Pantheon Report

Generated at 2019-04-24 04:01:30 (UTC).
Data path: GCE Iowa on ens4 (remote) → GCE Sydney on ens4 (local).
Repeated the test of 21 congestion control schemes 5 times.
Each test lasted for 30 seconds running 3 flows with 10-second interval between two flows.
NTP offsets were measured against time.google.com and have been applied to correct the timestamps in logs.

System info:
Linux 4.15.0-1028-gcp
net.core.default_qdisc = fq
net.core.rmem_default = 16777216
net.core.rmem_max = 536870912
net.core.wmem_default = 16777216
net.core.wmem_max = 536870912
net.ipv4.tcp_rmem = 4096 16777216 536870912
net.ipv4.tcp_wmem = 4096 16777216 536870912

Git summary:
branch: muses @ 7a686f7c2ed0a333082c0bab1fa5c921ab47e6ee
third_party/fillp @ d6da1459332fcee56963885d7eba17e6a32d4519
third_party/fillp-sheep @ 0e5bb722943babcda2b090d2c64fd45e12e92f9
third_party/genericCC @ d0153f8e694aa89e0b032143cedbdf5e562f4
third_party/indigo @ 2601c92eaa9d58d38dc4dfe0edcbf90c077e64d
third_party/libutp @ b3465b942e2826f2b179eaab4a906ce66b7cf3c
third_party/muses @ 5e721212ead2823da20955337730c7464866ca496d
third_party/pantheon-tunnel @ f86663f8d27af9d42717625ee3a354cc2e80bd
third_party/pcc @ 1af9c958fa0d66d8623c091a55feca7872b4981e1
M receiver/src/buffer.h
M receiver/src/core.cpp
M sender/src/buffer.h
M sender/src/core.cpp
third_party/pcc-experimental @ cd43e34e3f5f5613e8acd0b92e4eb24f974ab
third_party/proto-quic @ 77961f1a82733a864a2f1bc8143ebc978f3fc42
third_party/scream-reproduce @ f09911d1421aa3131bf1ff1964974e1da3bd3b2
M src/ScreamClient
M src/ScreamServer
third_party/sprout @ 366e35c6178b01e31d4a46ad18c74f9415f19a26
M src/examples/cellsim.cc
M src/examples/sproutbt2.cc
M src/network/sproutconn.cc
third_party/verus @ d4b447ea74c660a261149af2629562939f9a494
M src/verus.hpp
M tools/plot.py
third_party/vivace  @ 2baf86211435ae071a32f96b7d8c504587f5d7f4
third_party/webrtc  @ 3f0cc2a9061a41b6f9dde4735770d143a1fa2851
test from GCE Iowa to GCE Sydney, 5 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>
</tr>
</thead>
<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>5</td>
<td>445.76</td>
<td>408.24</td>
<td>366.14</td>
</tr>
<tr>
<td>Copa</td>
<td>5</td>
<td>281.99</td>
<td>270.20</td>
<td>234.27</td>
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<td>TCP Cubic</td>
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<td>457.92</td>
<td>415.68</td>
<td>367.24</td>
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<td>FillP</td>
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<td>553.49</td>
<td>349.41</td>
<td>241.11</td>
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<td>316.69</td>
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<td>Indigo-MusesD</td>
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<td>8.28</td>
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<td>315.81</td>
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<td>215.71</td>
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<td>45.24</td>
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<td>4.22</td>
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<td>109.09</td>
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<td>PCC-Vivace</td>
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<td>177.87</td>
<td>179.88</td>
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<td>WebRTC media</td>
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<td>0.05</td>
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</table>
Run 1: Statistics of TCP BBR

End at: 2019-04-23 22:17:29
Local clock offset: 1.086 ms
Remote clock offset: 0.22 ms

# Below is generated by plot.py at 2019-04-24 01:48:21
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 815.71 Mbit/s
  95th percentile per-packet one-way delay: 234.258 ms
  Loss rate: 3.40%
-- Flow 1:
  Average throughput: 442.65 Mbit/s
  95th percentile per-packet one-way delay: 235.550 ms
  Loss rate: 3.45%
-- Flow 2:
  Average throughput: 386.58 Mbit/s
  95th percentile per-packet one-way delay: 137.402 ms
  Loss rate: 1.52%
-- Flow 3:
  Average throughput: 353.87 Mbit/s
  95th percentile per-packet one-way delay: 248.189 ms
  Loss rate: 7.15%
Run 1: Report of TCP BBR — Data Link
Run 2: Statistics of TCP BBR

Start at: 2019-04-23 22:54:06
End at: 2019-04-23 22:54:36
Local clock offset: -0.201 ms
Remote clock offset: 0.053 ms

# Below is generated by plot.py at 2019-04-24 01:49:19
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 863.72 Mbit/s
  95th percentile per-packet one-way delay: 198.097 ms
  Loss rate: 2.15%
-- Flow 1:
  Average throughput: 444.57 Mbit/s
  95th percentile per-packet one-way delay: 197.540 ms
  Loss rate: 2.38%
-- Flow 2:
  Average throughput: 435.60 Mbit/s
  95th percentile per-packet one-way delay: 205.817 ms
  Loss rate: 1.75%
-- Flow 3:
  Average throughput: 395.24 Mbit/s
  95th percentile per-packet one-way delay: 162.509 ms
  Loss rate: 2.23%
Run 2: Report of TCP BBR — Data Link

The graphs depict the throughput and per-packet one-way delay over time for different flows. The throughput graph shows the mean throughput for each flow (ingress and egress) with the specified means given in terms of Mbps. The per-packet one-way delay graph illustrates the 95th percentile delay for each flow, indicating the latency experienced by packets.

Flow 1 (mean 452.80 Mbps) and Flow 1 egress (mean 444.57 Mbps) show significant fluctuations in throughput. Flow 2 (mean 439.54 Mbps) and Flow 2 egress (mean 435.06 Mbps) exhibit similar behavior, with slight variations. Flow 3 (mean 397.25 Mbps) and Flow 3 egress (mean 395.24 Mbps) have the lowest throughput and egress throughput among the three.
Run 3: Statistics of TCP BBR

Local clock offset: 0.014 ms
Remote clock offset: -0.005 ms

# Below is generated by plot.py at 2019-04-24 01:49:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 825.48 Mbit/s
95th percentile per-packet one-way delay: 222.502 ms
Loss rate: 2.81%
-- Flow 1:
Average throughput: 452.65 Mbit/s
95th percentile per-packet one-way delay: 225.295 ms
Loss rate: 3.07%
-- Flow 2:
Average throughput: 392.61 Mbit/s
95th percentile per-packet one-way delay: 234.950 ms
Loss rate: 2.33%
-- Flow 3:
Average throughput: 341.19 Mbit/s
95th percentile per-packet one-way delay: 107.537 ms
Loss rate: 2.88%
Run 3: Report of TCP BBR — Data Link

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

- **Flow 1 ingress** (mean 464.27 Mbps)
- **Flow 1 egress** (mean 452.65 Mbps)
- **Flow 2 ingress** (mean 396.48 Mbps)
- **Flow 2 egress** (mean 392.61 Mbps)
- **Flow 3 ingress** (mean 345.21 Mbps)
- **Flow 3 egress** (mean 341.19 Mbps)

![Graph showing per-packet delay over time for different flows.]

- **Flow 1 (95th percentile 225.29 ms)**
- **Flow 2 (95th percentile 234.95 ms)**
- **Flow 3 (95th percentile 107.54 ms)**
Run 4: Statistics of TCP BBR

Start at: 2019-04-24 00:08:26
End at: 2019-04-24 00:08:56
Local clock offset: -0.291 ms
Remote clock offset: -0.035 ms

# Below is generated by plot.py at 2019-04-24 01:49:20
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 850.04 Mbit/s
  95th percentile per-packet one-way delay: 202.472 ms
  Loss rate: 1.88%
-- Flow 1:
  Average throughput: 465.71 Mbit/s
  95th percentile per-packet one-way delay: 203.827 ms
  Loss rate: 2.06%
-- Flow 2:
  Average throughput: 402.81 Mbit/s
  95th percentile per-packet one-way delay: 206.981 ms
  Loss rate: 1.51%
-- Flow 3:
  Average throughput: 354.99 Mbit/s
  95th percentile per-packet one-way delay: 155.554 ms
  Loss rate: 2.00%
Run 4: Report of TCP BBR — Data Link
Run 5: Statistics of TCP BBR

Start at: 2019-04-24 00:45:58
End at: 2019-04-24 00:46:28
Local clock offset: -0.058 ms
Remote clock offset: -0.113 ms

# Below is generated by plot.py at 2019-04-24 01:49:20
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 831.20 Mbit/s
  95th percentile per-packet one-way delay: 232.113 ms
  Loss rate: 3.71%
-- Flow 1:
  Average throughput: 423.20 Mbit/s
  95th percentile per-packet one-way delay: 232.224 ms
  Loss rate: 3.36%
-- Flow 2:
  Average throughput: 423.61 Mbit/s
  95th percentile per-packet one-way delay: 235.154 ms
  Loss rate: 4.19%
-- Flow 3:
  Average throughput: 385.40 Mbit/s
  95th percentile per-packet one-way delay: 136.734 ms
  Loss rate: 3.80%
Run 5: Report of TCP BBR — Data Link

![Graph 1](graph1.png)

![Graph 2](graph2.png)
Run 1: Statistics of Copa

Start at: 2019-04-23 22:41:40
Local clock offset: -0.467 ms
Remote clock offset: 0.039 ms

# Below is generated by plot.py at 2019-04-24 01:51:55
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 541.84 Mbit/s
  95th percentile per-packet one-way delay: 131.322 ms
  Loss rate: 0.97%
-- Flow 1:
  Average throughput: 282.78 Mbit/s
  95th percentile per-packet one-way delay: 130.079 ms
  Loss rate: 0.66%
-- Flow 2:
  Average throughput: 270.92 Mbit/s
  95th percentile per-packet one-way delay: 145.576 ms
  Loss rate: 0.87%
-- Flow 3:
  Average throughput: 241.04 Mbit/s
  95th percentile per-packet one-way delay: 104.319 ms
  Loss rate: 2.25%
Run 1: Report of Copa — Data Link
Run 2: Statistics of Copa

Start at: 2019-04-23 23:18:56
End at: 2019-04-23 23:19:26
Local clock offset: -0.499 ms
Remote clock offset: 0.003 ms

