit/s)  Flow 3 egress (mean 0.20 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 159.01 ms)  Flow 2 (95th percentile 165.21 ms)  Flow 3 (95th percentile 142.62 ms)
Run 8: Statistics of Sprout

Start at: 2018-03-20 19:07:48
End at: 2018-03-20 19:08:18

# Below is generated by plot.py at 2018-03-20 19:35:10
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 5.65 Mbit/s (47.1% utilization)
  95th percentile per-packet one-way delay: 173.034 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 3.81 Mbit/s
  95th percentile per-packet one-way delay: 162.629 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 2.51 Mbit/s
  95th percentile per-packet one-way delay: 182.099 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.54 Mbit/s
  95th percentile per-packet one-way delay: 167.398 ms
  Loss rate: 0.02%
Run 9: Statistics of Sprout

Start at: 2018-03-20 19:18:02
End at: 2018-03-20 19:18:32

# Below is generated by plot.py at 2018-03-20 19:35:11
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 6.04 Mbit/s (50.3% utilization)
  95th percentile per-packet one-way delay: 113.764 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 2.45 Mbit/s
  95th percentile per-packet one-way delay: 121.556 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 5.27 Mbit/s
  95th percentile per-packet one-way delay: 111.021 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.27 Mbit/s
  95th percentile per-packet one-way delay: 92.975 ms
  Loss rate: 0.00%
Run 9: Report of Sprout — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbps)

Flow 1 ingress (mean 2.45 Mbit/s)  Flow 1 egress (mean 2.45 Mbit/s)
Flow 2 ingress (mean 5.27 Mbit/s)  Flow 2 egress (mean 5.27 Mbit/s)
Flow 3 ingress (mean 0.27 Mbit/s)  Flow 3 egress (mean 0.27 Mbit/s)

Per packet one way delay (ms)

Flow 1 (95th percentile 121.56 ms)  Flow 2 (95th percentile 111.02 ms)  Flow 3 (95th percentile 92.97 ms)
Run 10: Statistics of Sprout

Start at: 2018-03-20 19:28:16
End at: 2018-03-20 19:28:46

# Below is generated by plot.py at 2018-03-20 19:35:14
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 6.66 Mbit/s (55.5% utilization)
95th percentile per-packet one-way delay: 156.863 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 4.15 Mbit/s
95th percentile per-packet one-way delay: 151.355 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 3.65 Mbit/s
95th percentile per-packet one-way delay: 167.186 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.26 Mbit/s
95th percentile per-packet one-way delay: 116.797 ms
Loss rate: 0.00%
Run 10: Report of Sprout — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 4.15 Mbit/s)  Flow 1 egress (mean 4.15 Mbit/s)
Flow 2 ingress (mean 3.54 Mbit/s)  Flow 2 egress (mean 3.55 Mbit/s)
Flow 3 ingress (mean 0.26 Mbit/s)  Flow 3 egress (mean 0.26 Mbit/s)

Per-packet end-to-end delay (ms)

Time (s)

Flow 1 (95th percentile 151.35 ms)  Flow 2 (95th percentile 167.19 ms)  Flow 3 (95th percentile 116.80 ms)
Run 1: Statistics of TaoVA-100x

Start at: 2018-03-20 17:59:02
End at: 2018-03-20 17:59:32

# Below is generated by plot.py at 2018-03-20 19:35:14
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.98 Mbit/s (16.5% utilization)
  95th percentile per-packet one-way delay: 16.474 ms
  Loss rate: 0.07%
-- Flow 1:
  Average throughput: 1.13 Mbit/s
  95th percentile per-packet one-way delay: 13.181 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 0.90 Mbit/s
  95th percentile per-packet one-way delay: 25.469 ms
  Loss rate: 0.15%
-- Flow 3:
  Average throughput: 0.76 Mbit/s
  95th percentile per-packet one-way delay: 55.425 ms
  Loss rate: 0.00%
Run 1: Report of TaoVA-100x — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.13 Mbit/s) — Flow 1 egress (mean 1.13 Mbit/s)
Flow 2 ingress (mean 0.90 Mbit/s) — Flow 2 egress (mean 0.90 Mbit/s)
Flow 3 ingress (mean 0.76 Mbit/s) — Flow 3 egress (mean 0.76 Mbit/s)

Packet error rate

Time (s)

Flow 1 (95th percentile 13.18 ms) — Flow 2 (95th percentile 25.47 ms) — Flow 3 (95th percentile 55.42 ms)
Run 2: Statistics of TaoVA-100x

Start at: 2018-03-20 18:09:16
End at: 2018-03-20 18:09:46

# Below is generated by plot.py at 2018-03-20 19:35:14
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.98 Mbit/s (16.5% utilization)
  95th percentile per-packet one-way delay: 16.345 ms
  Loss rate: 0.18%
-- Flow 1:
  Average throughput: 1.13 Mbit/s
  95th percentile per-packet one-way delay: 13.323 ms
  Loss rate: 0.12%
-- Flow 2:
  Average throughput: 0.91 Mbit/s
  95th percentile per-packet one-way delay: 26.322 ms
  Loss rate: 0.22%
-- Flow 3:
  Average throughput: 0.76 Mbit/s
  95th percentile per-packet one-way delay: 55.638 ms
  Loss rate: 0.36%
Run 2: Report of TaoVA-100x — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.13 Mbit/s)
Flow 1 egress (mean 1.13 Mbit/s)
Flow 2 ingress (mean 0.90 Mbit/s)
Flow 2 egress (mean 0.91 Mbit/s)
Flow 3 ingress (mean 0.76 Mbit/s)
Flow 3 egress (mean 0.76 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 13.32 ms)
Flow 2 (95th percentile 26.32 ms)
Flow 3 (95th percentile 55.64 ms)
Run 3: Statistics of TaoVA-100x

Start at: 2018-03-20 18:19:29
End at: 2018-03-20 18:19:59

# Below is generated by plot.py at 2018-03-20 19:35:14
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.98 Mbit/s (16.5% utilization)
95th percentile per-packet one-way delay: 93.151 ms
Loss rate: 0.18%
-- Flow 1:
Average throughput: 1.11 Mbit/s
95th percentile per-packet one-way delay: 14.065 ms
Loss rate: 0.12%
-- Flow 2:
Average throughput: 0.93 Mbit/s
95th percentile per-packet one-way delay: 178.746 ms
Loss rate: 0.14%
-- Flow 3:
Average throughput: 0.78 Mbit/s
95th percentile per-packet one-way delay: 55.884 ms
Loss rate: 0.52%
Run 3: Report of TaoVA-100x — Data Link

![Graphs showing network performance metrics](image-url)
Run 4: Statistics of TaoVA-100x

Start at: 2018-03-20 18:29:42
End at: 2018-03-20 18:30:12

# Below is generated by plot.py at 2018-03-20 19:35:15
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.98 Mbit/s (16.5% utilization)
95th percentile per-packet one-way delay: 148.058 ms
Loss rate: 0.15%

-- Flow 1:
Average throughput: 1.12 Mbit/s
95th percentile per-packet one-way delay: 128.338 ms
Loss rate: 0.12%

-- Flow 2:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 39.054 ms
Loss rate: 0.15%

-- Flow 3:
Average throughput: 0.84 Mbit/s
95th percentile per-packet one-way delay: 221.721 ms
Loss rate: 0.32%
Run 4: Report of TaoVA-100x — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.11 Mbit/s)  Flow 1 egress (mean 1.12 Mbit/s)
Flow 2 ingress (mean 0.88 Mbit/s)  Flow 2 egress (mean 0.88 Mbit/s)
Flow 3 ingress (mean 0.85 Mbit/s)  Flow 3 egress (mean 0.84 Mbit/s)

Per packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 128.34 ms)  Flow 2 (95th percentile 39.05 ms)  Flow 3 (95th percentile 221.72 ms)
Run 5: Statistics of TaoVA-100x

Start at: 2018-03-20 18:39:56
End at: 2018-03-20 18:40:26

# Below is generated by plot.py at 2018-03-20 19:35:18
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.98 Mbit/s (16.5% utilization)
  95th percentile per-packet one-way delay: 66.281 ms
  Loss rate: 0.13%
-- Flow 1:
  Average throughput: 1.14 Mbit/s
  95th percentile per-packet one-way delay: 115.772 ms
  Loss rate: 0.08%
-- Flow 2:
  Average throughput: 0.89 Mbit/s
  95th percentile per-packet one-way delay: 16.855 ms
  Loss rate: 0.15%
-- Flow 3:
  Average throughput: 0.76 Mbit/s
  95th percentile per-packet one-way delay: 54.781 ms
  Loss rate: 0.34%
Run 5: Report of TaoVA-100x — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 1.13 Mbit/s)  Flow 1 egress (mean 1.14 Mbit/s)
Flow 2 ingress (mean 0.89 Mbit/s)  Flow 2 egress (mean 0.89 Mbit/s)
Flow 3 ingress (mean 0.76 Mbit/s)  Flow 3 egress (mean 0.76 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 115.77 ms)  Flow 2 (95th percentile 16.86 ms)  Flow 3 (95th percentile 54.78 ms)
Run 6: Statistics of TaoVA-100x

Start at: 2018-03-20 18:50:10
End at: 2018-03-20 18:50:40

# Below is generated by plot.py at 2018-03-20 19:35:22
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.98 Mbit/s (16.5% utilization)
  95th percentile per-packet one-way delay: 16.894 ms
  Loss rate: 0.15%
-- Flow 1:
  Average throughput: 1.14 Mbit/s
  95th percentile per-packet one-way delay: 13.332 ms
  Loss rate: 0.11%
-- Flow 2:
  Average throughput: 0.88 Mbit/s
  95th percentile per-packet one-way delay: 24.417 ms
  Loss rate: 0.15%
-- Flow 3:
  Average throughput: 0.76 Mbit/s
  95th percentile per-packet one-way delay: 55.913 ms
  Loss rate: 0.34%
Run 6: Report of TaoVA-100x — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.14 Mbit/s) — Flow 1 egress (mean 1.14 Mbit/s)
Flow 2 ingress (mean 0.88 Mbit/s) — Flow 2 egress (mean 0.88 Mbit/s)
Flow 3 ingress (mean 0.76 Mbit/s) — Flow 3 egress (mean 0.76 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 13.33 ms) — Flow 2 (95th percentile 24.42 ms) — Flow 3 (95th percentile 55.91 ms)
Run 7: Statistics of TaoVA-100x

Start at: 2018-03-20 19:00:25
End at: 2018-03-20 19:00:55

# Below is generated by plot.py at 2018-03-20 19:35:24
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.98 Mbit/s (16.5% utilization)
95th percentile per-packet one-way delay: 145.403 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 1.13 Mbit/s
95th percentile per-packet one-way delay: 121.896 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.86 Mbit/s
95th percentile per-packet one-way delay: 46.181 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.88 Mbit/s
95th percentile per-packet one-way delay: 221.753 ms
Loss rate: 0.00%
Run 7: Report of TaoVA-100x — Data Link
Run 8: Statistics of TaoVA-100x

Start at: 2018-03-20 19:10:39
End at: 2018-03-20 19:11:09

# Below is generated by plot.py at 2018-03-20 19:35:25
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.98 Mbit/s (16.5% utilization)
  95th percentile per-packet one-way delay: 16.869 ms
  Loss rate: 0.11%
  -- Flow 1:
  Average throughput: 1.13 Mbit/s
  95th percentile per-packet one-way delay: 13.293 ms
  Loss rate: 0.04%
  -- Flow 2:
  Average throughput: 0.90 Mbit/s
  95th percentile per-packet one-way delay: 24.750 ms
  Loss rate: 0.14%
  -- Flow 3:
  Average throughput: 0.76 Mbit/s
  95th percentile per-packet one-way delay: 55.370 ms
  Loss rate: 0.34%
Run 8: Report of TaoVA-100x — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

- Flow 1 ingress (mean 1.13 Mbit/s)
- Flow 1 egress (mean 1.13 Mbit/s)
- Flow 2 ingress (mean 0.90 Mbit/s)
- Flow 2 egress (mean 0.90 Mbit/s)
- Flow 3 ingress (mean 0.76 Mbit/s)
- Flow 3 egress (mean 0.76 Mbit/s)

Per packet one way delay (ms)

- Flow 1 (95th percentile 13.29 ms)
- Flow 2 (95th percentile 24.75 ms)
- Flow 3 (95th percentile 55.37 ms)
Run 9: Statistics of TaoVA-100x

Start at: 2018-03-20 19:20:53
End at: 2018-03-20 19:21:23

# Below is generated by plot.py at 2018-03-20 19:35:27
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.98 Mbit/s (16.5% utilization)
  95th percentile per-packet one-way delay: 75.684 ms
  Loss rate: 0.13%
  -- Flow 1:
  Average throughput: 1.12 Mbit/s
  95th percentile per-packet one-way delay: 14.045 ms
  Loss rate: 0.12%
  -- Flow 2:
  Average throughput: 0.87 Mbit/s
  95th percentile per-packet one-way delay: 29.770 ms
  Loss rate: 0.08%
  -- Flow 3:
  Average throughput: 0.88 Mbit/s
  95th percentile per-packet one-way delay: 219.578 ms
  Loss rate: 0.31%
Run 9: Report of TaoVA-100x — Data Link

![Graph showing data link performance metrics](image)

- **Average capacity**: 12.00 Mbit/s (shaded region)
- **Throughput** vs. **Time** (s)
- **Per-packet one-way delay (ms)**
- **Flow 1 ingress**: mean 1.11 Mbit/s
- **Flow 1 egress**: mean 1.12 Mbit/s
- **Flow 2 ingress**: mean 0.86 Mbit/s
- **Flow 2 egress**: mean 0.87 Mbit/s
- **Flow 3 ingress**: mean 0.89 Mbit/s
- **Flow 3 egress**: mean 0.88 Mbit/s

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Run 10: Statistics of TaoVA-100x

Start at: 2018-03-20 19:31:07  
End at: 2018-03-20 19:31:37  

# Below is generated by plot.py at 2018-03-20 19:35:28  
# Datalink statistics  
-- Total of 3 flows:  
Average capacity: 12.00 Mbit/s  
Average throughput: 1.98 Mbit/s (16.5% utilization)  
95th percentile per-packet one-way delay: 16.527 ms  
Loss rate: 0.04%  
-- Flow 1:  
Average throughput: 1.14 Mbit/s  
95th percentile per-packet one-way delay: 13.298 ms  
Loss rate: 0.04%  
-- Flow 2:  
Average throughput: 0.89 Mbit/s  
95th percentile per-packet one-way delay: 27.169 ms  
Loss rate: 0.00%  
-- Flow 3:  
Average throughput: 0.78 Mbit/s  
95th percentile per-packet one-way delay: 56.333 ms  
Loss rate: 0.17%
Run 10: Report of TaoVA-100x — Data Link

![Graph showing network traffic and delay]

Average capacity 12.00 Mbit/s (shaded region)

- Flow 1 ingress (mean 1.14 Mbit/s)
- Flow 1 egress (mean 1.14 Mbit/s)
- Flow 2 ingress (mean 0.80 Mbit/s)
- Flow 2 egress (mean 0.80 Mbit/s)
- Flow 3 ingress (mean 0.76 Mbit/s)
- Flow 3 egress (mean 0.76 Mbit/s)

![Graph showing packet delay]

- Flow 1 (95th percentile 13.30 ms)
- Flow 2 (95th percentile 27.17 ms)
- Flow 3 (95th percentile 56.33 ms)
Run 1: Statistics of TCP Vegas

Start at: 2018-03-20 17:50:31
End at: 2018-03-20 17:51:01

# Below is generated by plot.py at 2018-03-20 19:35:29
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.72 Mbit/s (31.0% utilization)
  95th percentile per-packet one-way delay: 41.149 ms
  Loss rate: 0.31%
-- Flow 1:
  Average throughput: 2.13 Mbit/s
  95th percentile per-packet one-way delay: 41.104 ms
  Loss rate: 0.02%
-- Flow 2:
  Average throughput: 1.63 Mbit/s
  95th percentile per-packet one-way delay: 41.184 ms
  Loss rate: 0.69%
-- Flow 3:
  Average throughput: 1.53 Mbit/s
  95th percentile per-packet one-way delay: 41.240 ms
  Loss rate: 0.70%
Run 1: Report of TCP Vegas — Data Link

---

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.12 Mbit/s) — Flow 1 egress (mean 2.13 Mbit/s)
Flow 2 ingress (mean 1.65 Mbit/s) — Flow 2 egress (mean 1.63 Mbit/s)
Flow 3 ingress (mean 1.54 Mbit/s) — Flow 3 egress (mean 1.53 Mbit/s)

---

Send packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 41.10 ms) — Flow 2 (95th percentile 41.18 ms) — Flow 3 (95th percentile 41.24 ms)

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Run 2: Statistics of TCP Vegas

Start at: 2018-03-20 18:00:44
End at: 2018-03-20 18:01:14

# Below is generated by plot.py at 2018-03-20 19:35:30
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.73 Mbit/s (31.1% utilization)
  95th percentile per-packet one-way delay: 41.193 ms
  Loss rate: 0.30%
-- Flow 1:
  Average throughput: 2.11 Mbit/s
  95th percentile per-packet one-way delay: 41.121 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.67 Mbit/s
  95th percentile per-packet one-way delay: 41.301 ms
  Loss rate: 0.65%
-- Flow 3:
  Average throughput: 1.55 Mbit/s
  95th percentile per-packet one-way delay: 41.316 ms
  Loss rate: 0.78%
Run 2: Report of TCP Vegas — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.11 Mbit/s) — Flow 1 egress (mean 2.11 Mbit/s)
Flow 2 ingress (mean 1.68 Mbit/s) — Flow 2 egress (mean 1.67 Mbit/s)
Flow 3 ingress (mean 1.55 Mbit/s) — Flow 3 egress (mean 1.55 Mbit/s)

Round-trip delay (ms)

Time (s)

Flow 1 (95th percentile 41.12 ms) — Flow 2 (95th percentile 41.30 ms) — Flow 3 (95th percentile 41.32 ms)
Run 3: Statistics of TCP Vegas

Start at: 2018-03-20 18:10:58
End at: 2018-03-20 18:11:28

# Below is generated by plot.py at 2018-03-20 19:35:33
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.69 Mbit/s (30.7% utilization)
  95th percentile per-packet one-way delay: 41.145 ms
  Loss rate: 0.37%
-- Flow 1:
  Average throughput: 2.11 Mbit/s
  95th percentile per-packet one-way delay: 41.066 ms
  Loss rate: 0.08%
-- Flow 2:
  Average throughput: 1.62 Mbit/s
  95th percentile per-packet one-way delay: 41.210 ms
  Loss rate: 0.33%
-- Flow 3:
  Average throughput: 1.51 Mbit/s
  95th percentile per-packet one-way delay: 41.279 ms
  Loss rate: 1.66%
Run 3: Report of TCP Vegas — Data Link

![Graph showing network performance metrics](image)

**Average capacity 12.00 Mbit/s (shaded region)**

**Throughput (Mbit/s)**

- **Flow 1 ingress (mean 2.10 Mbit/s)**
- **Flow 1 egress (mean 2.11 Mbit/s)**
- **Flow 2 ingress (mean 1.62 Mbit/s)**
- **Flow 2 egress (mean 1.62 Mbit/s)**
- **Flow 3 ingress (mean 1.53 Mbit/s)**
- **Flow 3 egress (mean 1.51 Mbit/s)**

**Packets per second (pps)**

- **Flow 1 95th percentile 41.07 ms**
- **Flow 2 95th percentile 41.21 ms**
- **Flow 3 95th percentile 41.28 ms**

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Run 4: Statistics of TCP Vegas

Start at: 2018-03-20 18:21:11
End at: 2018-03-20 18:21:41

# Below is generated by plot.py at 2018-03-20 19:35:37
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.69 Mbit/s (30.8% utilization)
95th percentile per-packet one-way delay: 41.200 ms
Loss rate: 0.35%
-- Flow 1:
Average throughput: 2.11 Mbit/s
95th percentile per-packet one-way delay: 41.164 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 1.62 Mbit/s
95th percentile per-packet one-way delay: 41.188 ms
Loss rate: 0.30%
-- Flow 3:
Average throughput: 1.51 Mbit/s
95th percentile per-packet one-way delay: 42.136 ms
Loss rate: 1.73%
Run 4: Report of TCP Vegas — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 2.13 Mbit/s) — Flow 1 egress (mean 2.13 Mbit/s)
Flow 2 ingress (mean 1.63 Mbit/s) — Flow 2 egress (mean 1.62 Mbit/s)
Flow 3 ingress (mean 1.54 Mbit/s) — Flow 3 egress (mean 1.51 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 41.16 ms) — Flow 2 (95th percentile 41.19 ms) — Flow 3 (95th percentile 47.14 ms)
Run 5: Statistics of TCP Vegas

Start at: 2018-03-20 18:31:24
End at: 2018-03-20 18:31:54

# Below is generated by plot.py at 2018-03-20 19:35:38
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.73 Mbit/s (31.1% utilization)
  95th percentile per-packet one-way delay: 41.173 ms
  Loss rate: 0.34%
-- Flow 1:
  Average throughput: 2.07 Mbit/s
  95th percentile per-packet one-way delay: 41.130 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 1.73 Mbit/s
  95th percentile per-packet one-way delay: 41.175 ms
  Loss rate: 0.21%
-- Flow 3:
  Average throughput: 1.56 Mbit/s
  95th percentile per-packet one-way delay: 41.329 ms
  Loss rate: 1.84%
Run 5: Report of TCP Vegas — Data Link
Run 6: Statistics of TCP Vegas

Start at: 2018-03-20 18:41:38
End at: 2018-03-20 18:42:08

# Below is generated by plot.py at 2018-03-20 19:35:40
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.73 Mbit/s (31.1% utilization)
95th percentile per-packet one-way delay: 41.178 ms
Loss rate: 0.32%
-- Flow 1:
Average throughput: 2.08 Mbit/s
95th percentile per-packet one-way delay: 41.179 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 1.71 Mbit/s
95th percentile per-packet one-way delay: 41.108 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 1.57 Mbit/s
95th percentile per-packet one-way delay: 41.239 ms
Loss rate: 0.31%
Run 6: Report of TCP Vegas — Data Link
Run 7: Statistics of TCP Vegas

Start at: 2018-03-20 18:51:52
End at: 2018-03-20 18:52:22

# Below is generated by plot.py at 2018-03-20 19:35:41
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.72 Mbit/s (31.0% utilization)
  95th percentile per-packet one-way delay: 41.239 ms
  Loss rate: 0.33%
-- Flow 1:
  Average throughput: 2.11 Mbit/s
  95th percentile per-packet one-way delay: 41.265 ms
  Loss rate: 0.06%
-- Flow 2:
  Average throughput: 1.64 Mbit/s
  95th percentile per-packet one-way delay: 41.205 ms
  Loss rate: 0.66%
-- Flow 3:
  Average throughput: 1.58 Mbit/s
  95th percentile per-packet one-way delay: 41.216 ms
  Loss rate: 0.76%
Run 7: Report of TCP Vegas — Data Link

![Graph showing throughput and packet delays over time for Flow 1, Flow 2, and Flow 3. The graphs illustrate the average capacity and 95th percentile delay for each flow.]