# Below is generated by plot.py at 2019-04-24 01:51:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 540.61 Mbit/s
95th percentile per-packet one-way delay: 133.290 ms
Loss rate: 0.92%
-- Flow 1:
Average throughput: 299.41 Mbit/s
95th percentile per-packet one-way delay: 126.731 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 252.62 Mbit/s
95th percentile per-packet one-way delay: 136.962 ms
Loss rate: 0.98%
-- Flow 3:
Average throughput: 223.51 Mbit/s
95th percentile per-packet one-way delay: 152.641 ms
Loss rate: 2.07%
Run 2: Report of Copa — Data Link

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

Legend for Throughput Graph:
- Flow 1 ingress (mean 299.52 Mbit/s)
- Flow 1 egress (mean 299.41 Mbit/s)
- Flow 2 ingress (mean 252.91 Mbit/s)
- Flow 2 egress (mean 252.62 Mbit/s)
- Flow 3 ingress (mean 224.28 Mbit/s)
- Flow 3 egress (mean 223.51 Mbit/s)

Legend for Packet Delay Graph:
- Flow 1 (95th percentile 126.73 ms)
- Flow 2 (95th percentile 136.96 ms)
- Flow 3 (95th percentile 152.64 ms)
Run 3: Statistics of Copa

End at: 2019-04-23 23:56:43
Local clock offset: 0.061 ms
Remote clock offset: -0.044 ms

# Below is generated by plot.py at 2019-04-24 01:51:55
# Datalink statistics

-- Total of 3 flows:
  Average throughput: 521.86 Mbit/s
  95th percentile per-packet one-way delay: 129.346 ms
  Loss rate: 1.01%

-- Flow 1:
  Average throughput: 261.50 Mbit/s
  95th percentile per-packet one-way delay: 121.627 ms
  Loss rate: 0.63%

-- Flow 2:
  Average throughput: 267.06 Mbit/s
  95th percentile per-packet one-way delay: 122.238 ms
  Loss rate: 1.13%

-- Flow 3:
  Average throughput: 252.46 Mbit/s
  95th percentile per-packet one-way delay: 142.459 ms
  Loss rate: 1.97%
Run 3: Report of Copa — Data Link
Run 4: Statistics of Copa

Start at: 2019-04-24 00:33:29
End at: 2019-04-24 00:33:59
Local clock offset: 0.062 ms
Remote clock offset: 0.007 ms

# Below is generated by plot.py at 2019-04-24 02:07:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 563.51 Mbit/s
95th percentile per-packet one-way delay: 153.208 ms
Loss rate: 0.93%

-- Flow 1:
Average throughput: 299.93 Mbit/s
95th percentile per-packet one-way delay: 114.524 ms
Loss rate: 0.57%

-- Flow 2:
Average throughput: 279.94 Mbit/s
95th percentile per-packet one-way delay: 130.555 ms
Loss rate: 0.94%

-- Flow 3:
Average throughput: 236.24 Mbit/s
95th percentile per-packet one-way delay: 213.291 ms
Loss rate: 2.32%
Run 4: Report of Copa — Data Link

Throughput (Mb/s)

Time (s)

Flow 1 ingress (mean 299.92 Mb/s)  Flow 1 egress (mean 299.93 Mb/s)
Flow 2 ingress (mean 280.16 Mb/s)  Flow 2 egress (mean 279.94 Mb/s)
Flow 3 ingress (mean 237.87 Mb/s)  Flow 3 egress (mean 236.24 Mb/s)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 114.52 ms)  Flow 2 (95th percentile 130.56 ms)  Flow 3 (95th percentile 213.29 ms)
Run 5: Statistics of Copa

Start at: 2019-04-24 01:11:16
End at: 2019-04-24 01:11:46
Local clock offset: -0.458 ms
Remote clock offset: -0.099 ms

# Below is generated by plot.py at 2019-04-24 02:07:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 524.24 Mbit/s
95th percentile per-packet one-way delay: 142.468 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 266.33 Mbit/s
95th percentile per-packet one-way delay: 127.992 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 280.45 Mbit/s
95th percentile per-packet one-way delay: 135.973 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 218.11 Mbit/s
95th percentile per-packet one-way delay: 191.515 ms
Loss rate: 2.23%
Run 5: Report of Copa — Data Link

![Graph showing throughput and per-packet one-way delay](image)

- Flow 1 ingress (mean 266.44 Mbit/s)
- Flow 1 egress (mean 266.33 Mbit/s)
- Flow 2 ingress (mean 280.30 Mbit/s)
- Flow 2 egress (mean 280.45 Mbit/s)
- Flow 3 ingress (mean 218.23 Mbit/s)
- Flow 3 egress (mean 218.11 Mbit/s)
Run 1: Statistics of TCP Cubic

End at: 2019-04-23 22:19:34
Local clock offset: 0.682 ms
Remote clock offset: 0.198 ms

# Below is generated by plot.py at 2019-04-24 02:07:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 863.17 Mbit/s
95th percentile per-packet one-way delay: 123.485 ms
Loss rate: 0.91%

-- Flow 1:
Average throughput: 470.88 Mbit/s
95th percentile per-packet one-way delay: 110.268 ms
Loss rate: 0.65%

-- Flow 2:
Average throughput: 400.92 Mbit/s
95th percentile per-packet one-way delay: 127.578 ms
Loss rate: 0.97%

-- Flow 3:
Average throughput: 383.45 Mbit/s
95th percentile per-packet one-way delay: 131.808 ms
Loss rate: 1.78%
Run 1: Report of TCP Cubic — Data Link

![Graph of throughput and packet delay over time]

- **Throughput (Mbps):**
  - Flow 1 ingress: mean 471.22 Mbps
  - Flow 1 egress: mean 470.88 Mbps
  - Flow 2 ingress: mean 401.36 Mbps
  - Flow 2 egress: mean 400.92 Mbps
  - Flow 3 ingress: mean 383.56 Mbps
  - Flow 3 egress: mean 383.45 Mbps

- **Packet delay (ms):**
  - Flow 1: 95th percentile 110.27 ms
  - Flow 2: 95th percentile 127.58 ms
  - Flow 3: 95th percentile 131.81 ms
Run 2: Statistics of TCP Cubic

End at: 2019-04-23 22:56:42
Local clock offset: -0.174 ms
Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2019-04-24 02:07:12
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 874.00 Mbit/s
  95th percentile per-packet one-way delay: 160.298 ms
  Loss rate: 0.98%
-- Flow 1:
  Average throughput: 478.15 Mbit/s
  95th percentile per-packet one-way delay: 165.558 ms
  Loss rate: 0.69%
-- Flow 2:
  Average throughput: 428.75 Mbit/s
  95th percentile per-packet one-way delay: 129.806 ms
  Loss rate: 0.85%
-- Flow 3:
  Average throughput: 338.02 Mbit/s
  95th percentile per-packet one-way delay: 184.455 ms
  Loss rate: 2.55%
Run 2: Report of TCP Cubic — Data Link
Run 3: Statistics of TCP Cubic

Start at: 2019-04-23 23:33:21
End at: 2019-04-23 23:33:51
Local clock offset: -0.379 ms
Remote clock offset: -0.031 ms

# Below is generated by plot.py at 2019-04-24 02:07:12
# Datalink statistics
-- Total of 3 flows:
Average throughput: 819.28 Mbit/s
95th percentile per-packet one-way delay: 217.155 ms
Loss rate: 1.05%
-- Flow 1:
Average throughput: 421.67 Mbit/s
95th percentile per-packet one-way delay: 220.173 ms
Loss rate: 0.60%
-- Flow 2:
Average throughput: 416.29 Mbit/s
95th percentile per-packet one-way delay: 225.065 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 369.00 Mbit/s
95th percentile per-packet one-way delay: 124.704 ms
Loss rate: 2.54%
Run 3: Report of TCP Cubic — Data Link

![Graph showing Throughput and Delay over time for different flows.]

Throughput (Mbps)

Time (s)

Per-packet one-way delay (ms)

Time (s)
Run 4: Statistics of TCP Cubic

Start at: 2019-04-24 00:10:33
End at: 2019-04-24 00:11:03
Local clock offset: -0.146 ms
Remote clock offset: -0.019 ms

# Below is generated by plot.py at 2019-04-24 02:07:12
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 813.17 Mbit/s
  95th percentile per-packet one-way delay: 182.427 ms
  Loss rate: 1.26%
-- Flow 1:
  Average throughput: 412.26 Mbit/s
  95th percentile per-packet one-way delay: 148.800 ms
  Loss rate: 0.63%
-- Flow 2:
  Average throughput: 431.77 Mbit/s
  95th percentile per-packet one-way delay: 193.593 ms
  Loss rate: 1.11%
-- Flow 3:
  Average throughput: 347.20 Mbit/s
  95th percentile per-packet one-way delay: 181.462 ms
  Loss rate: 3.81%
Run 4: Report of TCP Cubic — Data Link

Throughput (Mbps): 0 100 200 300 400 500 600

Time (s): 0 5 10 15 20 25 30

Flow 1 ingress (mean 412.49 Mbps)
Flow 1 egress (mean 412.26 Mbps)
Flow 2 ingress (mean 432.86 Mbps)
Flow 2 egress (mean 431.77 Mbps)
Flow 3 ingress (mean 354.74 Mbps)
Flow 3 egress (mean 347.20 Mbps)

Per packet one-way delay (ms):

0 100 125 150 175 200 225 250

Flow 1 (95th percentile 148.80 ms)
Flow 2 (95th percentile 193.59 ms)
Flow 3 (95th percentile 181.46 ms)
Run 5: Statistics of TCP Cubic

Start at: 2019-04-24 00:48:05
End at: 2019-04-24 00:48:35
Local clock offset: -0.057 ms
Remote clock offset: -0.144 ms

# Below is generated by plot.py at 2019-04-24 02:08:05
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 903.72 Mbit/s
  95th percentile per-packet one-way delay: 168.193 ms
  Loss rate: 1.11%
-- Flow 1:
  Average throughput: 506.64 Mbit/s
  95th percentile per-packet one-way delay: 174.086 ms
  Loss rate: 0.73%
-- Flow 2:
  Average throughput: 400.66 Mbit/s
  95th percentile per-packet one-way delay: 118.114 ms
  Loss rate: 1.07%
-- Flow 3:
  Average throughput: 398.52 Mbit/s
  95th percentile per-packet one-way delay: 125.731 ms
  Loss rate: 2.61%
Run 5: Report of TCP Cubic — Data Link