Throughput (Mbps)

Average capacity 12.00 Mbps (shaded region)

Time (s)

Flow 1 ingress (mean 2.11 Mbps) — Flow 1 egress (mean 2.11 Mbps)
Flow 2 ingress (mean 1.64 Mbps) — Flow 2 egress (mean 1.64 Mbps)
Flow 3 ingress (mean 1.59 Mbps) — Flow 3 egress (mean 1.58 Mbps)

Packet delay (ms)

Time (s)

Flow 1 (95th percentile 41.27 ms) — Flow 2 (95th percentile 41.20 ms) — Flow 3 (95th percentile 41.22 ms)
Run 8: Statistics of TCP Vegas

Start at: 2018-03-20 19:02:07
End at: 2018-03-20 19:02:37

# Below is generated by plot.py at 2018-03-20 19:35:43
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.70 Mbit/s (30.8% utilization)
  95th percentile per-packet one-way delay: 41.184 ms
  Loss rate: 0.31%
-- Flow 1:
  Average throughput: 2.11 Mbit/s
  95th percentile per-packet one-way delay: 41.204 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.63 Mbit/s
  95th percentile per-packet one-way delay: 41.086 ms
  Loss rate: 0.33%
-- Flow 3:
  Average throughput: 1.51 Mbit/s
  95th percentile per-packet one-way delay: 41.369 ms
  Loss rate: 1.57%
Run 8: Report of TCP Vegas — Data Link

![Graph 1: Average capacity 12.00 Mbit/s (shaded region)]

- **Flow 1 ingress (mean 2.11 Mbit/s)**
- **Flow 1 egress (mean 2.13 Mbit/s)**
- **Flow 2 ingress (mean 1.64 Mbit/s)**
- **Flow 2 egress (mean 1.63 Mbit/s)**
- **Flow 3 ingress (mean 1.53 Mbit/s)**
- **Flow 3 egress (mean 1.51 Mbit/s)**

![Graph 2: Packet delay (ms)]

- **Flow 1 (95th percentile 41.20 ms)**
- **Flow 2 (95th percentile 41.09 ms)**
- **Flow 3 (95th percentile 41.37 ms)**
Run 9: Statistics of TCP Vegas

Start at: 2018-03-20 19:12:21
End at: 2018-03-20 19:12:51

# Below is generated by plot.py at 2018-03-20 19:35:44
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 3.70 Mbit/s (30.8% utilization)
95th percentile per-packet one-way delay: 41.176 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 2.12 Mbit/s
95th percentile per-packet one-way delay: 41.217 ms
Loss rate: 0.09%
-- Flow 2:
Average throughput: 1.63 Mbit/s
95th percentile per-packet one-way delay: 41.140 ms
Loss rate: 0.55%
-- Flow 3:
Average throughput: 1.52 Mbit/s
95th percentile per-packet one-way delay: 41.173 ms
Loss rate: 0.71%
Run 9: Report of TCP Vegas — Data Link

Average capacity 12.00 Mbit/s (shaded region)

- Flow 1 ingress (mean 2.11 Mbit/s)
- Flow 1 egress (mean 2.12 Mbit/s)
- Flow 2 ingress (mean 1.64 Mbit/s)
- Flow 2 egress (mean 1.63 Mbit/s)
- Flow 3 ingress (mean 1.54 Mbit/s)
- Flow 3 egress (mean 1.52 Mbit/s)

Average packet one way delay (ms)

- Flow 1 (95th percentile 41.22 ms)
- Flow 2 (95th percentile 41.14 ms)
- Flow 3 (95th percentile 41.17 ms)
Run 10: Statistics of TCP Vegas

End at: 2018-03-20 19:23:05

# Below is generated by plot.py at 2018-03-20 19:35:45
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 3.69 Mbit/s (30.8% utilization)
  95th percentile per-packet one-way delay: 41.199 ms
  Loss rate: 0.32%
-- Flow 1:
  Average throughput: 2.03 Mbit/s
  95th percentile per-packet one-way delay: 41.162 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 1.76 Mbit/s
  95th percentile per-packet one-way delay: 41.203 ms
  Loss rate: 0.24%
-- Flow 3:
  Average throughput: 1.52 Mbit/s
  95th percentile per-packet one-way delay: 41.288 ms
  Loss rate: 1.65%
Run 10: Report of TCP Vegas — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Flow 1 ingress (mean 2.02 Mbit/s) — Flow 1 egress (mean 2.03 Mbit/s)
Flow 2 ingress (mean 1.76 Mbit/s) — Flow 2 egress (mean 1.76 Mbit/s)
Flow 3 ingress (mean 1.54 Mbit/s) — Flow 3 egress (mean 1.52 Mbit/s)

Round trip time (ms)

Flow 1 (95th percentile 41.16 ms) — Flow 2 (95th percentile 41.20 ms) — Flow 3 (95th percentile 41.29 ms)
Run 1: Statistics of Verus

Start at: 2018-03-20 17:53:55
End at: 2018-03-20 17:54:25

# Below is generated by plot.py at 2018-03-20 19:35:46
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.62 Mbit/s (13.5% utilization)
  95th percentile per-packet one-way delay: 88.885 ms
  Loss rate: 0.02%
-- Flow 1:
  Average throughput: 0.96 Mbit/s
  95th percentile per-packet one-way delay: 71.052 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.66 Mbit/s
  95th percentile per-packet one-way delay: 94.852 ms
  Loss rate: 0.09%
-- Flow 3:
  Average throughput: 0.74 Mbit/s
  95th percentile per-packet one-way delay: 109.142 ms
  Loss rate: 0.00%
Run 1: Report of Verus — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.96 Mbit/s)
Flow 1 egress (mean 0.96 Mbit/s)
Flow 2 ingress (mean 0.66 Mbit/s)
Flow 2 egress (mean 0.66 Mbit/s)
Flow 3 ingress (mean 0.74 Mbit/s)
Flow 3 egress (mean 0.74 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (99th percentile 71.05 ms)
Flow 2 (99th percentile 94.85 ms)
Flow 3 (99th percentile 109.14 ms)
Run 2: Statistics of Verus

Start at: 2018-03-20 18:04:08
End at: 2018-03-20 18:04:38

# Below is generated by plot.py at 2018-03-20 19:35:50
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.64 Mbit/s (13.7% utilization)
95th percentile per-packet one-way delay: 33.407 ms
Loss rate: 0.26%
-- Flow 1:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 31.454 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.92 Mbit/s
95th percentile per-packet one-way delay: 40.814 ms
Loss rate: 0.39%
-- Flow 3:
Average throughput: 0.36 Mbit/s
95th percentile per-packet one-way delay: 26.510 ms
Loss rate: 1.74%
Run 2: Report of Verus — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.92 Mbit/s)  
Flow 1 egress (mean 0.92 Mbit/s)  
Flow 2 ingress (mean 0.92 Mbit/s)  
Flow 2 egress (mean 0.92 Mbit/s)  
Flow 3 ingress (mean 0.37 Mbit/s)  
Flow 3 egress (mean 0.36 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 31.45 ms)  
Flow 2 (95th percentile 40.81 ms)  
Flow 3 (95th percentile 26.51 ms)
Run 3: Statistics of Verus

Start at: 2018-03-20 18:14:22
End at: 2018-03-20 18:14:52

# Below is generated by plot.py at 2018-03-20 19:35:51
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.59 Mbit/s (13.2% utilization)
  95th percentile per-packet one-way delay: 41.335 ms
  Loss rate: 0.17%
-- Flow 1:
  Average throughput: 1.08 Mbit/s
  95th percentile per-packet one-way delay: 31.422 ms
  Loss rate: 0.26%
-- Flow 2:
  Average throughput: 0.60 Mbit/s
  95th percentile per-packet one-way delay: 68.789 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.36 Mbit/s
  95th percentile per-packet one-way delay: 34.155 ms
  Loss rate: 0.00%
Run 3: Report of Verus — Data Link
Run 4: Statistics of Verus

Start at: 2018-03-20 18:24:35
End at: 2018-03-20 18:25:05

# Below is generated by plot.py at 2018-03-20 19:35:53
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.71 Mbit/s (14.2% utilization)
  95th percentile per-packet one-way delay: 30.878 ms
  Loss rate: 0.35%
-- Flow 1:
  Average throughput: 1.42 Mbit/s
  95th percentile per-packet one-way delay: 27.878 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 0.29 Mbit/s
  95th percentile per-packet one-way delay: 40.343 ms
  Loss rate: 0.42%
-- Flow 3:
  Average throughput: 0.29 Mbit/s
  95th percentile per-packet one-way delay: 29.754 ms
  Loss rate: 4.80%
Run 4: Report of Verus — Data Link

![Graph showing throughput over time]

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 1.42 Mbit/s) • Flow 1 egress (mean 1.42 Mbit/s)
Flow 2 ingress (mean 0.20 Mbit/s) • Flow 2 egress (mean 0.20 Mbit/s)
Flow 3 ingress (mean 0.30 Mbit/s) • Flow 3 egress (mean 0.29 Mbit/s)

![Graph showing packet delay over time]

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 27.88 ms) • Flow 2 (95th percentile 40.34 ms) • Flow 3 (95th percentile 29.75 ms)
Run 5: Statistics of Verus

Start at: 2018-03-20 18:34:49
End at: 2018-03-20 18:35:19

# Below is generated by plot.py at 2018-03-20 19:35:54
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.76 Mbit/s (14.7% utilization)
  95th percentile per-packet one-way delay: 36.742 ms
  Loss rate: 0.20%
-- Flow 1:
  Average throughput: 1.20 Mbit/s
  95th percentile per-packet one-way delay: 37.297 ms
  Loss rate: 0.26%
-- Flow 2:
  Average throughput: 0.66 Mbit/s
  95th percentile per-packet one-way delay: 38.849 ms
  Loss rate: 0.09%
-- Flow 3:
  Average throughput: 0.49 Mbit/s
  95th percentile per-packet one-way delay: 29.307 ms
  Loss rate: 0.00%
Run 5: Report of Verus — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.20 Mbit/s)  Flow 1 egress (mean 1.20 Mbit/s)
Flow 2 ingress (mean 0.65 Mbit/s)  Flow 2 egress (mean 0.66 Mbit/s)
Flow 3 ingress (mean 0.49 Mbit/s)  Flow 3 egress (mean 0.49 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 37.30 ms)  Flow 2 (95th percentile 38.85 ms)  Flow 3 (95th percentile 29.31 ms)
Run 6: Statistics of Verus

Start at: 2018-03-20 18:45:03
End at: 2018-03-20 18:45:33

# Below is generated by plot.py at 2018-03-20 19:35:55
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.67 Mbit/s (13.9% utilization)
  95th percentile per-packet one-way delay: 41.338 ms
  Loss rate: 0.26%
  -- Flow 1:
  Average throughput: 0.99 Mbit/s
  95th percentile per-packet one-way delay: 38.748 ms
  Loss rate: 0.16%
  -- Flow 2:
  Average throughput: 0.88 Mbit/s
  95th percentile per-packet one-way delay: 47.239 ms
  Loss rate: 0.00%
  -- Flow 3:
  Average throughput: 0.30 Mbit/s
  95th percentile per-packet one-way delay: 36.460 ms
  Loss rate: 2.86%
Run 6: Report of Verus — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.99 Mbit/s)
Flow 1 egress (mean 0.99 Mbit/s)
Flow 2 ingress (mean 0.88 Mbit/s)
Flow 2 egress (mean 0.88 Mbit/s)
Flow 3 ingress (mean 0.31 Mbit/s)
Flow 3 egress (mean 0.30 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 38.75 ms)
Flow 2 (95th percentile 47.24 ms)
Flow 3 (95th percentile 36.46 ms)
Run 7: Statistics of Verus

Start at: 2018-03-20 18:55:17
End at: 2018-03-20 18:55:47

# Below is generated by plot.py at 2018-03-20 19:35:57
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.70 Mbit/s (14.2% utilization)
  95th percentile per-packet one-way delay: 44.728 ms
  Loss rate: 0.21%
-- Flow 1:
  Average throughput: 1.14 Mbit/s
  95th percentile per-packet one-way delay: 28.608 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 0.65 Mbit/s
  95th percentile per-packet one-way delay: 60.857 ms
  Loss rate: 0.10%
-- Flow 3:
  Average throughput: 0.54 Mbit/s
  95th percentile per-packet one-way delay: 54.375 ms
  Loss rate: 1.75%
Run 7: Report of Verus — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.13 Mbit/s) — Flow 1 egress (mean 1.14 Mbit/s)
Flow 2 ingress (mean 0.63 Mbit/s) — Flow 2 egress (mean 0.65 Mbit/s)
Flow 3 ingress (mean 0.54 Mbit/s) — Flow 3 egress (mean 0.54 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 28.61 ms) — Flow 2 (95th percentile 60.86 ms) — Flow 3 (95th percentile 54.38 ms)
Run 8: Statistics of Verus

Start at: 2018-03-20 19:05:32
End at: 2018-03-20 19:06:02

# Below is generated by plot.py at 2018-03-20 19:35:57
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.66 Mbit/s (13.9% utilization)
  95th percentile per-packet one-way delay: 33.651 ms
  Loss rate: 0.07%
-- Flow 1:
  Average throughput: 0.96 Mbit/s
  95th percentile per-packet one-way delay: 31.812 ms
  Loss rate: 0.12%
-- Flow 2:
  Average throughput: 0.75 Mbit/s
  95th percentile per-packet one-way delay: 40.156 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.68 Mbit/s
  95th percentile per-packet one-way delay: 29.759 ms
  Loss rate: 0.00%
Run 8: Report of Verus — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

0 10 20 30

Time (s)

Flow 1 ingress (mean 0.95 Mbit/s)  Flow 1 egress (mean 0.96 Mbit/s)
Flow 2 ingress (mean 0.75 Mbit/s)  Flow 2 egress (mean 0.75 Mbit/s)
Flow 3 ingress (mean 0.68 Mbit/s)  Flow 3 egress (mean 0.68 Mbit/s)

Per packet one way delay (ms)

0 20 40 60 80 100

Time (s)

Flow 1 (95th percentile 31.61 ms)  Flow 2 (95th percentile 40.16 ms)  Flow 3 (95th percentile 29.76 ms)
Run 9: Statistics of Verus

Start at: 2018-03-20 19:15:46
End at: 2018-03-20 19:16:16

# Below is generated by plot.py at 2018-03-20 19:35:59
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.74 Mbit/s (14.5% utilization)
  95th percentile per-packet one-way delay: 35.667 ms
  Loss rate: 0.23%
-- Flow 1:
  Average throughput: 1.53 Mbit/s
  95th percentile per-packet one-way delay: 36.724 ms
  Loss rate: 0.10%
-- Flow 2:
  Average throughput: 0.27 Mbit/s
  95th percentile per-packet one-way delay: 31.128 ms
  Loss rate: 1.34%
-- Flow 3:
  Average throughput: 0.14 Mbit/s
  95th percentile per-packet one-way delay: 40.345 ms
  Loss rate: 0.00%
Run 9: Report of Verus — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Flow 1 ingress (mean 1.53 Mbit/s)  Flow 1 egress (mean 1.53 Mbit/s)
Flow 2 ingress (mean 0.27 Mbit/s)  Flow 2 egress (mean 0.27 Mbit/s)
Flow 3 ingress (mean 0.14 Mbit/s)  Flow 3 egress (mean 0.14 Mbit/s)

Per packet one way delay (ms)

Flow 1 (95th percentile 36.72 ms)  Flow 2 (95th percentile 31.13 ms)  Flow 3 (95th percentile 40.34 ms)
Run 10: Statistics of Verus

Start at: 2018-03-20 19:26:00
End at: 2018-03-20 19:26:30

# Below is generated by plot.py at 2018-03-20 19:36:02
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.63 Mbit/s (13.6% utilization)
95th percentile per-packet one-way delay: 38.112 ms
Loss rate: 0.31%
-- Flow 1:
Average throughput: 1.03 Mbit/s
95th percentile per-packet one-way delay: 34.729 ms
Loss rate: 0.38%
-- Flow 2:
Average throughput: 0.81 Mbit/s
95th percentile per-packet one-way delay: 42.534 ms
Loss rate: 0.22%
-- Flow 3:
Average throughput: 0.21 Mbit/s
95th percentile per-packet one-way delay: 36.974 ms
Loss rate: 0.00%
Run 10: Report of Verus — Data Link

[Graphs showing throughput and per-packet one-way delay over time for different flows with specified mean and 95th percentile delays.]
Run 1: Statistics of Copa

Start at: 2018-03-20 17:51:05
End at: 2018-03-20 17:51:35

# Below is generated by plot.py at 2018-03-20 19:36:05
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.48 Mbit/s (12.4% utilization)
95th percentile per-packet one-way delay: 13.354 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 13.059 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.74 Mbit/s
95th percentile per-packet one-way delay: 13.385 ms
Loss rate: 0.09%
-- Flow 3:
Average throughput: 0.67 Mbit/s
95th percentile per-packet one-way delay: 16.700 ms
Loss rate: 0.00%
Run 1: Report of Copa — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.77 Mbit/s) — Flow 1 egress (mean 0.77 Mbit/s)
Flow 2 ingress (mean 0.74 Mbit/s) — Flow 2 egress (mean 0.74 Mbit/s)
Flow 3 ingress (mean 0.67 Mbit/s) — Flow 3 egress (mean 0.67 Mbit/s)

Packet error rate

Time (s)

Flow 1 (95th percentile 13.06 ms) — Flow 2 (95th percentile 13.38 ms) — Flow 3 (95th percentile 16.70 ms)
Run 2: Statistics of Copa

Start at: 2018-03-20 18:01:18
End at: 2018-03-20 18:01:48

# Below is generated by plot.py at 2018-03-20 19:36:06
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.33 Mbit/s (11.1% utilization)
  95th percentile per-packet one-way delay: 13.353 ms
  Loss rate: 0.03%
  -- Flow 1:
  Average throughput: 0.72 Mbit/s
  95th percentile per-packet one-way delay: 13.006 ms
  Loss rate: 0.00%
  -- Flow 2:
  Average throughput: 0.61 Mbit/s
  95th percentile per-packet one-way delay: 13.714 ms
  Loss rate: 0.00%
  -- Flow 3:
  Average throughput: 0.64 Mbit/s
  95th percentile per-packet one-way delay: 16.540 ms
  Loss rate: 0.20%
Run 2: Report of Copa — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Time (s)

Throughput (Mbit/s)

Flow 1 ingress (mean 0.72 Mbit/s)
Flow 1 egress (mean 0.72 Mbit/s)
Flow 2 ingress (mean 0.63 Mbit/s)
Flow 2 egress (mean 0.63 Mbit/s)
Flow 3 ingress (mean 0.64 Mbit/s)
Flow 3 egress (mean 0.64 Mbit/s)

Per packet one way delay (ms)

Flow 1 (95th percentile 13.01 ms)
Flow 2 (95th percentile 13.71 ms)
Flow 3 (95th percentile 16.54 ms)
Run 3: Statistics of Copa

Start at: 2018-03-20 18:11:31
End at: 2018-03-20 18:12:02

# Below is generated by plot.py at 2018-03-20 19:36:09
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.53 Mbit/s (12.8% utilization)
  95th percentile per-packet one-way delay: 13.295 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.77 Mbit/s
  95th percentile per-packet one-way delay: 13.084 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.81 Mbit/s
  95th percentile per-packet one-way delay: 13.348 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.69 Mbit/s
  95th percentile per-packet one-way delay: 16.023 ms
  Loss rate: 0.00%
Run 3: Report of Copa — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.77 Mbit/s)
Flow 1 egress (mean 0.77 Mbit/s)
Flow 2 ingress (mean 0.81 Mbit/s)
Flow 2 egress (mean 0.81 Mbit/s)
Flow 3 ingress (mean 0.69 Mbit/s)
Flow 3 egress (mean 0.69 Mbit/s)

Delay (ms)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 13.08 ms)
Flow 2 (95th percentile 13.35 ms)
Flow 3 (95th percentile 16.02 ms)
Run 4: Statistics of Copa

Start at: 2018-03-20 18:21:45
End at: 2018-03-20 18:22:15

# Below is generated by plot.py at 2018-03-20 19:36:10
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.68 Mbit/s (14.0% utilization)
  95th percentile per-packet one-way delay: 13.167 ms
  Loss rate: 0.05%
-- Flow 1:
  Average throughput: 0.44 Mbit/s
  95th percentile per-packet one-way delay: 13.195 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.66 Mbit/s
  95th percentile per-packet one-way delay: 13.023 ms
  Loss rate: 0.08%
-- Flow 3:
  Average throughput: 0.42 Mbit/s
  95th percentile per-packet one-way delay: 20.533 ms
  Loss rate: 0.00%
Run 4: Report of Copa — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.44 Mbit/s)
Flow 1 egress (mean 0.44 Mbit/s)
Flow 2 ingress (mean 1.66 Mbit/s)
Flow 2 egress (mean 1.66 Mbit/s)
Flow 3 ingress (mean 0.42 Mbit/s)
Flow 3 egress (mean 0.42 Mbit/s)

Per packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 13.20 ms)
Flow 2 (95th percentile 13.02 ms)
Flow 3 (95th percentile 20.53 ms)
Run 5: Statistics of Copa

Start at: 2018-03-20 18:31:58
End at: 2018-03-20 18:32:28

# Below is generated by plot.py at 2018-03-20 19:36:10
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.30 Mbit/s (10.8% utilization)
95th percentile per-packet one-way delay: 13.725 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.60 Mbit/s
95th percentile per-packet one-way delay: 13.287 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 13.458 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.72 Mbit/s
95th percentile per-packet one-way delay: 15.826 ms
Loss rate: 0.00%
Run 5: Report of Copa — Data Link
Run 6: Statistics of Copa

Start at: 2018-03-20 18:42:12
End at: 2018-03-20 18:42:42

# Below is generated by plot.py at 2018-03-20 19:36:11
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.28 Mbit/s (10.6% utilization)
  95th percentile per-packet one-way delay: 13.681 ms
  Loss rate: 0.03%
-- Flow 1:
  Average throughput: 0.61 Mbit/s
  95th percentile per-packet one-way delay: 13.238 ms
  Loss rate: 0.07%
-- Flow 2:
  Average throughput: 0.64 Mbit/s
  95th percentile per-packet one-way delay: 13.652 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.72 Mbit/s
  95th percentile per-packet one-way delay: 15.356 ms
  Loss rate: 0.00%
Run 6: Report of Copa — Data Link

![Graph showing data link performance with shaded region for average capacity 12.00 Mbit/s. The graph includes lines for Flow 1 ingress and egress, Flow 2 ingress and egress, and Flow 3 ingress and egress, each with their respective average throughput and delay statistics.](image-url)

![Graph showing per packet one-way delay ms with markers indicating 95th percentile delay for each flow.](image-url)
Run 7: Statistics of Copa

Start at: 2018-03-20 18:52:26
End at: 2018-03-20 18:52:56

# Below is generated by plot.py at 2018-03-20 19:36:13
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.27 Mbit/s (10.6% utilization)
  95th percentile per-packet one-way delay: 13.358 ms
  Loss rate: 0.10%
-- Flow 1:
  Average throughput: 0.67 Mbit/s
  95th percentile per-packet one-way delay: 12.977 ms
  Loss rate: 0.07%
-- Flow 2:
  Average throughput: 0.59 Mbit/s
  95th percentile per-packet one-way delay: 13.798 ms
  Loss rate: 0.11%
-- Flow 3:
  Average throughput: 0.64 Mbit/s
  95th percentile per-packet one-way delay: 16.439 ms
  Loss rate: 0.20%
Run 7: Report of Copa — Data Link
Run 8: Statistics of Copa

Start at: 2018-03-20 19:02:41
End at: 2018-03-20 19:03:11

# Below is generated by plot.py at 2018-03-20 19:36:16
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.50 Mbit/s (12.5% utilization)
95th percentile per-packet one-way delay: 13.268 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 0.52 Mbit/s
95th percentile per-packet one-way delay: 13.376 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.63 Mbit/s
95th percentile per-packet one-way delay: 13.529 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 1.69 Mbit/s
95th percentile per-packet one-way delay: 13.049 ms
Loss rate: 0.15%
Run 8: Report of Copa — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.52 Mbit/s)
Flow 1 egress (mean 0.52 Mbit/s)
Flow 2 ingress (mean 0.63 Mbit/s) Flow 2 egress (mean 0.63 Mbit/s)
Flow 3 ingress (mean 1.69 Mbit/s) Flow 3 egress (mean 1.69 Mbit/s)

Packet error rate (percent)

Time (s)

Flow 1 (95th percentile 13.38 ms) Flow 2 (95th percentile 13.53 ms) Flow 3 (95th percentile 13.05 ms)
Run 9: Statistics of Copa

Start at: 2018-03-20 19:12:55
End at: 2018-03-20 19:13:25

# Below is generated by plot.py at 2018-03-20 19:36:19
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.64 Mbit/s (13.7% utilization)
  95th percentile per-packet one-way delay: 13.174 ms
  Loss rate: 0.03%
-- Flow 1:
  Average throughput: 0.40 Mbit/s
  95th percentile per-packet one-way delay: 13.298 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 1.66 Mbit/s
  95th percentile per-packet one-way delay: 13.006 ms
  Loss rate: 0.04%
-- Flow 3:
  Average throughput: 0.41 Mbit/s
  95th percentile per-packet one-way delay: 20.671 ms
  Loss rate: 0.00%
Run 9: Report of Copa — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.00 Mbit/s) — Flow 1 egress (mean 0.00 Mbit/s)

Flow 2 ingress (mean 1.59 Mbit/s) — Flow 2 egress (mean 1.59 Mbit/s)

Flow 3 ingress (mean 0.40 Mbit/s) — Flow 3 egress (mean 0.40 Mbit/s)

Per packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 13.30 ms) — Flow 2 (95th percentile 13.30 ms) — Flow 3 (95th percentile 20.67 ms)
Run 10: Statistics of Copa