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Run 5: Report of TCP Cubic — Data Link
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Flow 1 ingress (mean 407.42 Mbit/s)
Flow 1 egress (mean 506.64 Mbit/s)
Flow 2 ingress (mean 401.50 Mbit/s)
Flow 2 egress (mean 400.66 Mbit/s)
Flow 3 ingress (mean 402.14 Mbit/s)
Flow 3 egress (mean 398.52 Mbit/s)
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Flow 1 (95th percentile 174.09 ms)
Flow 2 (95th percentile 118.11 ms)
Flow 3 (95th percentile 125.73 ms)
```

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Run 1: Statistics of FillP

End at: 2019-04-23 22:40:17
Local clock offset: 0.155 ms
Remote clock offset: 0.013 ms

# Below is generated by plot.py at 2019-04-24 02:10:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 849.30 Mbit/s
95th percentile per-packet one-way delay: 143.015 ms
Loss rate: 2.14%
-- Flow 1:
Average throughput: 540.70 Mbit/s
95th percentile per-packet one-way delay: 144.994 ms
Loss rate: 2.65%
-- Flow 2:
Average throughput: 334.22 Mbit/s
95th percentile per-packet one-way delay: 88.335 ms
Loss rate: 0.88%
-- Flow 3:
Average throughput: 265.85 Mbit/s
95th percentile per-packet one-way delay: 88.449 ms
Loss rate: 2.16%
Run 1: Report of FillP — Data Link

The graph shows the throughput over time for different flows:

- **Flow 1 Ingress** (mean 352.20 Mbit/s) with a maximum throughput of approximately 1000 Mbit/s.
- **Flow 1 Egress** (mean 540.70 Mbit/s) with a maximum throughput of approximately 800 Mbit/s.
- **Flow 2 Ingress** (mean 334.23 Mbit/s) and **Flow 2 Egress** (mean 334.22 Mbit/s) both showing similar throughput patterns.
- **Flow 3 Ingress** (mean 266.90 Mbit/s) and **Flow 3 Egress** (mean 265.85 Mbit/s) also display similar behavior.

The second graph illustrates the per-packet one-way delay over time for the same flows:

- **Flow 1 (95th percentile 144.99 ms)**
- **Flow 2 (95th percentile 88.33 ms)**
- **Flow 3 (95th percentile 88.45 ms)**
Run 2: Statistics of FillP

Start at: 2019-04-23 23:17:00
End at: 2019-04-23 23:17:30
Local clock offset: -0.141 ms
Remote clock offset: 0.006 ms

# Below is generated by plot.py at 2019-04-24 02:22:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 901.40 Mbit/s
95th percentile per-packet one-way delay: 124.287 ms
Loss rate: 0.98%
-- Flow 1:
Average throughput: 576.78 Mbit/s
95th percentile per-packet one-way delay: 133.220 ms
Loss rate: 0.95%
-- Flow 2:
Average throughput: 364.40 Mbit/s
95th percentile per-packet one-way delay: 89.663 ms
Loss rate: 0.77%
-- Flow 3:
Average throughput: 252.47 Mbit/s
95th percentile per-packet one-way delay: 90.577 ms
Loss rate: 1.71%
Run 2: Report of FillP — Data Link

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

- **Throughput (Mbps)**
  - Flow 1 Ingress (mean 579.09 Mbps)
  - Flow 1 Egress (mean 576.78 Mbps)
  - Flow 2 Ingress (mean 364.41 Mbps)
  - Flow 2 Egress (mean 364.40 Mbps)
  - Flow 3 Ingress (mean 252.34 Mbps)
  - Flow 3 Egress (mean 252.47 Mbps)

- **Per-packet one-way delay (ms)**
  - Flow 1 (95th percentile 133.22 ms)
  - Flow 2 (95th percentile 89.66 ms)
  - Flow 3 (95th percentile 90.58 ms)
Run 3: Statistics of FillP

End at: 2019-04-23 23:54:50
Local clock offset: -0.514 ms
Remote clock offset: -0.062 ms

# Below is generated by plot.py at 2019-04-24 02:22:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 848.47 Mbit/s
95th percentile per-packet one-way delay: 119.919 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 542.50 Mbit/s
95th percentile per-packet one-way delay: 130.624 ms
Loss rate: 0.58%
-- Flow 2:
Average throughput: 346.46 Mbit/s
95th percentile per-packet one-way delay: 90.576 ms
Loss rate: 0.70%
-- Flow 3:
Average throughput: 231.96 Mbit/s
95th percentile per-packet one-way delay: 87.833 ms
Loss rate: 1.96%
Run 3: Report of FillP — Data Link

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

- Flow 1 ingress (mean 542.51 Mbit/s)
- Flow 1 egress (mean 542.50 Mbit/s)
- Flow 2 ingress (mean 345.65 Mbit/s)
- Flow 2 egress (mean 346.46 Mbit/s)
- Flow 3 ingress (mean 232.79 Mbit/s)
- Flow 3 egress (mean 231.96 Mbit/s)

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

- Flow 1 (95th percentile 130.62 ms)
- Flow 2 (95th percentile 90.58 ms)
- Flow 3 (95th percentile 87.83 ms)
Run 4: Statistics of FillP

Start at: 2019-04-24 00:31:34
End at: 2019-04-24 00:32:04
Local clock offset: -0.1 ms
Remote clock offset: 0.006 ms

# Below is generated by plot.py at 2019-04-24 02:22:56
# Datalink statistics
-- Total of 3 flows:
Average throughput: 875.42 Mbit/s
95th percentile per-packet one-way delay: 134.825 ms
Loss rate: 1.20%
-- Flow 1:
Average throughput: 572.24 Mbit/s
95th percentile per-packet one-way delay: 138.345 ms
Loss rate: 1.25%
-- Flow 2:
Average throughput: 350.09 Mbit/s
95th percentile per-packet one-way delay: 91.328 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 217.02 Mbit/s
95th percentile per-packet one-way delay: 88.545 ms
Loss rate: 2.14%
Run 4: Report of FillP — Data Link

![Graph 1](https://via.placeholder.com/150)

- **Flow 1 Ingress** (mean 576.10 Mbit/s)
- **Flow 1 Egress** (mean 572.24 Mbit/s)
- **Flow 2 Ingress** (mean 350.27 Mbit/s)
- **Flow 2 Egress** (mean 350.09 Mbit/s)
- **Flow 3 Ingress** (mean 217.81 Mbit/s)
- **Flow 3 Egress** (mean 217.02 Mbit/s)

![Graph 2](https://via.placeholder.com/150)

- **Flow 1** (95th percentile 138.34 ms)
- **Flow 2** (95th percentile 91.33 ms)
- **Flow 3** (95th percentile 88.55 ms)
Run 5: Statistics of FillP

Start at: 2019-04-24 01:09:23
End at: 2019-04-24 01:09:53
Local clock offset: 0.058 ms
Remote clock offset: -0.153 ms

# Below is generated by plot.py at 2019-04-24 02:23:58
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 846.27 Mbit/s
  95th percentile per-packet one-way delay: 131.196 ms
  Loss rate: 1.35%
-- Flow 1:
  Average throughput: 535.25 Mbit/s
  95th percentile per-packet one-way delay: 141.369 ms
  Loss rate: 1.52%
-- Flow 2:
  Average throughput: 351.90 Mbit/s
  95th percentile per-packet one-way delay: 90.470 ms
  Loss rate: 0.75%
-- Flow 3:
  Average throughput: 238.25 Mbit/s
  95th percentile per-packet one-way delay: 90.149 ms
  Loss rate: 1.94%
Run 5: Report of FillP — Data Link

**Throughput (Mbps):**
- Flow 1 Ingress (mean 540.20 Mbps)
- Flow 1 Egress (mean 535.25 Mbps)
- Flow 2 Ingress (mean 351.37 Mbps)
- Flow 2 Egress (mean 351.90 Mbps)
- Flow 3 Ingress (mean 238.72 Mbps)
- Flow 3 Egress (mean 238.25 Mbps)

**Per-packet one-way delay (ms):**
- Flow 1 (95th percentile 141.37 ms)
- Flow 2 (95th percentile 90.47 ms)
- Flow 3 (95th percentile 90.15 ms)
Run 1: Statistics of FillP-Sheep

End at: 2019-04-23 22:32:36
Local clock offset: 0.455 ms
Remote clock offset: 0.058 ms

# Below is generated by plot.py at 2019-04-24 02:23:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 569.91 Mbit/s
95th percentile per-packet one-way delay: 124.714 ms
Loss rate: 0.63%
-- Flow 1:
Average throughput: 288.78 Mbit/s
95th percentile per-packet one-way delay: 130.719 ms
Loss rate: 0.21%
-- Flow 2:
Average throughput: 314.96 Mbit/s
95th percentile per-packet one-way delay: 88.249 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 221.16 Mbit/s
95th percentile per-packet one-way delay: 88.117 ms
Loss rate: 1.74%
Run 1: Report of FillP-Sheep — Data Link

![Graph showing throughput and delay over time for different flow rates.]

- Flow 1 ingress (mean 287.65 Mbps)
- Flow 1 egress (mean 288.78 Mbps)
- Flow 2 ingress (mean 314.65 Mbps)
- Flow 2 egress (mean 314.96 Mbps)
- Flow 3 ingress (mean 221.22 Mbps)
- Flow 3 egress (mean 221.16 Mbps)

![Graph showing packet delay over time for different flow rates.]

- Flow 1 (95th percentile 130.72 ms)
- Flow 2 (95th percentile 88.25 ms)
- Flow 3 (95th percentile 88.12 ms)
Run 2: Statistics of FillP-Sheep

Start at: 2019-04-23 23:09:09
End at: 2019-04-23 23:09:39
Local clock offset: -0.57 ms
Remote clock offset: 0.013 ms

# Below is generated by plot.py at 2019-04-24 02:23:58
# Datalink statistics
-- Total of 3 flows:
Average throughput: 768.95 Mbit/s
95th percentile per-packet one-way delay: 107.458 ms
Loss rate: 1.56%
-- Flow 1:
Average throughput: 484.84 Mbit/s
95th percentile per-packet one-way delay: 112.452 ms
Loss rate: 1.80%
-- Flow 2:
Average throughput: 316.31 Mbit/s
95th percentile per-packet one-way delay: 95.910 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 226.47 Mbit/s
95th percentile per-packet one-way delay: 89.367 ms
Loss rate: 2.11%
Run 2: Report of FillP-Sheep — Data Link
Run 3: Statistics of FillP-Sheep

End at: 2019-04-23 23:46:54
Local clock offset: 0.295 ms
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2019-04-24 02:25:49
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 832.12 Mbit/s
  95th percentile per-packet one-way delay: 105.364 ms
  Loss rate: 0.74%
-- Flow 1:
  Average throughput: 537.85 Mbit/s
  95th percentile per-packet one-way delay: 114.592 ms
  Loss rate: 0.50%
-- Flow 2:
  Average throughput: 311.25 Mbit/s
  95th percentile per-packet one-way delay: 90.453 ms
  Loss rate: 0.69%
-- Flow 3:
  Average throughput: 268.01 Mbit/s
  95th percentile per-packet one-way delay: 88.996 ms
  Loss rate: 2.24%
Run 3: Report of FillP-Sheep — Data Link

The graphs show the throughput and per-packet round-trip delay for different flows.

**Throughput (Mbps):**
- Flow 1 Ingress (mean 537.47 Mbps)
- Flow 1 Egress (mean 537.85 Mbps)
- Flow 2 Ingress (mean 311.07 Mbps)
- Flow 2 Egress (mean 311.25 Mbps)
- Flow 3 Ingress (mean 269.25 Mbps)
- Flow 3 Egress (mean 268.01 Mbps)

**Per-packet round-trip delay (ms):**
- Flow 1 (95th percentile 114.59 ms)
- Flow 2 (95th percentile 90.45 ms)
- Flow 3 (95th percentile 89.00 ms)
Run 4: Statistics of FillP-Sheep

Start at: 2019-04-24 00:23:33
End at: 2019-04-24 00:24:03
Local clock offset: -0.475 ms
Remote clock offset: -0.013 ms

# Below is generated by plot.py at 2019-04-24 02:28:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 819.99 Mbit/s
95th percentile per-packet one-way delay: 107.686 ms
Loss rate: 0.59%
-- Flow 1:
Average throughput: 522.76 Mbit/s
95th percentile per-packet one-way delay: 114.797 ms
Loss rate: 0.29%
-- Flow 2:
Average throughput: 327.38 Mbit/s
95th percentile per-packet one-way delay: 90.258 ms
Loss rate: 0.75%
-- Flow 3:
Average throughput: 245.45 Mbit/s
95th percentile per-packet one-way delay: 88.565 ms
Loss rate: 2.04%
Run 4: Report of FillP-Sheep — Data Link

![Graph showing throughput and latency over time for various data flows.]

- Flow 1 Ingress (mean 321.14 Mbps) - Flow 1 Egress (mean 522.76 Mbps)
- Flow 2 Ingress (mean 326.87 Mbps) - Flow 2 Egress (mean 327.38 Mbps)
- Flow 3 Ingress (mean 246.79 Mbps) - Flow 3 Egress (mean 245.45 Mbps)

![Graph showing per-packet round-trip delay for various data flows.]

- Flow 1 (95th percentile 114.80 ms) - Flow 2 (95th percentile 90.26 ms) - Flow 3 (95th percentile 88.56 ms)
Run 5: Statistics of FillP-Sheep

Start at: 2019-04-24 01:01:17
End at: 2019-04-24 01:01:47
Local clock offset: 0.185 ms
Remote clock offset: -0.168 ms

# Below is generated by plot.py at 2019-04-24 02:34:41
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 761.00 Mbit/s
  95th percentile per-packet one-way delay: 93.375 ms
  Loss rate: 0.56%
-- Flow 1:
  Average throughput: 475.07 Mbit/s
  95th percentile per-packet one-way delay: 100.342 ms
  Loss rate: 0.34%
-- Flow 2:
  Average throughput: 313.54 Mbit/s
  95th percentile per-packet one-way delay: 89.906 ms
  Loss rate: 0.69%
-- Flow 3:
  Average throughput: 238.15 Mbit/s
  95th percentile per-packet one-way delay: 87.984 ms
  Loss rate: 1.57%
Run 5: Report of FillP-Sheep — Data Link

![Graph showing data link performance](image1)

- **Flow 1 Ingress (mean 473.82 Mbit/s)**
- **Flow 1 Egress (mean 475.07 Mbit/s)**
- **Flow 2 Ingress (mean 313.23 Mbit/s)**
- **Flow 2 Egress (mean 313.54 Mbit/s)**
- **Flow 3 Ingress (mean 237.72 Mbit/s)**
- **Flow 3 Egress (mean 238.15 Mbit/s)**

![Graph showing ping performance](image2)

- **Flow 1 (95th percentile 100.34 ms)**
- **Flow 2 (95th percentile 89.91 ms)**
- **Flow 3 (95th percentile 87.98 ms)**
Run 1: Statistics of Indigo

Start at: 2019-04-23 22:27:00
Local clock offset: -0.198 ms
Remote clock offset: 0.065 ms

# Below is generated by plot.py at 2019-04-24 02:34:45
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 391.64 Mbit/s
  95th percentile per-packet one-way delay: 89.160 ms
  Loss rate: 0.88%
-- Flow 1:
  Average throughput: 205.15 Mbit/s
  95th percentile per-packet one-way delay: 89.114 ms
  Loss rate: 0.56%
-- Flow 2:
  Average throughput: 193.34 Mbit/s
  95th percentile per-packet one-way delay: 89.215 ms
  Loss rate: 0.86%
-- Flow 3:
  Average throughput: 163.11 Mbit/s
  95th percentile per-packet one-way delay: 89.159 ms
  Loss rate: 2.09%
Run 1: Report of Indigo — Data Link
Run 2: Statistics of Indigo

Start at: 2019-04-23 23:04:11
End at: 2019-04-23 23:04:41
Local clock offset: -0.398 ms
Remote clock offset: 0.011 ms

# Below is generated by plot.py at 2019-04-24 02:34:45
# Datalink statistics
-- Total of 3 flows:
Average throughput: 286.13 Mbit/s
95th percentile per-packet one-way delay: 89.271 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 102.70 Mbit/s
95th percentile per-packet one-way delay: 87.608 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 197.55 Mbit/s
95th percentile per-packet one-way delay: 90.308 ms
Loss rate: 0.90%
-- Flow 3:
Average throughput: 164.07 Mbit/s
95th percentile per-packet one-way delay: 90.539 ms
Loss rate: 2.07%
Run 2: Report of Indigo — Data Link
Run 3: Statistics of Indigo

Start at: 2019-04-23 23:41:15
End at: 2019-04-23 23:41:45
Local clock offset: -0.414 ms
Remote clock offset: -0.081 ms

# Below is generated by plot.py at 2019-04-24 02:36:01
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 374.42 Mbit/s
  95th percentile per-packet one-way delay: 119.830 ms
  Loss rate: 0.85%
-- Flow 1:
  Average throughput: 202.23 Mbit/s
  95th percentile per-packet one-way delay: 96.652 ms
  Loss rate: 0.55%
-- Flow 2:
  Average throughput: 181.72 Mbit/s
  95th percentile per-packet one-way delay: 135.063 ms
  Loss rate: 0.85%
-- Flow 3:
  Average throughput: 161.78 Mbit/s
  95th percentile per-packet one-way delay: 131.577 ms
  Loss rate: 1.98%
Run 3: Report of Indigo — Data Link

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

- Flow 1 ingress (mean 202.17 Mbit/s)
- Flow 1 egress (mean 202.23 Mbit/s)
- Flow 2 ingress (mean 181.70 Mbit/s)
- Flow 2 egress (mean 181.72 Mbit/s)
- Flow 3 ingress (mean 162.13 Mbit/s)
- Flow 3 egress (mean 161.78 Mbit/s)
Run 4: Statistics of Indigo

Start at: 2019-04-24 00:18:28
End at: 2019-04-24 00:18:58
Local clock offset: -0.117 ms
Remote clock offset: -0.002 ms

# Below is generated by plot.py at 2019-04-24 02:36:22
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 376.82 Mbit/s
  95th percentile per-packet one-way delay: 89.043 ms
  Loss rate: 0.85%
-- Flow 1:
  Average throughput: 202.66 Mbit/s
  95th percentile per-packet one-way delay: 89.380 ms
  Loss rate: 0.54%
-- Flow 2:
  Average throughput: 186.37 Mbit/s
  95th percentile per-packet one-way delay: 88.297 ms
  Loss rate: 0.88%
-- Flow 3:
  Average throughput: 159.45 Mbit/s
  95th percentile per-packet one-way delay: 89.726 ms
  Loss rate: 1.97%
Run 4: Report of Indigo — Data Link

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

Legend:
- Flow 1 ingress (mean 202.58 Mbit/s)
- Flow 1 egress (mean 202.66 Mbit/s)
- Flow 2 ingress (mean 186.38 Mbit/s)
- Flow 2 egress (mean 186.37 Mbit/s)
- Flow 3 ingress (mean 159.81 Mbit/s)
- Flow 3 egress (mean 159.45 Mbit/s)
Run 5: Statistics of Indigo

Start at: 2019-04-24 00:56:06
End at: 2019-04-24 00:56:36
Local clock offset: 0.179 ms
Remote clock offset: -0.161 ms

# Below is generated by plot.py at 2019-04-24 02:36:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 385.95 Mbit/s
95th percentile per-packet one-way delay: 91.502 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 203.52 Mbit/s
95th percentile per-packet one-way delay: 91.012 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 194.71 Mbit/s
95th percentile per-packet one-way delay: 92.590 ms
Loss rate: 0.92%
-- Flow 3:
Average throughput: 166.07 Mbit/s
95th percentile per-packet one-way delay: 89.880 ms
Loss rate: 2.11%
Run 5: Report of Indigo — Data Link

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

- Flow 1 ingress (mean 203.55 Mbit/s)
- Flow 1 egress (mean 203.52 Mbit/s)
- Flow 2 ingress (mean 194.82 Mbit/s)
- Flow 2 egress (mean 194.71 Mbit/s)
- Flow 3 ingress (mean 166.62 Mbit/s)
- Flow 3 egress (mean 166.07 Mbit/s)

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

- Flow 1 (95th percentile 91.01 ms)
- Flow 2 (95th percentile 92.59 ms)
- Flow 3 (95th percentile 89.88 ms)
Run 1: Statistics of Indigo-MusesC3

Local clock offset: -0.116 ms
Remote clock offset: 0.125 ms

# Below is generated by plot.py at 2019-04-24 02:39:10
# Datalink statistics
-- Total of 3 flows:
Average throughput: 737.93 Mbit/s
95th percentile per-packet one-way delay: 123.707 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 436.25 Mbit/s
95th percentile per-packet one-way delay: 130.283 ms
Loss rate: 0.47%
-- Flow 2:
Average throughput: 367.73 Mbit/s
95th percentile per-packet one-way delay: 94.283 ms
Loss rate: 0.63%
-- Flow 3:
Average throughput: 248.72 Mbit/s
95th percentile per-packet one-way delay: 90.140 ms
Loss rate: 2.95%
Run 1: Report of Indigo-MusesC3 — Data Link

[Graph showing throughput and delay over time for different flows, with mean and 95th percentile values indicated for each.]
Run 2: Statistics of Indigo-MusesC3

Start at: 2019-04-23 23:00:17  
End at: 2019-04-23 23:00:47  
Local clock offset: 0.044 ms  
Remote clock offset: 0.017 ms

# Below is generated by plot.py at 2019-04-24 02:41:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 750.66 Mbit/s
95th percentile per-packet one-way delay: 96.813 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 447.30 Mbit/s
95th percentile per-packet one-way delay: 98.596 ms
Loss rate: 0.48%
-- Flow 2:
Average throughput: 361.67 Mbit/s
95th percentile per-packet one-way delay: 91.921 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 266.67 Mbit/s
95th percentile per-packet one-way delay: 92.538 ms
Loss rate: 3.23%
Run 2: Report of Indigo-MusesC3 — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress (mean 446.72 Mbps)
- Flow 1 egress (mean 447.30 Mbps)
- Flow 2 ingress (mean 361.38 Mbps)
- Flow 2 egress (mean 361.67 Mbps)
- Flow 3 ingress (mean 269.36 Mbps)
- Flow 3 egress (mean 266.67 Mbps)

**Packet Loss (ms):**
- Flow 1 (95th percentile 98.60 ms)
- Flow 2 (95th percentile 91.92 ms)
- Flow 3 (95th percentile 92.54 ms)
Run 3: Statistics of Indigo-MusesC3

Start at: 2019-04-23 23:37:27
End at: 2019-04-23 23:37:57
Local clock offset: 0.28 ms
Remote clock offset: -0.025 ms

# Below is generated by plot.py at 2019-04-24 02:45:35
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 738.17 Mbit/s
  95th percentile per-packet one-way delay: 119.073 ms
  Loss rate: 0.90%
-- Flow 1:
  Average throughput: 435.95 Mbit/s
  95th percentile per-packet one-way delay: 118.481 ms
  Loss rate: 0.53%
-- Flow 2:
  Average throughput: 349.86 Mbit/s
  95th percentile per-packet one-way delay: 135.351 ms
  Loss rate: 1.11%
-- Flow 3:
  Average throughput: 282.28 Mbit/s
  95th percentile per-packet one-way delay: 94.853 ms
  Loss rate: 2.36%
Run 3: Report of Indigo-MusesC3 — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 435.61 Mbps)  Flow 1 egress (mean 435.95 Mbps)
Flow 2 ingress (mean 350.53 Mbps)  Flow 2 egress (mean 349.86 Mbps)
Flow 3 ingress (mean 282.70 Mbps)  Flow 3 egress (mean 282.28 Mbps)

Per-packet one-way delay (ms)

Flow 1 (95th percentile 118.48 ms)  Flow 2 (95th percentile 135.35 ms)  Flow 3 (95th percentile 94.85 ms)
Run 4: Statistics of Indigo-MusesC3

Start at: 2019-04-24 00:14:34
End at: 2019-04-24 00:15:04
Local clock offset: 0.307 ms
Remote clock offset: -0.03 ms

# Below is generated by plot.py at 2019-04-24 02:48:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 795.42 Mbit/s
95th percentile per-packet one-way delay: 105.682 ms
Loss rate: 0.77%
-- Flow 1:
Average throughput: 476.53 Mbit/s
95th percentile per-packet one-way delay: 107.385 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 385.96 Mbit/s
95th percentile per-packet one-way delay: 103.174 ms
Loss rate: 0.87%
-- Flow 3:
Average throughput: 268.87 Mbit/s
95th percentile per-packet one-way delay: 92.619 ms
Loss rate: 2.63%
Run 4: Report of Indigo-MusesC3 — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 475.65 Mbps)
Flow 1 egress (mean 476.53 Mbps)
Flow 2 ingress (mean 385.66 Mbps)
Flow 2 egress (mean 385.96 Mbps)
Flow 3 ingress (mean 269.71 Mbps)
Flow 3 egress (mean 269.87 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 107.39 ms)
Flow 2 (95th percentile 103.17 ms)
Flow 3 (95th percentile 92.62 ms)
Run 5: Statistics of Indigo-MusesC3

Start at: 2019-04-24 00:52:11
End at: 2019-04-24 00:52:41
Local clock offset: -0.012 ms
Remote clock offset: -0.168 ms

# Below is generated by plot.py at 2019-04-24 02:48:43
# Datalink statistics
  -- Total of 3 flows:
    Average throughput: 793.77 Mbit/s
    95th percentile per-packet one-way delay: 112.952 ms
    Loss rate: 0.73%
  -- Flow 1:
    Average throughput: 472.76 Mbit/s
    95th percentile per-packet one-way delay: 108.798 ms
    Loss rate: 0.42%
  -- Flow 2:
    Average throughput: 375.87 Mbit/s
    95th percentile per-packet one-way delay: 129.272 ms
    Loss rate: 0.72%
  -- Flow 3:
    Average throughput: 292.42 Mbit/s
    95th percentile per-packet one-way delay: 89.926 ms
    Loss rate: 2.60%
Run 5: Report of Indigo-MusesC3 — Data Link
Run 1: Statistics of Indigo-MusesC5

Start at: 2019-04-23 22:36:37
End at: 2019-04-23 22:37:07
Local clock offset: -0.056 ms
Remote clock offset: 0.018 ms

# Below is generated by plot.py at 2019-04-24 02:48:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 677.45 Mbit/s
95th percentile per-packet one-way delay: 171.799 ms
Loss rate: 1.04%
-- Flow 1:
Average throughput: 440.04 Mbit/s
95th percentile per-packet one-way delay: 180.806 ms
Loss rate: 1.21%
-- Flow 2:
Average throughput: 330.13 Mbit/s
95th percentile per-packet one-way delay: 111.192 ms
Loss rate: 0.48%
-- Flow 3:
Average throughput: 95.70 Mbit/s
95th percentile per-packet one-way delay: 86.447 ms
Loss rate: 2.75%
Run 1: Report of Indigo-MusesC5 — Data Link
Run 2: Statistics of Indigo-MusesC5

End at: 2019-04-23 23:14:19
Local clock offset: -0.546 ms
Remote clock offset: 0.011 ms

# Below is generated by plot.py at 2019-04-24 02:48:43
# Datalink statistics
-- Total of 3 flows:
Average throughput: 697.50 Mbit/s
95th percentile per-packet one-way delay: 124.323 ms
Loss rate: 0.60%

-- Flow 1:
Average throughput: 421.94 Mbit/s
95th percentile per-packet one-way delay: 105.107 ms
Loss rate: 0.40%

-- Flow 2:
Average throughput: 385.46 Mbit/s
95th percentile per-packet one-way delay: 144.647 ms
Loss rate: 0.67%

-- Flow 3:
Average throughput: 97.91 Mbit/s
95th percentile per-packet one-way delay: 85.989 ms
Loss rate: 3.15%
Run 2: Report of Indigo-MusesC5 — Data Link
Run 3: Statistics of Indigo-MusesC5

Start at: 2019-04-23 23:51:08
End at: 2019-04-23 23:51:38
Local clock offset: -0.138 ms
Remote clock offset: -0.019 ms

# Below is generated by plot.py at 2019-04-24 02:50:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 741.01 Mbit/s
95th percentile per-packet one-way delay: 148.641 ms
Loss rate: 0.95%

-- Flow 1:
Average throughput: 453.62 Mbit/s
95th percentile per-packet one-way delay: 152.221 ms
Loss rate: 0.48%

-- Flow 2:
Average throughput: 408.70 Mbit/s
95th percentile per-packet one-way delay: 136.099 ms
Loss rate: 1.56%

-- Flow 3:
Average throughput: 96.32 Mbit/s
95th percentile per-packet one-way delay: 86.741 ms
Loss rate: 2.97%
Run 3: Report of Indigo-MusesC5 — Data Link

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

- Flow 1 ingress (mean 452.78 Mbit/s) & Flow 1 egress (mean 453.62 Mbit/s)
- Flow 2 ingress (mean 409.57 Mbit/s) & Flow 2 egress (mean 408.70 Mbit/s)
- Flow 3 ingress (mean 97.09 Mbit/s) & Flow 3 egress (mean 96.32 Mbit/s)

- Flow 1 (95th percentile 152.22 ms)
- Flow 2 (95th percentile 136.10 ms)
- Flow 3 (95th percentile 86.74 ms)
Run 4: Statistics of Indigo-MusesC5

Start at: 2019-04-24 00:28:18
End at: 2019-04-24 00:28:48
Local clock offset: -0.448 ms
Remote clock offset: 0.004 ms

# Below is generated by plot.py at 2019-04-24 02:52:59
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 778.10 Mbit/s
  95th percentile per-packet one-way delay: 140.745 ms
  Loss rate: 0.69%
-- Flow 1:
  Average throughput: 474.90 Mbit/s
  95th percentile per-packet one-way delay: 151.481 ms
  Loss rate: 0.62%
-- Flow 2:
  Average throughput: 428.73 Mbit/s
  95th percentile per-packet one-way delay: 117.139 ms
  Loss rate: 0.60%
-- Flow 3:
  Average throughput: 96.08 Mbit/s
  95th percentile per-packet one-way delay: 86.048 ms
  Loss rate: 3.00%
Run 4: Report of Indigo-MusesC5 — Data Link

![Graph 1: Throughput vs Time]

![Graph 2: Per-packet one-way delay vs Time]

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Run 5: Statistics of Indigo-MusesC5

Start at: 2019-04-24 01:06:10
End at: 2019-04-24 01:06:40
Local clock offset: -0.408 ms
Remote clock offset: -0.19 ms

# Below is generated by plot.py at 2019-04-24 02:54:20
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 691.52 Mbit/s
  95th percentile per-packet one-way delay: 124.405 ms
  Loss rate: 1.13%
-- Flow 1:
  Average throughput: 418.91 Mbit/s
  95th percentile per-packet one-way delay: 134.955 ms
  Loss rate: 1.03%
-- Flow 2:
  Average throughput: 379.91 Mbit/s
  95th percentile per-packet one-way delay: 119.638 ms
  Loss rate: 1.09%
-- Flow 3:
  Average throughput: 104.72 Mbit/s
  95th percentile per-packet one-way delay: 85.884 ms
  Loss rate: 2.93%
Run 5: Report of Indigo-MusesC5 — Data Link
Run 1: Statistics of Indigo-MusesD

End at: 2019-04-23 22:15:42
Local clock offset: 0.716 ms
Remote clock offset: 0.202 ms

# Below is generated by plot.py at 2019-04-24 02:56:20
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 615.91 Mbit/s
  95th percentile per-packet one-way delay: 95.479 ms
  Loss rate: 0.64%
-- Flow 1:
  Average throughput: 330.64 Mbit/s
  95th percentile per-packet one-way delay: 95.516 ms
  Loss rate: 0.24%
-- Flow 2:
  Average throughput: 403.49 Mbit/s
  95th percentile per-packet one-way delay: 96.291 ms
  Loss rate: 0.94%
-- Flow 3:
  Average throughput: 86.73 Mbit/s
  95th percentile per-packet one-way delay: 87.260 ms
  Loss rate: 2.65%
Run 1: Report of Indigo-MusesD — Data Link

![Graph showing data link throughput and per-packet loss delay](image1)

- Flow 1 ingress (mean 329.43 Mbit/s)
- Flow 1 egress (mean 330.64 Mbit/s)
- Flow 2 ingress (mean 403.53 Mbit/s)
- Flow 2 egress (mean 403.49 Mbit/s)
- Flow 3 ingress (mean 87.18 Mbit/s)
- Flow 3 egress (mean 96.73 Mbit/s)

![Graph showing per-packet loss and delay](image2)

- Flow 1 (95th percentile 95.52 ms)
- Flow 2 (95th percentile 96.29 ms)
- Flow 3 (95th percentile 87.26 ms)
Run 2: Statistics of Indigo-MusesD

End at: 2019-04-23 22:52:46
Local clock offset: 0.214 ms
Remote clock offset: 0.035 ms

# Below is generated by plot.py at 2019-04-24 02:59:00
# Datalink statistics
-- Total of 3 flows:
Average throughput: 672.56 Mbit/s
95th percentile per-packet one-way delay: 100.311 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 404.54 Mbit/s
95th percentile per-packet one-way delay: 114.051 ms
Loss rate: 0.59%
-- Flow 2:
Average throughput: 382.38 Mbit/s
95th percentile per-packet one-way delay: 90.717 ms
Loss rate: 1.12%
-- Flow 3:
Average throughput: 86.07 Mbit/s
95th percentile per-packet one-way delay: 87.438 ms
Loss rate: 2.66%
Run 2: Report of Indigo-MusesD — Data Link

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

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**Throughput (Mbps)**

- Flow 1 ingress (mean 404.43 Mbps)
- Flow 1 egress (mean 404.54 Mbps)
- Flow 2 ingress (mean 383.03 Mbps)
- Flow 2 egress (mean 382.58 Mbps)
- Flow 3 ingress (mean 86.39 Mbps)
- Flow 3 egress (mean 86.07 Mbps)

**Packet One-Way Delay (ms)**

- Flow 1 (95th percentile 114.05 ms)
- Flow 2 (95th percentile 90.72 ms)
- Flow 3 (95th percentile 87.44 ms)
Run 3: Statistics of Indigo-MusesD

Local clock offset: -0.193 ms
Remote clock offset: 0.013 ms

# Below is generated by plot.py at 2019-04-24 03:00:55
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 716.99 Mbit/s
  95th percentile per-packet one-way delay: 111.314 ms
  Loss rate: 0.69%
-- Flow 1:
  Average throughput: 443.67 Mbit/s
  95th percentile per-packet one-way delay: 119.220 ms
  Loss rate: 0.48%
-- Flow 2:
  Average throughput: 391.46 Mbit/s
  95th percentile per-packet one-way delay: 93.688 ms
  Loss rate: 0.86%
-- Flow 3:
  Average throughput: 83.22 Mbit/s
  95th percentile per-packet one-way delay: 86.955 ms
  Loss rate: 2.94%
Run 3: Report of Indigo-MusesD — Data Link
Run 4: Statistics of Indigo-MusesD

Start at: 2019-04-24 00:06:41
End at: 2019-04-24 00:07:11
Local clock offset: -0.13 ms
Remote clock offset: -0.016 ms

# Below is generated by plot.py at 2019-04-24 03:00:55
# Datalink statistics
-- Total of 3 flows:
Average throughput: 586.12 Mbit/s
95th percentile per-packet one-way delay: 101.325 ms
Loss rate: 0.91%
-- Flow 1:
Average throughput: 382.03 Mbit/s
95th percentile per-packet one-way delay: 107.682 ms
Loss rate: 0.68%
-- Flow 2:
Average throughput: 284.33 Mbit/s
95th percentile per-packet one-way delay: 88.713 ms
Loss rate: 1.20%
-- Flow 3:
Average throughput: 76.30 Mbit/s
95th percentile per-packet one-way delay: 86.635 ms
Loss rate: 2.60%
Run 4: Report of Indigo-MusesD — Data Link

![Graph of Throughput (Mbps)](image1)

![Graph of Per-packet one-way delay (ms)](image2)

- **Flow 1** (mean 382.32 Mbps, 95th percentile 107.68 ms)
- **Flow 2** (mean 285.09 Mbps, 95th percentile 88.71 ms)
- **Flow 3** (mean 76.60 Mbps, 95th percentile 86.64 ms)
Run 5: Statistics of Indigo-MusesD

Start at: 2019-04-24 00:44:05
End at: 2019-04-24 00:44:35
Local clock offset: -0.082 ms
Remote clock offset: -0.096 ms

# Below is generated by plot.py at 2019-04-24 03:01:23
# Datalink statistics
-- Total of 3 flows:
Average throughput: 730.23 Mbit/s
95th percentile per-packet one-way delay: 108.888 ms
Loss rate: 0.82%
-- Flow 1:
Average throughput: 400.21 Mbit/s
95th percentile per-packet one-way delay: 120.619 ms
Loss rate: 0.43%
-- Flow 2:
Average throughput: 387.87 Mbit/s
95th percentile per-packet one-way delay: 98.613 ms
Loss rate: 0.81%
-- Flow 3:
Average throughput: 291.63 Mbit/s
95th percentile per-packet one-way delay: 90.822 ms
Loss rate: 2.74%
Run 5: Report of Indigo-MusesD — Data Link

![Graph showing throughput and delay for different flows.](image)

- **Flow 1 ingress** (mean 399.37 Mbit/s)  
- **Flow 1 egress** (mean 400.21 Mbit/s)  
- **Flow 2 ingress** (mean 387.35 Mbit/s)  
- **Flow 2 egress** (mean 387.87 Mbit/s)  
- **Flow 3 ingress** (mean 291.25 Mbit/s)  
- **Flow 3 egress** (mean 291.63 Mbit/s)  

![Graph showing per-packet one-way delay for different flows.](image)

- **Flow 1** (95th percentile 120.62 ms)  
- **Flow 2** (95th percentile 98.61 ms)  
- **Flow 3** (95th percentile 90.82 ms)
Run 1: Statistics of Indigo-MusesT

End at: 2019-04-23 22:44:19
Local clock offset: 0.045 ms
Remote clock offset: 0.025 ms

# Below is generated by plot.py at 2019-04-24 03:04:19
# Datalink statistics
-- Total of 3 flows:
Average throughput: 824.48 Mbit/s
95th percentile per-packet one-way delay: 146.534 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 484.32 Mbit/s
95th percentile per-packet one-way delay: 155.286 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 419.02 Mbit/s
95th percentile per-packet one-way delay: 97.117 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 262.09 Mbit/s
95th percentile per-packet one-way delay: 92.025 ms
Loss rate: 2.92%
Run 1: Report of Indigo-MusesT — Data Link

![Graph showing throughput and delay over time for different flows.](image-url)
Run 2: Statistics of Indigo-MusesT

Local clock offset: -0.12 ms
Remote clock offset: 0.031 ms

# Below is generated by plot.py at 2019-04-24 03:07:50
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 847.73 Mbit/s
  95th percentile per-packet one-way delay: 164.265 ms
  Loss rate: 0.92%
-- Flow 1:
  Average throughput: 510.72 Mbit/s
  95th percentile per-packet one-way delay: 167.993 ms
  Loss rate: 0.60%
-- Flow 2:
  Average throughput: 415.17 Mbit/s
  95th percentile per-packet one-way delay: 129.873 ms
  Loss rate: 0.84%
-- Flow 3:
  Average throughput: 255.28 Mbit/s
  95th percentile per-packet one-way delay: 160.832 ms
  Loss rate: 3.45%
Run 2: Report of Indigo-MusesT — Data Link
Run 3: Statistics of Indigo-MusesT

Start at: 2019-04-23 23:58:22
End at: 2019-04-23 23:58:52
Local clock offset: -0.341 ms
Remote clock offset: -0.049 ms

# Below is generated by plot.py at 2019-04-24 03:09:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 850.27 Mbit/s
95th percentile per-packet one-way delay: 141.020 ms
Loss rate: 0.71%
-- Flow 1:
Average throughput: 509.26 Mbit/s
95th percentile per-packet one-way delay: 147.616 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 405.74 Mbit/s
95th percentile per-packet one-way delay: 99.649 ms
Loss rate: 0.60%
-- Flow 3:
Average throughput: 296.28 Mbit/s
95th percentile per-packet one-way delay: 92.206 ms
Loss rate: 2.41%
Run 3: Report of Indigo-MusesT — Data Link

![Graph](image)

- Flow 1 ingress (mean 508.69 Mbit/s)
- Flow 1 egress (mean 509.26 Mbit/s)
- Flow 2 ingress (mean 404.32 Mbit/s)
- Flow 2 egress (mean 405.74 Mbit/s)
- Flow 3 ingress (mean 296.92 Mbit/s)
- Flow 3 egress (mean 296.28 Mbit/s)

![Graph](image)

- Flow 1 (95th percentile 147.62 ms)
- Flow 2 (95th percentile 99.65 ms)
- Flow 3 (95th percentile 92.21 ms)
Run 4: Statistics of Indigo-MusesT

Start at: 2019-04-24 00:35:41
End at: 2019-04-24 00:36:11
Local clock offset: -0.077 ms
Remote clock offset: -0.014 ms

# Below is generated by plot.py at 2019-04-24 03:10:37
# Datalink statistics
-- Total of 3 flows:
Average throughput: 823.20 Mbit/s
95th percentile per-packet one-way delay: 110.425 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 492.62 Mbit/s
95th percentile per-packet one-way delay: 102.617 ms
Loss rate: 0.31%