Start at: 2018-03-20 19:23:09
End at: 2018-03-20 19:23:39

# Below is generated by plot.py at 2018-03-20 19:36:19
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.23 Mbit/s (10.3% utilization)
  95th percentile per-packet one-way delay: 13.566 ms
  Loss rate: 0.04%
-- Flow 1:
  Average throughput: 0.64 Mbit/s
  95th percentile per-packet one-way delay: 13.137 ms
  Loss rate: 0.07%
-- Flow 2:
  Average throughput: 0.63 Mbit/s
  95th percentile per-packet one-way delay: 13.330 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.54 Mbit/s
  95th percentile per-packet one-way delay: 19.089 ms
  Loss rate: 0.02%
Run 10: Report of Copa — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.64 Mbit/s)
Flow 1 egress (mean 0.64 Mbit/s)
Flow 2 ingress (mean 0.63 Mbit/s)
Flow 2 egress (mean 0.63 Mbit/s)
Flow 3 ingress (mean 0.54 Mbit/s)
Flow 3 egress (mean 0.54 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 13.14 ms)
Flow 2 (95th percentile 13.33 ms)
Flow 3 (95th percentile 19.09 ms)
Run 1: Statistics of FillP

Start at: 2018-03-20 17:57:53
End at: 2018-03-20 17:58:23

# Below is generated by plot.py at 2018-03-20 19:36:39
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 11.84 Mbit/s (98.7% utilization)
95th percentile per-packet one-way delay: 27724.373 ms
Loss rate: 64.89%
-- Flow 1:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 27724.373 ms
Loss rate: 64.89%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
Run 1: Report of FillP — Data Link

![Graph showing throughput and latency over time]

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 33.71 Mbps)
  - Flow 1 egress (mean 11.84 Mbps)
  - Flow 2 ingress (mean 0.01 Mbps)
  - Flow 2 egress (mean 0.00 Mbps)
  - Flow 3 ingress (mean 0.01 Mbps)
  - Flow 3 egress (mean 0.00 Mbps)

- **Latency (ms):**
  - Flow 1 (95th percentile 27724.37 ms)
Run 2: Statistics of FillP

Start at: 2018-03-20 18:08:07
End at: 2018-03-20 18:08:37

# Below is generated by plot.py at 2018-03-20 19:36:39
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 11.84 Mbit/s (98.7% utilization)
95th percentile per-packet one-way delay: 27735.071 ms
Loss rate: 63.20%
-- Flow 1:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 27735.071 ms
Loss rate: 63.19%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
Run 2: Report of FillP — Data Link

![Graph of average capacity and throughput over time]

- Flow 1 ingress (mean 32.16 Mbit/s)
- Flow 1 egress (mean 11.84 Mbit/s)
- Flow 2 ingress (mean 0.01 Mbit/s)
- Flow 2 egress (mean 0.00 Mbit/s)
- Flow 3 ingress (mean 0.01 Mbit/s)
- Flow 3 egress (mean 0.00 Mbit/s)

![Graph of per-packet one-way delay over time]

- Flow 1 (95th percentile delay 27735.07 ms)
Run 3: Statistics of FillP

Start at: 2018-03-20 18:18:20
End at: 2018-03-20 18:18:50

# Below is generated by plot.py at 2018-03-20 19:36:44
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 11.84 Mbit/s (98.7% utilization)
95th percentile per-packet one-way delay: 27718.406 ms
Loss rate: 68.13%
-- Flow 1:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 27718.406 ms
Loss rate: 68.12%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
Run 3: Report of FillP — Data Link
Run 4: Statistics of FillP

Start at: 2018-03-20 18:28:34
End at: 2018-03-20 18:29:04

# Below is generated by plot.py at 2018-03-20 19:36:44
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 11.84 Mbit/s (98.7% utilization)
95th percentile per-packet one-way delay: 27722.546 ms
Loss rate: 63.25%
-- Flow 1:
Average throughput: 11.84 Mbit/s
95th percentile per-packet one-way delay: 27722.546 ms
Loss rate: 63.24%
-- Flow 2:
Average throughput: 0.00 Mbit/s
-- Flow 3:
Average throughput: 0.00 Mbit/s
Run 4: Report of FillP — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Flow 1 ingress (mean 32.21 Mbit/s)  Flow 1 egress (mean 11.84 Mbit/s)
Flow 2 ingress (mean 0.01 Mbit/s)  Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.01 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

End-to-end one-way delay (ms)

Flow 1 (95th percentile 27722.55 ms)
Run 5: Statistics of FillP

Start at: 2018-03-20 18:38:47
End at: 2018-03-20 18:39:17

# Below is generated by plot.py at 2018-03-20 19:36:44
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 11.84 Mbit/s (98.7% utilization)
  95th percentile per-packet one-way delay: 27728.680 ms
  Loss rate: 63.03%
-- Flow 1:
  Average throughput: 11.84 Mbit/s
  95th percentile per-packet one-way delay: 27728.680 ms
  Loss rate: 63.03%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
-- Flow 3:
  Average throughput: 0.00 Mbit/s
Run 5: Report of FillP — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Flow 1 ingress (mean 32.01 Mbit/s) Flow 1 egress (mean 11.84 Mbit/s)
Flow 2 ingress (mean 0.01 Mbit/s) Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.01 Mbit/s) Flow 3 egress (mean 0.00 Mbit/s)

Per-packet one-way delay (ms)

Flow 1 (95th percentile 27728.68 ms)
Run 6: Statistics of FillP

Start at: 2018-03-20 18:49:02
End at: 2018-03-20 18:49:32

# Below is generated by plot.py at 2018-03-20 19:36:47
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 11.84 Mbit/s (98.6% utilization)
  95th percentile per-packet one-way delay: 27719.016 ms
  Loss rate: 66.29%
-- Flow 1:
  Average throughput: 11.84 Mbit/s
  95th percentile per-packet one-way delay: 27719.016 ms
  Loss rate: 66.29%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
-- Flow 3:
  Average throughput: 0.00 Mbit/s
Run 6: Report of FillP — Data Link

![Graph 1: Average capacity 12.00 Mbit/s (shaded region)]

- Flow 1 ingress (mean 35.11 Mbit/s)
- Flow 1 egress (mean 11.84 Mbit/s)
- Flow 2 ingress (mean 0.01 Mbit/s)
- Flow 2 egress (mean 0.00 Mbit/s)
- Flow 3 ingress (mean 0.01 Mbit/s)
- Flow 3 egress (mean 0.00 Mbit/s)

![Graph 2: Per-packet one-way delay (ms)]

- Flow 1 (95th percentile 27719.02 ms)
Run 7: Statistics of FillP

Start at: 2018-03-20 18:59:16
End at: 2018-03-20 18:59:46

# Below is generated by plot.py at 2018-03-20 19:36:47
# Datalink statistics
-- Total of 3 flows:
   Average capacity: 12.00 Mbit/s
   Average throughput: 11.84 Mbit/s (98.6% utilization)
   95th percentile per-packet one-way delay: 27727.337 ms
   Loss rate: 62.23%
-- Flow 1:
   Average throughput: 11.84 Mbit/s
   95th percentile per-packet one-way delay: 27727.337 ms
   Loss rate: 62.22%
-- Flow 2:
   Average throughput: 0.00 Mbit/s
-- Flow 3:
   Average throughput: 0.00 Mbit/s
Run 7: Report of FillP — Data Link

![Graph showing throughput and packet delay over time](image)

- **Average capacity**: 12.00 Mbit/s (shaded region)
- **Throughput (Mbit/s)** over time from 0 to 30 seconds
- **Packet delay (ms)** over time from 0 to 30 seconds

Legend:
- Blue: Flow 1 ingress (mean 31.34 Mbit/s)
- Blue: Flow 1 egress (mean 11.84 Mbit/s)
- Green: Flow 2 ingress (mean 0.01 Mbit/s)
- Green: Flow 2 egress (mean 0.00 Mbit/s)
- Red: Flow 3 ingress (mean 0.01 Mbit/s)
- Red: Flow 3 egress (mean 0.00 Mbit/s)
Run 8: Statistics of FillP

Start at: 2018-03-20 19:09:30
End at: 2018-03-20 19:10:00

# Below is generated by plot.py at 2018-03-20 19:36:49
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 11.84 Mbit/s (98.7% utilization)
  95th percentile per-packet one-way delay: 27724.232 ms
  Loss rate: 64.81%
-- Flow 1:
  Average throughput: 11.84 Mbit/s
  95th percentile per-packet one-way delay: 27724.232 ms
  Loss rate: 64.80%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
-- Flow 3:
  Average throughput: 0.00 Mbit/s
Run 8: Report of FillP — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 33.63 Mbit/s)  Flow 1 egress (mean 11.84 Mbit/s)
Flow 2 ingress (mean 0.01 Mbit/s)  Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.01 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 27724.23 ms)
Run 9: Statistics of FillP

Start at: 2018-03-20 19:19:44
End at: 2018-03-20 19:20:14

# Below is generated by plot.py at 2018-03-20 19:37:19
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 11.84 Mbit/s (98.7% utilization)
  95th percentile per-packet one-way delay: 27727.248 ms
  Loss rate: 64.61%
  -- Flow 1:
  Average throughput: 11.84 Mbit/s
  95th percentile per-packet one-way delay: 27727.248 ms
  Loss rate: 64.61%
  -- Flow 2:
  Average throughput: 0.00 Mbit/s
  -- Flow 3:
  Average throughput: 0.00 Mbit/s
Run 9: Report of FillP — Data Link

![Graph 1: Throughput vs Time](image1)

- **Average capacity 12.00 Mbit/s (shaded region)**

![Graph 2: Delay vs Time](image2)

- **Flow 1 ingress (mean 33.45 Mbit/s)**
- **Flow 1 egress (mean 11.84 Mbit/s)**
- **Flow 2 ingress (mean 0.01 Mbit/s)**
- **Flow 2 egress (mean 0.00 Mbit/s)**
- **Flow 3 ingress (mean 0.01 Mbit/s)**
- **Flow 3 egress (mean 0.00 Mbit/s)**

Per-packet one way delay (ms)

- **Flow 1 (95th percentile 27727.23 ms)**
Run 10: Statistics of FillP

Start at: 2018-03-20 19:29:58
End at: 2018-03-20 19:30:28

# Below is generated by plot.py at 2018-03-20 19:37:20
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 11.84 Mbit/s (98.7% utilization)
  95th percentile per-packet one-way delay: 27734.570 ms
  Loss rate: 64.50%
-- Flow 1:
  Average throughput: 11.84 Mbit/s
  95th percentile per-packet one-way delay: 27734.570 ms
  Loss rate: 64.50%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
-- Flow 3:
  Average throughput: 0.00 Mbit/s
Run 10: Report of FillIP — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 33.34 Mbit/s)  Flow 1 egress (mean 11.84 Mbit/s)
Flow 2 ingress (mean 0.01 Mbit/s)  Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.01 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 27734.57 ms)
Run 1: Statistics of Indigo-1-32

Start at: 2018-03-20 17:57:19
End at: 2018-03-20 17:57:49

# Below is generated by plot.py at 2018-03-20 19:37:20
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.71 Mbit/s (14.2% utilization)
  95th percentile per-packet one-way delay: 24.561 ms
  Loss rate: 0.33%
-- Flow 1:
  Average throughput: 1.01 Mbit/s
  95th percentile per-packet one-way delay: 24.421 ms
  Loss rate: 0.08%
-- Flow 2:
  Average throughput: 0.67 Mbit/s
  95th percentile per-packet one-way delay: 25.338 ms
  Loss rate: 0.27%
-- Flow 3:
  Average throughput: 0.80 Mbit/s
  95th percentile per-packet one-way delay: 25.593 ms
  Loss rate: 1.40%
Run 1: Report of Indigo-1-32 — Data Link

![Graph showing average capacity and throughput over time]

- Average capacity: 12.00 Mbit/s (shaded region)
- Throughput (Mbit/s) over time (0-30 seconds)
- Flow 1 ingress (mean 1.01 Mbit/s)
- Flow 1 egress (mean 1.01 Mbit/s)
- Flow 2 ingress (mean 0.67 Mbit/s)
- Flow 2 egress (mean 0.67 Mbit/s)
- Flow 3 ingress (mean 0.80 Mbit/s)
- Flow 3 egress (mean 0.80 Mbit/s)

![Graph showing packet delay over time]

- Per packet one way delay (ms)
- Time (s) from 0 to 30 seconds
- Flow 1 (95th percentile 24.42 ms)
- Flow 2 (95th percentile 25.34 ms)
- Flow 3 (95th percentile 25.59 ms)
Run 2: Statistics of Indigo-1-32