-- Flow 2:
Average throughput: 399.74 Mbit/s
95th percentile per-packet one-way delay: 129.645 ms
Loss rate: 0.79%
-- Flow 3:
Average throughput: 269.77 Mbit/s
95th percentile per-packet one-way delay: 90.471 ms
Loss rate: 3.50%
Run 4: Report of Indigo-MusesT — Data Link

![Graph 1: Throughput (Mbps) vs Time (s)]

- Flow 1 ingress (mean 491.14 Mbps)
- Flow 1 egress (mean 492.62 Mbps)
- Flow 2 ingress (mean 399.14 Mbps)
- Flow 2 egress (mean 399.74 Mbps)
- Flow 3 ingress (mean 273.47 Mbps)
- Flow 3 egress (mean 269.77 Mbps)

![Graph 2: Per-Packet One-Way Delay (ms) vs Time (s)]

- Flow 1 (95th percentile 102.62 ms)
- Flow 2 (95th percentile 129.65 ms)
- Flow 3 (95th percentile 90.47 ms)
Run 5: Statistics of Indigo-MusesT

End at: 2019-04-24 01:13:54
Local clock offset: -0.076 ms
Remote clock offset: -0.081 ms

# Below is generated by plot.py at 2019-04-24 03:13:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 856.46 Mbit/s
95th percentile per-packet one-way delay: 122.080 ms
Loss rate: 0.80%
-- Flow 1:
Average throughput: 515.62 Mbit/s
95th percentile per-packet one-way delay: 113.650 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 412.74 Mbit/s
95th percentile per-packet one-way delay: 158.488 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 272.16 Mbit/s
95th percentile per-packet one-way delay: 93.565 ms
Loss rate: 2.89%
Run 5: Report of Indigo-MusesT — Data Link

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

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 514.89 Mbps)
Flow 1 egress (mean 515.62 Mbps)
Flow 2 ingress (mean 412.45 Mbps)
Flow 2 egress (mean 412.74 Mbps)
Flow 3 ingress (mean 273.95 Mbps)
Flow 3 egress (mean 272.16 Mbps)

Packet delay (ms)

Flow 1 (95th percentile 113.65 ms)
Flow 2 (95th percentile 158.49 ms)
Flow 3 (95th percentile 93.56 ms)
Run 1: Statistics of LEDBAT

Local clock offset: 0.669 ms  
Remote clock offset: 0.164 ms

# Below is generated by plot.py at 2019-04-24 03:13:04
# Datalink statistics
-- Total of 3 flows:  
Average throughput: 19.34 Mbit/s  
95th percentile per-packet one-way delay: 86.867 ms  
Loss rate: 1.48%  
-- Flow 1:  
Average throughput: 12.53 Mbit/s  
95th percentile per-packet one-way delay: 86.790 ms  
Loss rate: 1.15%  
-- Flow 2:  
Average throughput: 8.29 Mbit/s  
95th percentile per-packet one-way delay: 86.995 ms  
Loss rate: 1.73%  
-- Flow 3:  
Average throughput: 4.04 Mbit/s  
95th percentile per-packet one-way delay: 86.360 ms  
Loss rate: 3.52%
Run 1: Report of LEDBAT — Data Link

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

- **Flow 1**: Ingress (mean 12.60 Mbit/s) and egress (mean 12.53 Mbit/s)
- **Flow 2**: Ingress (mean 8.36 Mbit/s) and egress (mean 8.29 Mbit/s)
- **Flow 3**: Ingress (mean 4.11 Mbit/s) and egress (mean 4.04 Mbit/s)

Per packet error rate (ms):
- **Flow 1** (95th percentile 86.79 ms)
- **Flow 2** (95th percentile 87.00 ms)
- **Flow 3** (95th percentile 86.36 ms)
Run 2: Statistics of LEDBAT

Start at: 2019-04-23 22:47:54
Local clock offset: -0.187 ms
Remote clock offset: 0.055 ms

# Below is generated by plot.py at 2019-04-24 03:13:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.31 Mbit/s
95th percentile per-packet one-way delay: 86.754 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 12.51 Mbit/s
95th percentile per-packet one-way delay: 86.791 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 8.28 Mbit/s
95th percentile per-packet one-way delay: 86.740 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 4.03 Mbit/s
95th percentile per-packet one-way delay: 86.419 ms
Loss rate: 3.52%
Run 2: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 12.58 Mbps)
- Flow 1 egress (mean 12.51 Mbps)
- Flow 2 ingress (mean 8.35 Mbps)
- Flow 2 egress (mean 8.28 Mbps)
- Flow 3 ingress (mean 4.11 Mbps)
- Flow 3 egress (mean 4.03 Mbps)

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

- Flow 1 (95th percentile 86.79 ms)
- Flow 2 (95th percentile 86.74 ms)
- Flow 3 (95th percentile 86.42 ms)
Run 3: Statistics of LEDBAT

Start at: 2019-04-23 23:25:09
Local clock offset: -0.132 ms
Remote clock offset: 0.022 ms

# Below is generated by plot.py at 2019-04-24 03:13:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.30 Mbit/s
95th percentile per-packet one-way delay: 87.286 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 12.51 Mbit/s
95th percentile per-packet one-way delay: 87.322 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 8.28 Mbit/s
95th percentile per-packet one-way delay: 87.260 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 4.02 Mbit/s
95th percentile per-packet one-way delay: 86.952 ms
Loss rate: 3.50%
Run 3: Report of LEDBAT — Data Link

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

- Flow 1 ingress (mean 12.58 Mbit/s)
- Flow 1 egress (mean 12.51 Mbit/s)
- Flow 2 ingress (mean 8.35 Mbit/s)
- Flow 2 egress (mean 8.28 Mbit/s)
- Flow 3 ingress (mean 4.09 Mbit/s)
- Flow 3 egress (mean 4.02 Mbit/s)

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

- Flow 1 (95th percentile 87.32 ms)
- Flow 2 (95th percentile 87.26 ms)
- Flow 3 (95th percentile 86.95 ms)
Run 4: Statistics of LEDBAT

Start at: 2019-04-24 00:02:22
End at: 2019-04-24 00:02:52
Local clock offset: 0.128 ms
Remote clock offset: -0.02 ms

# Below is generated by plot.py at 2019-04-24 03:13:04
# Datalink statistics
-- Total of 3 flows:
Average throughput: 19.26 Mbit/s
95th percentile per-packet one-way delay: 87.579 ms
Loss rate: 1.48%
-- Flow 1:
Average throughput: 12.47 Mbit/s
95th percentile per-packet one-way delay: 87.737 ms
Loss rate: 1.15%
-- Flow 2:
Average throughput: 8.29 Mbit/s
95th percentile per-packet one-way delay: 87.146 ms
Loss rate: 1.74%
-- Flow 3:
Average throughput: 4.02 Mbit/s
95th percentile per-packet one-way delay: 86.927 ms
Loss rate: 3.53%
Run 5: Statistics of LEDBAT

Start at: 2019-04-24 00:39:44  
End at: 2019-04-24 00:40:14  
Local clock offset: -0.118 ms  
Remote clock offset: -0.067 ms

# Below is generated by plot.py at 2019-04-24 03:13:04  
# Datalink statistics  
-- Total of 3 flows:  
Average throughput: 19.29 Mbit/s  
95th percentile per-packet one-way delay: 87.010 ms  
Loss rate: 1.48%  
-- Flow 1:  
Average throughput: 12.50 Mbit/s  
95th percentile per-packet one-way delay: 87.089 ms  
Loss rate: 1.15%  
-- Flow 2:  
Average throughput: 8.26 Mbit/s  
95th percentile per-packet one-way delay: 86.998 ms  
Loss rate: 1.74%  
-- Flow 3:  
Average throughput: 4.03 Mbit/s  
95th percentile per-packet one-way delay: 86.193 ms  
Loss rate: 3.53%
Run 5: Report of LEDBAT — Data Link
Run 1: Statistics of PCC-Allegro

Start at: 2019-04-23 22:45:46
Local clock offset: -0.181 ms
Remote clock offset: 0.044 ms

# Below is generated by plot.py at 2019-04-24 03:26:49
# Datalink statistics
-- Total of 3 flows:
Average throughput: 716.97 Mbit/s
95th percentile per-packet one-way delay: 236.675 ms
Loss rate: 8.64%
-- Flow 1:
Average throughput: 396.64 Mbit/s
95th percentile per-packet one-way delay: 225.235 ms
Loss rate: 9.44%
-- Flow 2:
Average throughput: 306.08 Mbit/s
95th percentile per-packet one-way delay: 244.564 ms
Loss rate: 9.66%
-- Flow 3:
Average throughput: 361.25 Mbit/s
95th percentile per-packet one-way delay: 190.606 ms
Loss rate: 3.92%
Run 1: Report of PCC-Allegro — Data Link

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

**Throughput (Mbps):**
- Flow 1 ingress (mean 435.46 Mbps)
- Flow 1 egress (mean 396.64 Mbps)
- Flow 2 ingress (mean 335.85 Mbps)
- Flow 2 egress (mean 306.08 Mbps)
- Flow 3 ingress (mean 369.39 Mbps)
- Flow 3 egress (mean 361.25 Mbps)

**Delay (ms):**
- Flow 1 (95th percentile 225.24 ms)
- Flow 2 (95th percentile 244.56 ms)
- Flow 3 (95th percentile 190.61 ms)
Run 2: Statistics of PCC-Allegro

Start at: 2019-04-23 23:23:05
Local clock offset: -0.536 ms
Remote clock offset: 0.022 ms

# Below is generated by plot.py at 2019-04-24 03:26:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 671.39 Mbit/s
95th percentile per-packet one-way delay: 220.391 ms
Loss rate: 7.08%
-- Flow 1:
Average throughput: 380.87 Mbit/s
95th percentile per-packet one-way delay: 210.629 ms
Loss rate: 9.37%
-- Flow 2:
Average throughput: 326.08 Mbit/s
95th percentile per-packet one-way delay: 231.468 ms
Loss rate: 2.91%
-- Flow 3:
Average throughput: 228.90 Mbit/s
95th percentile per-packet one-way delay: 251.541 ms
Loss rate: 6.61%
Run 2: Report of PCC-Allegro — Data Link

Throughput (Mb/s) vs Time (s)

- Flow 1 ingress (mean 417.83 Mb/s)
- Flow 1 egress (mean 380.87 Mb/s)
- Flow 2 ingress (mean 332.91 Mb/s)
- Flow 2 egress (mean 326.08 Mb/s)
- Flow 3 ingress (mean 240.78 Mb/s)