Start at: 2018-03-20 18:07:33
End at: 2018-03-20 18:08:03

# Below is generated by plot.py at 2018-03-20 19:37:20
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.70 Mbit/s (14.2% utilization)
  95th percentile per-packet one-way delay: 25.113 ms
  Loss rate: 0.28%
-- Flow 1:
  Average throughput: 1.00 Mbit/s
  95th percentile per-packet one-way delay: 24.463 ms
  Loss rate: 0.20%
-- Flow 2:
  Average throughput: 0.71 Mbit/s
  95th percentile per-packet one-way delay: 25.540 ms
  Loss rate: 0.26%
-- Flow 3:
  Average throughput: 0.75 Mbit/s
  95th percentile per-packet one-way delay: 26.712 ms
  Loss rate: 0.66%
Run 2: Report of Indigo-1-32 — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Flow 1 ingress (mean 0.99 Mbit/s)
Flow 2 ingress (mean 0.71 Mbit/s)
Flow 3 ingress (mean 0.75 Mbit/s)
Flow 1 egress (mean 1.00 Mbit/s)
Flow 2 egress (mean 0.71 Mbit/s)
Flow 3 egress (mean 0.75 Mbit/s)

Time (s)

Pkt. per sec (one way)

Flow 1 (95th percentile 24.46 ms)
Flow 2 (95th percentile 25.54 ms)
Flow 3 (95th percentile 26.71 ms)

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Run 3: Statistics of Indigo-1-32

Start at: 2018-03-20 18:17:46
End at: 2018-03-20 18:18:16

# Below is generated by plot.py at 2018-03-20 19:37:20
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.70 Mbit/s (14.2% utilization)
  95th percentile per-packet one-way delay: 24.681 ms
  Loss rate: 0.26%
  -- Flow 1:
    Average throughput: 1.00 Mbit/s
    95th percentile per-packet one-way delay: 24.437 ms
    Loss rate: 0.20%
  -- Flow 2:
    Average throughput: 0.78 Mbit/s
    95th percentile per-packet one-way delay: 25.530 ms
    Loss rate: 0.47%
  -- Flow 3:
    Average throughput: 0.60 Mbit/s
    95th percentile per-packet one-way delay: 26.827 ms
    Loss rate: 0.00%
Run 3: Report of Indigo-1-32 — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.00 Mbit/s) — Flow 1 egress (mean 1.00 Mbit/s)
Flow 2 ingress (mean 0.78 Mbit/s) — Flow 2 egress (mean 0.78 Mbit/s)
Flow 3 ingress (mean 0.60 Mbit/s) — Flow 3 egress (mean 0.60 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 24.44 ms) — Flow 2 (95th percentile 25.53 ms) — Flow 3 (95th percentile 26.83 ms)
Run 4: Statistics of Indigo-1-32

Start at: 2018-03-20 18:28:00
End at: 2018-03-20 18:28:30

# Below is generated by plot.py at 2018-03-20 19:37:20
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.70 Mbit/s (14.2% utilization)
95th percentile per-packet one-way delay: 24.926 ms
Loss rate: 0.33%
-- Flow 1:
Average throughput: 0.98 Mbit/s
95th percentile per-packet one-way delay: 24.363 ms
Loss rate: 0.17%
-- Flow 2:
Average throughput: 0.75 Mbit/s
95th percentile per-packet one-way delay: 25.536 ms
Loss rate: 0.73%
-- Flow 3:
Average throughput: 0.71 Mbit/s
95th percentile per-packet one-way delay: 26.614 ms
Loss rate: 0.17%
Run 4: Report of Indigo-1-32 — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 0.98 Mbit/s) — Flow 1 egress (mean 0.98 Mbit/s)
Flow 2 ingress (mean 0.76 Mbit/s) — Flow 2 egress (mean 0.75 Mbit/s)
Flow 3 ingress (mean 0.72 Mbit/s) — Flow 3 egress (mean 0.71 Mbit/s)

Latency (ms)

Time (s)

Flow 1 (95th percentile 24.36 ms) — Flow 2 (95th percentile 25.54 ms) — Flow 3 (95th percentile 26.61 ms)
Run 5: Statistics of Indigo-1-32

Start at: 2018-03-20 18:38:13
End at: 2018-03-20 18:38:43

# Below is generated by plot.py at 2018-03-20 19:37:20
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.70 Mbit/s (14.2% utilization)
  95th percentile per-packet one-way delay: 24.472 ms
  Loss rate: 0.28%
-- Flow 1:
  Average throughput: 1.01 Mbit/s
  95th percentile per-packet one-way delay: 24.387 ms
  Loss rate: 0.16%
-- Flow 2:
  Average throughput: 0.65 Mbit/s
  95th percentile per-packet one-way delay: 25.373 ms
  Loss rate: 0.28%
-- Flow 3:
  Average throughput: 0.81 Mbit/s
  95th percentile per-packet one-way delay: 24.664 ms
  Loss rate: 0.77%
Run 5: Report of Indigo-1-32 — Data Link
Run 6: Statistics of Indigo-1-32

Start at: 2018-03-20 18:48:28
End at: 2018-03-20 18:48:58

# Below is generated by plot.py at 2018-03-20 19:37:20
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.70 Mbit/s (14.2% utilization)
  95th percentile per-packet one-way delay: 24.446 ms
  Loss rate: 0.26%
-- Flow 1:
  Average throughput: 1.00 Mbit/s
  95th percentile per-packet one-way delay: 24.384 ms
  Loss rate: 0.20%
-- Flow 2:
  Average throughput: 0.67 Mbit/s
  95th percentile per-packet one-way delay: 24.436 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.80 Mbit/s
  95th percentile per-packet one-way delay: 25.501 ms
  Loss rate: 0.93%
Run 6: Report of Indigo-1-32 — Data Link

- **Average capacity 12.00 Mbit/s (shaded region)**

- **Throughput (Mbit/s)**

- **Time (s)**

- **Flow 1 ingress (mean 1.00 Mbit/s)**
- **Flow 1 egress (mean 1.00 Mbit/s)**
- **Flow 2 ingress (mean 0.67 Mbit/s)**
- **Flow 2 egress (mean 0.67 Mbit/s)**
- **Flow 3 ingress (mean 0.81 Mbit/s)**
- **Flow 3 egress (mean 0.80 Mbit/s)**

- **Round trip one way delay (ms)**

- **Flow 1 (95th percentile 24.38 ms)**
- **Flow 2 (95th percentile 24.44 ms)**
- **Flow 3 (95th percentile 25.50 ms)**
Run 7: Statistics of Indigo-1-32

Start at: 2018-03-20 18:58:42
End at: 2018-03-20 18:59:12

# Below is generated by plot.py at 2018-03-20 19:37:20
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.70 Mbit/s (14.2% utilization)
95th percentile per-packet one-way delay: 24.624 ms
Loss rate: 0.35%
-- Flow 1:
  Average throughput: 0.98 Mbit/s
  95th percentile per-packet one-way delay: 24.407 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 0.75 Mbit/s
  95th percentile per-packet one-way delay: 25.337 ms
  Loss rate: 0.81%
-- Flow 3:
  Average throughput: 0.71 Mbit/s
  95th percentile per-packet one-way delay: 25.799 ms
  Loss rate: 0.70%
Run 8: Statistics of Indigo-1-32

Start at: 2018-03-20 19:08:56
End at: 2018-03-20 19:09:26

# Below is generated by plot.py at 2018-03-20 19:37:20
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.70 Mbit/s (14.2% utilization)
  95th percentile per-packet one-way delay: 25.406 ms
  Loss rate: 0.28%
-- Flow 1:
  Average throughput: 1.00 Mbit/s
  95th percentile per-packet one-way delay: 24.419 ms
  Loss rate: 0.08%
-- Flow 2:
  Average throughput: 0.72 Mbit/s
  95th percentile per-packet one-way delay: 25.522 ms
  Loss rate: 0.26%
-- Flow 3:
  Average throughput: 0.72 Mbit/s
  95th percentile per-packet one-way delay: 26.740 ms
  Loss rate: 1.20%
Run 8: Report of Indigo-1-32 — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.00 Mbit/s) — Flow 1 egress (mean 1.00 Mbit/s)
Flow 2 ingress (mean 0.72 Mbit/s) — Flow 2 egress (mean 0.72 Mbit/s)
Flow 3 ingress (mean 0.73 Mbit/s) — Flow 3 egress (mean 0.72 Mbit/s)

Packet oneway delay (ms)

Time (s)

Flow 1 (95th percentile 24.42 ms) — Flow 2 (95th percentile 25.52 ms) — Flow 3 (95th percentile 26.74 ms)
Run 9: Statistics of Indigo-1-32

Start at: 2018-03-20 19:19:10
End at: 2018-03-20 19:19:40

# Below is generated by plot.py at 2018-03-20 19:37:20
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.70 Mbit/s (14.2% utilization)
  95th percentile per-packet one-way delay: 24.522 ms
  Loss rate: 0.28%
-- Flow 1:
  Average throughput: 1.01 Mbit/s
  95th percentile per-packet one-way delay: 24.373 ms
  Loss rate: 0.16%
-- Flow 2:
  Average throughput: 0.67 Mbit/s
  95th percentile per-packet one-way delay: 24.484 ms
  Loss rate: 0.46%
-- Flow 3:
  Average throughput: 0.79 Mbit/s
  95th percentile per-packet one-way delay: 26.676 ms
  Loss rate: 0.47%
Run 9: Report of Indigo-1-32 — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Flow 1 ingress (mean 1.01 Mbit/s)  Flow 1 egress (mean 1.01 Mbit/s)
Flow 2 ingress (mean 0.67 Mbit/s)  Flow 2 egress (mean 0.67 Mbit/s)
Flow 3 ingress (mean 0.79 Mbit/s)  Flow 3 egress (mean 0.79 Mbit/s)

Round trip time (ms)

Flow 1 (95th percentile 24.37 ms)  Flow 2 (95th percentile 24.48 ms)  Flow 3 (95th percentile 26.68 ms)
Run 10: Statistics of Indigo-1-32

Start at: 2018-03-20 19:29:24
End at: 2018-03-20 19:29:54

# Below is generated by plot.py at 2018-03-20 19:37:20
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.70 Mbit/s (14.2% utilization)
95th percentile per-packet one-way delay: 25.266 ms
Loss rate: 0.28%
-- Flow 1:
Average throughput: 1.00 Mbit/s
95th percentile per-packet one-way delay: 24.454 ms
Loss rate: 0.08%
-- Flow 2:
Average throughput: 0.69 Mbit/s
95th percentile per-packet one-way delay: 24.748 ms
Loss rate: 0.36%
-- Flow 3:
Average throughput: 0.77 Mbit/s
95th percentile per-packet one-way delay: 27.689 ms
Loss rate: 0.97%
Run 10: Report of Indigo-1-32 — Data Link
Run 1: Statistics of Vivace-latency

Start at: 2018-03-20 17:55:03
End at: 2018-03-20 17:55:33

# Below is generated by plot.py at 2018-03-20 19:37:20
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.45 Mbit/s (12.1% utilization)
  95th percentile per-packet one-way delay: 12.083 ms
  Loss rate: 0.03%
-- Flow 1:
  Average throughput: 1.45 Mbit/s
  95th percentile per-packet one-way delay: 12.083 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 12.122 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 11.835 ms
  Loss rate: 0.00%
Run 1: Report of Vivace-latency — Data Link

![Graph showing average capacity and throughput over time]
Run 2: Statistics of Vivace-latency

Start at: 2018-03-20 18:05:16
End at: 2018-03-20 18:05:46

# Below is generated by plot.py at 2018-03-20 19:37:20
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.44 Mbit/s (12.0% utilization)
95th percentile per-packet one-way delay: 12.075 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 1.44 Mbit/s
95th percentile per-packet one-way delay: 12.075 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.126 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 11.800 ms
Loss rate: 0.00%
Run 2: Report of Vivace-latency — Data Link

![Graph showing throughput over time with shaded region indicating average capacity of 12.00 Mbit/s.]

![Graph showing packet delay over time with markers indicating 95th percentile delays.]
Run 3: Statistics of Vivace-latency

Start at: 2018-03-20 18:15:30
End at: 2018-03-20 18:16:00

# Below is generated by plot.py at 2018-03-20 19:37:20
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.43 Mbit/s (11.9% utilization)
95th percentile per-packet one-way delay: 12.083 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 12.083 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 11.785 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 11.874 ms
Loss rate: 0.00%
Run 3: Report of Vivace-latency — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.43 Mbit/s)  Flow 1 egress (mean 1.43 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s)  Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Per packet one way delay (ms)

Flow 1 (95th percentile 12.08 ms)  Flow 2 (95th percentile 11.79 ms)  Flow 3 (95th percentile 11.87 ms)
Run 4: Statistics of Vivace-latency

Start at: 2018-03-20 18:25:43
End at: 2018-03-20 18:26:13

# Below is generated by plot.py at 2018-03-20 19:37:20
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.43 Mbit/s (11.9% utilization)
  95th percentile per-packet one-way delay: 12.088 ms
  Loss rate: 0.03%
-- Flow 1:
  Average throughput: 1.43 Mbit/s
  95th percentile per-packet one-way delay: 12.088 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 11.955 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 11.942 ms
  Loss rate: 0.00%
Run 4: Report of Vivace-latency — Data Link
Run 5: Statistics of Vivace-latency

Start at: 2018-03-20 18:35:57
End at: 2018-03-20 18:36:27

# Below is generated by plot.py at 2018-03-20 19:37:20
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.42 Mbit/s (11.9% utilization)
  95th percentile per-packet one-way delay: 12.074 ms
  Loss rate: 0.06%
  -- Flow 1:
  Average throughput: 1.42 Mbit/s
  95th percentile per-packet one-way delay: 12.074 ms
  Loss rate: 0.06%
  -- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 11.958 ms
  Loss rate: 0.00%
  -- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 11.994 ms
  Loss rate: 0.00%
Run 6: Statistics of Vivace-latency

Start at: 2018-03-20 18:46:11
End at: 2018-03-20 18:46:41

# Below is generated by plot.py at 2018-03-20 19:37:22
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.45 Mbit/s (12.1% utilization)
  95th percentile per-packet one-way delay: 12.077 ms
  Loss rate: 0.03%
-- Flow 1:
  Average throughput: 1.45 Mbit/s
  95th percentile per-packet one-way delay: 12.077 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 11.957 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 11.896 ms
  Loss rate: 0.00%
Run 6: Report of Vivace-latency — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.45 Mbit/s)  Flow 1 egress (mean 1.45 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s)  Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Throughput vs. Time (s)

Pkt per sec vs. Time (s)

Flow 1 (95th percentile 12.08 ms)  Flow 2 (95th percentile 11.96 ms)  Flow 3 (95th percentile 11.90 ms)
Run 7: Statistics of Vivace-latency

Start at: 2018-03-20 18:56:25
End at: 2018-03-20 18:56:55

# Below is generated by plot.py at 2018-03-20 19:37:23
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.46 Mbit/s (12.1% utilization)
95th percentile per-packet one-way delay: 12.053 ms
Loss rate: 0.06%
-- Flow 1:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 12.053 ms
Loss rate: 0.06%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.196 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 11.896 ms
Loss rate: 0.00%
Run 7: Report of Vivace-latency — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.45 Mbit/s) — Flow 1 egress (mean 1.45 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s) — Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s) — Flow 3 egress (mean 0.00 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 12.05 ms) — Flow 2 (95th percentile 12.20 ms) — Flow 3 (95th percentile 11.90 ms)
Run 8: Statistics of Vivace-latency

Start at: 2018-03-20 19:06:40
End at: 2018-03-20 19:07:10

# Below is generated by plot.py at 2018-03-20 19:37:25
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.44 Mbit/s (12.0% utilization)
  95th percentile per-packet one-way delay: 12.066 ms
  Loss rate: 0.04%
-- Flow 1:
  Average throughput: 1.43 Mbit/s
  95th percentile per-packet one-way delay: 12.066 ms
  Loss rate: 0.04%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 12.137 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 11.839 ms
  Loss rate: 0.00%
Run 8: Report of Vivace-latency — Data Link

![Graph of throughput and packet delay over time]

- **Average capacity:** 12.00 Mbit/s (shaded region)
- **Throughput (Mbit/s):**
  - **Flow 1 ingress (mean 1.43 Mbit/s)**
  - **Flow 1 egress (mean 1.43 Mbit/s)**
  - **Flow 2 ingress (mean 0.00 Mbit/s)**
  - **Flow 2 egress (mean 0.00 Mbit/s)**
  - **Flow 3 ingress (mean 0.00 Mbit/s)**
  - **Flow 3 egress (mean 0.00 Mbit/s)**

- **Packet delay (ms):**
  - **Flow 1 (95th percentile 12.07 ms)**
  - **Flow 2 (95th percentile 12.14 ms)**
  - **Flow 3 (95th percentile 11.84 ms)**
Run 9: Statistics of Vivace-latency

Start at: 2018-03-20 19:16:54
End at: 2018-03-20 19:17:24

# Below is generated by plot.py at 2018-03-20 19:37:26
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.45 Mbit/s (12.1% utilization)
95th percentile per-packet one-way delay: 12.072 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 1.44 Mbit/s
95th percentile per-packet one-way delay: 12.072 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 11.773 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.190 ms
Loss rate: 0.00%
Run 9: Report of Vivace-latency — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.44 Mbit/s)  
Flow 1 egress (mean 1.44 Mbit/s)  
Flow 2 ingress (mean 0.00 Mbit/s)  
Flow 2 egress (mean 0.00 Mbit/s)  
Flow 3 ingress (mean 0.00 Mbit/s)  
Flow 3 egress (mean 0.00 Mbit/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 12.07 ms)  
Flow 2 (95th percentile 11.77 ms)  
Flow 3 (95th percentile 12.19 ms)
Run 10: Statistics of Vivace-latency

Start at: 2018-03-20 19:27:08
End at: 2018-03-20 19:27:38

# Below is generated by plot.py at 2018-03-20 19:37:28
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.45 Mbit/s (12.1% utilization)
  95th percentile per-packet one-way delay: 12.071 ms
  Loss rate: 0.03%
-- Flow 1:
  Average throughput: 1.45 Mbit/s
  95th percentile per-packet one-way delay: 12.071 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 11.790 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 11.862 ms
  Loss rate: 0.00%
Run 10: Report of Vivace-latency — Data Link
Run 1: Statistics of Vivace-loss

Start at: 2018-03-20 17:55:37
End at: 2018-03-20 17:56:07

# Below is generated by plot.py at 2018-03-20 19:37:42
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 11.03 Mbit/s (91.9% utilization)
  95th percentile per-packet one-way delay: 6778.470 ms
  Loss rate: 37.42%
-- Flow 1:
  Average throughput: 11.03 Mbit/s
  95th percentile per-packet one-way delay: 6778.066 ms
  Loss rate: 37.42%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 754.714 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 7508.790 ms
  Loss rate: 16.67%
Run 1: Report of Vivace-loss — Data Link
Run 2: Statistics of Vivace-loss

Start at: 2018-03-20 18:05:50
End at: 2018-03-20 18:06:20

# Below is generated by plot.py at 2018-03-20 19:37:45
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 10.91 Mbit/s (90.9% utilization)
95th percentile per-packet one-way delay: 5914.219 ms
Loss rate: 34.82%
-- Flow 1:
Average throughput: 10.91 Mbit/s
95th percentile per-packet one-way delay: 5914.219 ms
Loss rate: 34.82%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 710.976 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 5898.797 ms
Loss rate: 0.00%
Run 2: Report of Vivace-loss — Data Link
Run 3: Statistics of Vivace-loss

Start at: 2018-03-20 18:16:04
End at: 2018-03-20 18:16:34

# Below is generated by plot.py at 2018-03-20 19:37:46
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 10.91 Mbit/s (90.9% utilization)
  95th percentile per-packet one-way delay: 5917.269 ms
  Loss rate: 34.84%
-- Flow 1:
  Average throughput: 10.91 Mbit/s
  95th percentile per-packet one-way delay: 5917.269 ms
  Loss rate: 34.84%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 712.617 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 5923.726 ms
  Loss rate: 0.00%
Run 3: Report of Vivace-loss — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 16.74 Mbit/s)
Flow 1 egress (mean 10.91 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s)
Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)
Flow 3 egress (mean 0.00 Mbit/s)

Per-packet end-to-end delay (ms)

Flow 1 (95th percentile 5917.27 ms)
Flow 2 (95th percentile 712.62 ms)
Flow 3 (95th percentile 5923.73 ms)
Run 4: Statistics of Vivace-loss

Start at: 2018-03-20 18:26:17
End at: 2018-03-20 18:26:47

# Below is generated by plot.py at 2018-03-20 19:37:47
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 10.91 Mbit/s (90.9% utilization)
  95th percentile per-packet one-way delay: 5911.922 ms
  Loss rate: 34.81%
-- Flow 1:
  Average throughput: 10.91 Mbit/s
  95th percentile per-packet one-way delay: 5911.279 ms
  Loss rate: 34.82%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 713.240 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 5916.758 ms
  Loss rate: 0.00%
Run 4: Report of Vivace-loss — Data Link

![Graph showing throughput and end-to-end delay over time for different flows.]

- **Average capacity**: 12.00 Mbit/s (shaded region)
- **Throughput**:
  - Flow 1 ingress (mean 16.73 Mbit/s)
  - Flow 1 egress (mean 10.91 Mbit/s)
  - Flow 2 ingress (mean 0.00 Mbit/s)
  - Flow 2 egress (mean 0.00 Mbit/s)
  - Flow 3 ingress (mean 0.00 Mbit/s)
  - Flow 3 egress (mean 0.00 Mbit/s)

- **End-to-end delay (ms)**:
  - Flow 1 (95th percentile 5911.28 ms)
  - Flow 2 (95th percentile 713.24 ms)
  - Flow 3 (95th percentile 5918.76 ms)
Run 5: Statistics of Vivace-loss

Start at: 2018-03-20 18:36:31
End at: 2018-03-20 18:37:01

# Below is generated by plot.py at 2018-03-20 19:37:49
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 10.92 Mbit/s (91.0% utilization)
  95th percentile per-packet one-way delay: 5941.789 ms
  Loss rate: 34.88%
-- Flow 1:
  Average throughput: 10.92 Mbit/s
  95th percentile per-packet one-way delay: 5941.735 ms
  Loss rate: 34.89%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 715.225 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 5953.568 ms
  Loss rate: 0.00%
Run 5: Report of Vivace-loss — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 16.76 Mbit/s)  Flow 1 egress (mean 10.92 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s)  Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Packet sent vs. delay (ms)

Time (s)

Flow 1 (95th percentile 5941.73 ms)  Flow 2 (95th percentile 715.23 ms)  Flow 3 (95th percentile 5953.57 ms)
Run 6: Statistics of Vivace-loss

Start at: 2018-03-20 18:46:45
End at: 2018-03-20 18:47:15

# Below is generated by plot.py at 2018-03-20 19:37:50
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 10.91 Mbit/s (90.9% utilization)
  95th percentile per-packet one-way delay: 5906.275 ms
  Loss rate: 34.80%
-- Flow 1:
  Average throughput: 10.91 Mbit/s
  95th percentile per-packet one-way delay: 5906.275 ms
  Loss rate: 34.80%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 709.225 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 5881.619 ms
  Loss rate: 0.00%
Run 6: Report of Vivace-loss — Data Link
Run 7: Statistics of Vivace-loss

Start at: 2018-03-20 18:56:59
End at: 2018-03-20 18:57:29

# Below is generated by plot.py at 2018-03-20 19:37:51
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 10.91 Mbit/s (90.9% utilization)
  95th percentile per-packet one-way delay: 5925.405 ms
  Loss rate: 34.85%
-- Flow 1:
  Average throughput: 10.91 Mbit/s
  95th percentile per-packet one-way delay: 5924.812 ms
  Loss rate: 34.85%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 712.186 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 5938.732 ms
  Loss rate: 0.00%
Run 7: Report of Vivace-loss — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 16.75 Mbit/s)  Flow 1 egress (mean 10.91 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s)  Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Per-packet one-way delay (ms)

Flow 1 (95th percentile 5924.81 ms)  Flow 2 (95th percentile 712.39 ms)  Flow 3 (95th percentile 5938.73 ms)
Run 8: Statistics of Vivace-loss

Start at: 2018-03-20 19:07:14
End at: 2018-03-20 19:07:44

# Below is generated by plot.py at 2018-03-20 19:37:53
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 11.10 Mbit/s (92.5% utilization)
  95th percentile per-packet one-way delay: 7780.673 ms
  Loss rate: 40.26%
  -- Flow 1:
    Average throughput: 11.10 Mbit/s
    95th percentile per-packet one-way delay: 7779.565 ms
    Loss rate: 40.26%
  -- Flow 2:
    Average throughput: 0.00 Mbit/s
    95th percentile per-packet one-way delay: 802.846 ms
    Loss rate: 0.00%
  -- Flow 3:
    Average throughput: 0.00 Mbit/s
    95th percentile per-packet one-way delay: 8494.716 ms
    Loss rate: 50.00%
Run 8: Report of Vivace-loss — Data Link

![Graph showing throughput and packet delay over time for different flows.]

- Flow 1 ingress (mean 18.57 Mbit/s)
- Flow 1 egress (mean 11.20 Mbit/s)
- Flow 2 ingress (mean 0.00 Mbit/s)
- Flow 2 egress (mean 0.00 Mbit/s)
- Flow 3 ingress (mean 0.00 Mbit/s)
- Flow 3 egress (mean 0.00 Mbit/s)

- Flow 1 (95th percentile 7779.56 ms)
- Flow 2 (95th percentile 802.85 ms)
- Flow 3 (95th percentile 8494.72 ms)
Run 9: Statistics of Vivace-loss

Start at: 2018-03-20 19:17:28
End at: 2018-03-20 19:17:58

# Below is generated by plot.py at 2018-03-20 19:38:12
# Datalink statistics
-- Total of 3 flows:
    Average capacity: 12.00 Mbit/s
    Average throughput: 10.91 Mbit/s (90.9% utilization)
    95th percentile per-packet one-way delay: 5909.015 ms
    Loss rate: 34.81%
    -- Flow 1:
        Average throughput: 10.91 Mbit/s
        95th percentile per-packet one-way delay: 5909.015 ms
        Loss rate: 34.81%
    -- Flow 2:
        Average throughput: 0.00 Mbit/s
        95th percentile per-packet one-way delay: 711.190 ms
        Loss rate: 0.00%
    -- Flow 3:
        Average throughput: 0.00 Mbit/s
        95th percentile per-packet one-way delay: 5905.798 ms
        Loss rate: 0.00%
Run 9: Report of Vivace-loss — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

0 5 10 15 20 25 30

Time (s)

Flow 1 ingress (mean 16.73 Mbit/s)  Flow 1 egress (mean 10.91 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s)  Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Per packet end-to-end delay (ms)

0 1000 2000 3000 4000 5000 6000

Time (s)

Flow 1 (95th percentile 5909.02 ms)  Flow 2 (95th percentile 711.19 ms)  Flow 3 (95th percentile 5905.80 ms)
Run 10: Statistics of Vivace-loss

Start at: 2018-03-20 19:27:42
End at: 2018-03-20 19:28:12

# Below is generated by plot.py at 2018-03-20 19:38:12
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 11.04 Mbit/s (92.0% utilization)
  95th percentile per-packet one-way delay: 7340.453 ms
  Loss rate: 39.07%
-- Flow 1:
  Average throughput: 11.04 Mbit/s
  95th percentile per-packet one-way delay: 7339.823 ms
  Loss rate: 39.07%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 774.997 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 7826.885 ms
  Loss rate: 41.67%
Run 10: Report of Vivace-loss — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 18.12 Mbit/s) — Flow 1 egress (mean 11.04 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s) — Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s) — Flow 3 egress (mean 0.00 Mbit/s)

Packet error rate (%) vs. time (s)

Flow 1 (95th percentile 7339.82 ms) — Flow 2 (95th percentile 775.00 ms) — Flow 3 (95th percentile 7826.89 ms)
Run 1: Statistics of Vivace-LTE

Start at: 2018-03-20 17:54:29
End at: 2018-03-20 17:54:59

# Below is generated by plot.py at 2018-03-20 19:38:12
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.43 Mbit/s (11.9% utilization)
95th percentile per-packet one-way delay: 12.090 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 1.43 Mbit/s
95th percentile per-packet one-way delay: 12.090 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.063 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.161 ms
Loss rate: 0.00%
Run 1: Report of Vivace-LTE — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.43 Mbit/s)  Flow 1 egress (mean 1.43 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s)  Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 12.09 ms)  Flow 2 (95th percentile 12.06 ms)  Flow 3 (95th percentile 12.16 ms)
Run 2: Statistics of Vivace-LTE

Start at: 2018-03-20 18:04:42
End at: 2018-03-20 18:05:12

# Below is generated by plot.py at 2018-03-20 19:38:12
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.45 Mbit/s (12.1% utilization)
  95th percentile per-packet one-way delay: 12.085 ms
  Loss rate: 0.03%
-- Flow 1:
  Average throughput: 1.45 Mbit/s
  95th percentile per-packet one-way delay: 12.084 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 11.566 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 12.628 ms
  Loss rate: 0.00%
Run 2: Report of Vivace-LTE — Data Link
Run 3: Statistics of Vivace-LTE

Start at: 2018-03-20 18:14:56
End at: 2018-03-20 18:15:26

# Below is generated by plot.py at 2018-03-20 19:38:12
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.45 Mbit/s (12.1% utilization)
95th percentile per-packet one-way delay: 12.088 ms
Loss rate: 0.03%
-- Flow 1:
Average throughput: 1.45 Mbit/s
95th percentile per-packet one-way delay: 12.088 ms
Loss rate: 0.03%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.197 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.157 ms
Loss rate: 0.00%
Run 3: Report of Vivace-LTE — Data Link
Run 4: Statistics of Vivace-LTE

Start at: 2018-03-20 18:25:09
End at: 2018-03-20 18:25:39

# Below is generated by plot.py at 2018-03-20 19:38:12
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.45 Mbit/s (12.1% utilization)
  95th percentile per-packet one-way delay: 12.058 ms
  Loss rate: 0.03%
-- Flow 1:
  Average throughput: 1.44 Mbit/s
  95th percentile per-packet one-way delay: 12.058 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 12.546 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 11.838 ms
  Loss rate: 0.00%
Run 4: Report of Vivace-LTE — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.44 Mbit/s)
Flow 1 egress (mean 1.44 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s)
Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)
Flow 3 egress (mean 0.00 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 12.06 ms)
Flow 2 (95th percentile 12.55 ms)
Flow 3 (95th percentile 11.84 ms)
Run 5: Statistics of Vivace-LTE

Start at: 2018-03-20 18:35:23
End at: 2018-03-20 18:35:53

# Below is generated by plot.py at 2018-03-20 19:38:12
# Datalink statistics
-- Total of 3 flows:
Average capacity: 12.00 Mbit/s
Average throughput: 1.44 Mbit/s (12.0% utilization)
95th percentile per-packet one-way delay: 12.070 ms
Loss rate: 0.04%
-- Flow 1:
Average throughput: 1.44 Mbit/s
95th percentile per-packet one-way delay: 12.070 ms
Loss rate: 0.04%
-- Flow 2:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 12.002 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.00 Mbit/s
95th percentile per-packet one-way delay: 11.916 ms
Loss rate: 0.00%
Run 5: Report of Vivace-LTE — Data Link

![Graph 1: Throughput vs Time](image1)

![Graph 2: Packet Error Rate vs Time](image2)
Run 6: Statistics of Vivace-LTE

Start at: 2018-03-20 18:45:37
End at: 2018-03-20 18:46:07

# Below is generated by plot.py at 2018-03-20 19:38:12
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.44 Mbit/s (12.0% utilization)
  95th percentile per-packet one-way delay: 12.091 ms
  Loss rate: 0.03%
-- Flow 1:
  Average throughput: 1.44 Mbit/s
  95th percentile per-packet one-way delay: 12.091 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 11.828 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 11.755 ms
  Loss rate: 0.00%
Run 6: Report of Vivace-LTE — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time(s)

Flow 1 ingress (mean 1.44 Mbit/s) — Flow 1 egress (mean 1.44 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s) — Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s) — Flow 3 egress (mean 0.00 Mbit/s)

Per packet one way delay (ms)

Time(s)

Flow 1 (95th percentile 12.09 ms) — Flow 2 (95th percentile 11.83 ms) — Flow 3 (95th percentile 11.76 ms)
Run 7: Statistics of Vivace-LTE

Start at: 2018-03-20 18:55:51
End at: 2018-03-20 18:56:21

# Below is generated by plot.py at 2018-03-20 19:38:12
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.45 Mbit/s (12.1% utilization)
  95th percentile per-packet one-way delay: 12.073 ms
  Loss rate: 0.03%
-- Flow 1:
  Average throughput: 1.45 Mbit/s
  95th percentile per-packet one-way delay: 12.073 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 12.030 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 11.711 ms
  Loss rate: 0.00%
Run 7: Report of Vivace-LTE — Data Link

![Graph showing throughput and packet delay over time]

- **Average capacity:** 12.00 Mbit/s (shaded region)
- **Throughput:** measured in Mbit/s
- **Time:** measured in seconds

**Throughput Graph:**
- Flow 1 ingress (mean 1.45 Mbit/s)
- Flow 1 egress (mean 1.45 Mbit/s)
- Flow 2 ingress (mean 0.00 Mbit/s)
- Flow 2 egress (mean 0.00 Mbit/s)
- Flow 3 ingress (mean 0.00 Mbit/s)
- Flow 3 egress (mean 0.00 Mbit/s)

**Packet Delay Graph:**
- Flow 1 (95th percentile 12.07 ms)
- Flow 2 (95th percentile 12.03 ms)
- Flow 3 (95th percentile 11.71 ms)
Run 8: Statistics of Vivace-LTE

Start at: 2018-03-20 19:06:06
End at: 2018-03-20 19:06:36

# Below is generated by plot.py at 2018-03-20 19:38:12
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.42 Mbit/s (11.9% utilization)
  95th percentile per-packet one-way delay: 12.089 ms
  Loss rate: 0.06%
-- Flow 1:
  Average throughput: 1.42 Mbit/s
  95th percentile per-packet one-way delay: 12.088 ms
  Loss rate: 0.06%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 12.369 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 11.818 ms
  Loss rate: 0.00%
Run 8: Report of Vivace-LTE — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.42 Mbit/s) — Flow 1 egress (mean 1.42 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s) — Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s) — Flow 3 egress (mean 0.00 Mbit/s)

Per packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 12.09 ms) — Flow 2 (95th percentile 12.13 ms) — Flow 3 (95th percentile 11.82 ms)
Run 9: Statistics of Vivace-LTE

Start at: 2018-03-20 19:16:20
End at: 2018-03-20 19:16:50

# Below is generated by plot.py at 2018-03-20 19:38:12
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.42 Mbit/s (11.8% utilization)
  95th percentile per-packet one-way delay: 12.074 ms
  Loss rate: 0.03%
-- Flow 1:
  Average throughput: 1.42 Mbit/s
  95th percentile per-packet one-way delay: 12.072 ms
  Loss rate: 0.03%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 12.620 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 12.019 ms
  Loss rate: 0.00%
Run 9: Report of Vivace-LTE — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.42 Mbit/s)  Flow 1 egress (mean 1.42 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s)  Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s)  Flow 3 egress (mean 0.00 Mbit/s)

Per-packet one way delay (ms)

Time (s)

Flow 1 (95th percentile 12.07 ms)  Flow 2 (95th percentile 12.62 ms)  Flow 3 (95th percentile 12.02 ms)
Run 10: Statistics of Vivace-LTE

Start at: 2018-03-20 19:26:34
End at: 2018-03-20 19:27:04

# Below is generated by plot.py at 2018-03-20 19:38:12
# Datalink statistics
-- Total of 3 flows:
  Average capacity: 12.00 Mbit/s
  Average throughput: 1.41 Mbit/s (11.8% utilization)
  95th percentile per-packet one-way delay: 12.097 ms
  Loss rate: 0.01%
-- Flow 1:
  Average throughput: 1.41 Mbit/s
  95th percentile per-packet one-way delay: 12.094 ms
  Loss rate: 0.01%
-- Flow 2:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 12.201 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.00 Mbit/s
  95th percentile per-packet one-way delay: 12.566 ms
  Loss rate: 0.00%
Run 10: Report of Vivace-LTE — Data Link

Average capacity 12.00 Mbit/s (shaded region)

Throughput (Mbit/s)

Time (s)

Flow 1 ingress (mean 1.41 Mbit/s) — Flow 1 egress (mean 1.41 Mbit/s)
Flow 2 ingress (mean 0.00 Mbit/s) — Flow 2 egress (mean 0.00 Mbit/s)
Flow 3 ingress (mean 0.00 Mbit/s) — Flow 3 egress (mean 0.00 Mbit/s)

Per packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 12.09 ms) — Flow 2 (95th percentile 12.20 ms) — Flow 3 (95th percentile 12.57 ms)