- Flow 3 egress (mean 228.90 Mb/s)

Round-trip time (ms) vs Time (s)

- Flow 1 (95th percentile 210.63 ms)
- Flow 2 (95th percentile 231.47 ms)
- Flow 3 (95th percentile 251.54 ms)
Run 3: Statistics of PCC-Allegro

Start at: 2019-04-24 00:00:21
End at: 2019-04-24 00:00:51
Local clock offset: -0.609 ms
Remote clock offset: -0.05 ms

# Below is generated by plot.py at 2019-04-24 03:26:50
# Datalink statistics
-- Total of 3 flows:
Average throughput: 645.20 Mbit/s
95th percentile per-packet one-way delay: 200.508 ms
Loss rate: 1.79%
-- Flow 1:
Average throughput: 377.79 Mbit/s
95th percentile per-packet one-way delay: 203.025 ms
Loss rate: 1.58%
-- Flow 2:
Average throughput: 287.96 Mbit/s
95th percentile per-packet one-way delay: 184.775 ms
Loss rate: 1.72%
-- Flow 3:
Average throughput: 235.61 Mbit/s
95th percentile per-packet one-way delay: 192.328 ms
Loss rate: 2.94%
Run 3: Report of PCC-Allegro — Data Link
Run 4: Statistics of PCC-Allegro

Start at: 2019-04-24 00:37:39
End at: 2019-04-24 00:38:09
Local clock offset: -0.026 ms
Remote clock offset: -0.046 ms

# Below is generated by plot.py at 2019-04-24 03:29:11
# Datalink statistics
-- Total of 3 flows:
Average throughput: 691.68 Mbit/s
95th percentile per-packet one-way delay: 237.407 ms
Loss rate: 5.88%
-- Flow 1:
Average throughput: 415.72 Mbit/s
95th percentile per-packet one-way delay: 239.308 ms
Loss rate: 7.02%
-- Flow 2:
Average throughput: 302.61 Mbit/s
95th percentile per-packet one-way delay: 235.449 ms
Loss rate: 4.84%
-- Flow 3:
Average throughput: 231.71 Mbit/s
95th percentile per-packet one-way delay: 179.867 ms
Loss rate: 2.09%
Run 4: Report of PCC-Allegro — Data Link

**Throughput (Mbps)**

- **Flow 1 ingress**: mean 444.52 Mbps
- **Flow 1 egress**: mean 415.72 Mbps
- **Flow 2 ingress**: mean 315.25 Mbps
- **Flow 2 egress**: mean 362.61 Mbps
- **Flow 3 ingress**: mean 232.49 Mbps
- **Flow 3 egress**: mean 231.71 Mbps

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

- **Flow 1** (95th percentile): 239.31 ms
- **Flow 2** (95th percentile): 235.45 ms
- **Flow 3** (95th percentile): 179.87 ms
Run 5: Statistics of PCC-Allegro

Start at: 2019-04-24 01:15:23
End at: 2019-04-24 01:15:53
Local clock offset: -0.07 ms
Remote clock offset: -0.029 ms

# Below is generated by plot.py at 2019-04-24 03:31:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 659.25 Mbit/s
95th percentile per-packet one-way delay: 215.614 ms
Loss rate: 4.62%
-- Flow 1:
Average throughput: 348.36 Mbit/s
95th percentile per-packet one-way delay: 156.367 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 356.31 Mbit/s
95th percentile per-packet one-way delay: 226.850 ms
Loss rate: 9.58%
-- Flow 3:
Average throughput: 229.67 Mbit/s
95th percentile per-packet one-way delay: 249.372 ms
Loss rate: 5.88%
Run 5: Report of PCC-Allegro — Data Link
Run 1: Statistics of PCC-Expr

Local clock offset: 0.315 ms
Remote clock offset: 0.163 ms

# Below is generated by plot.py at 2019-04-24 03:31:38
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 499.07 Mbit/s
  95th percentile per-packet one-way delay: 202.422 ms
  Loss rate: 3.96%
-- Flow 1:
  Average throughput: 296.11 Mbit/s
  95th percentile per-packet one-way delay: 197.964 ms
  Loss rate: 4.11%
-- Flow 2:
  Average throughput: 226.43 Mbit/s
  95th percentile per-packet one-way delay: 221.594 ms
  Loss rate: 4.30%
-- Flow 3:
  Average throughput: 162.33 Mbit/s
  95th percentile per-packet one-way delay: 97.526 ms
  Loss rate: 2.18%
Run 1: Report of PCC-Expr — Data Link

[Graph showing throughput and delay for different flows]

Flow 1 ingress (mean 307.01 Mbit/s)  Flow 1 egress (mean 296.11 Mbit/s)
Flow 2 ingress (mean 234.53 Mbit/s)  Flow 2 egress (mean 226.43 Mbit/s)
Flow 3 ingress (mean 163.04 Mbit/s)  Flow 3 egress (mean 162.33 Mbit/s)

Flow 1 (95th percentile 197.96 ms)  Flow 2 (95th percentile 221.59 ms)  Flow 3 (95th percentile 97.53 ms)
Run 2: Statistics of PCC-Expr

Start at: 2019-04-23 22:58:16
End at: 2019-04-23 22:58:46
Local clock offset: 0.246 ms
Remote clock offset: 0.017 ms

# Below is generated by plot.py at 2019-04-24 03:31:38
# Datalink statistics
-- Total of 3 flows:
Average throughput: 477.02 Mbit/s
95th percentile per-packet one-way delay: 175.291 ms
Loss rate: 1.86%
-- Flow 1:
Average throughput: 281.72 Mbit/s
95th percentile per-packet one-way delay: 184.872 ms
Loss rate: 2.17%
-- Flow 2:
Average throughput: 213.27 Mbit/s
95th percentile per-packet one-way delay: 114.454 ms
Loss rate: 1.10%
-- Flow 3:
Average throughput: 165.21 Mbit/s
95th percentile per-packet one-way delay: 106.303 ms
Loss rate: 2.26%
Run 2: Report of PCC-Expr — Data Link

Graph 1: Throughput (Mbps)

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

Legend:
- Blue dashed line: Flow 1 ingress (mean 286.31 Mbps)
- Blue solid line: Flow 1 egress (mean 281.72 Mbps)
- Green dashed line: Flow 2 ingress (mean 213.77 Mbps)
- Green solid line: Flow 2 egress (mean 213.27 Mbps)
- Red dashed line: Flow 3 ingress (mean 166.08 Mbps)
- Red solid line: Flow 3 egress (mean 165.21 Mbps)

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Run 3: Statistics of PCC-Expr

Start at: 2019-04-23 23:35:22
End at: 2019-04-23 23:35:52
Local clock offset: -0.311 ms
Remote clock offset: -0.036 ms

# Below is generated by plot.py at 2019-04-24 03:31:57
# Datalink statistics
-- Total of 3 flows:
Average throughput: 506.40 Mbit/s
95th percentile per-packet one-way delay: 194.122 ms
Loss rate: 2.39%
-- Flow 1:
Average throughput: 288.19 Mbit/s
95th percentile per-packet one-way delay: 179.258 ms
Loss rate: 1.74%
-- Flow 2:
Average throughput: 243.79 Mbit/s
95th percentile per-packet one-way delay: 217.313 ms
Loss rate: 3.43%
-- Flow 3:
Average throughput: 173.47 Mbit/s
95th percentile per-packet one-way delay: 168.279 ms
Loss rate: 2.71%
Run 3: Report of PCC-Expr — Data Link

![Graph of throughput and per-packet one-way delay over time for different flows.]

Legend:
- Flow 1 ingress (mean 291.58 Mbit/s)
- Flow 1 egress (mean 288.19 Mbit/s)
- Flow 2 ingress (mean 250.25 Mbit/s)
- Flow 2 egress (mean 243.79 Mbit/s)
- Flow 3 ingress (mean 175.19 Mbit/s)
- Flow 3 egress (mean 173.47 Mbit/s)
Run 4: Statistics of PCC-Expr

Start at: 2019-04-24 00:12:33
End at: 2019-04-24 00:13:04
Local clock offset: 0.375 ms
Remote clock offset: -0.011 ms

# Below is generated by plot.py at 2019-04-24 03:39:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 455.62 Mbit/s
95th percentile per-packet one-way delay: 194.870 ms
Loss rate: 2.16%
-- Flow 1:
Average throughput: 265.20 Mbit/s
95th percentile per-packet one-way delay: 195.116 ms
Loss rate: 2.47%
-- Flow 2:
Average throughput: 203.90 Mbit/s
95th percentile per-packet one-way delay: 203.595 ms
Loss rate: 1.22%
-- Flow 3:
Average throughput: 171.55 Mbit/s
95th percentile per-packet one-way delay: 161.344 ms
Loss rate: 2.89%
Run 4: Report of PCC-Expr — Data Link

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

- **Throughput (Mbps):**
  - Flow 1 ingress (mean 270.35 Mbps)
  - Flow 1 egress (mean 265.20 Mbps)
  - Flow 2 ingress (mean 204.62 Mbps)
  - Flow 2 egress (mean 203.90 Mbps)
  - Flow 3 ingress (mean 174.71 Mbps)
  - Flow 3 egress (mean 171.35 Mbps)

- **Packet Delay (ms):**
  - Flow 1 (95th percentile 195.12 ms)
  - Flow 2 (95th percentile 203.59 ms)
  - Flow 3 (95th percentile 161.34 ms)
Run 5: Statistics of PCC-Expr

Start at: 2019-04-24 00:50:09
End at: 2019-04-24 00:50:39
Local clock offset: 0.215 ms
Remote clock offset: -0.103 ms

# Below is generated by plot.py at 2019-04-24 03:40:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 472.38 Mbit/s
  95th percentile per-packet one-way delay: 189.490 ms
  Loss rate: 1.86%
  -- Flow 1:
    Average throughput: 290.89 Mbit/s
    95th percentile per-packet one-way delay: 197.020 ms
    Loss rate: 2.18%
  -- Flow 2:
    Average throughput: 191.18 Mbit/s
    95th percentile per-packet one-way delay: 95.678 ms
    Loss rate: 0.99%
  -- Flow 3:
    Average throughput: 167.66 Mbit/s
    95th percentile per-packet one-way delay: 113.784 ms
    Loss rate: 2.14%
Run 5: Report of PCC-Expr — Data Link
Run 1: Statistics of QUIC Cubic

Local clock offset: 0.177 ms
Remote clock offset: 0.035 ms

# Below is generated by plot.py at 2019-04-24 03:40:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 96.98 Mbit/s
95th percentile per-packet one-way delay: 86.455 ms
Loss rate: 1.01%
-- Flow 1:
Average throughput: 51.45 Mbit/s
95th percentile per-packet one-way delay: 86.464 ms
Loss rate: 0.81%
-- Flow 2:
Average throughput: 49.26 Mbit/s
95th percentile per-packet one-way delay: 86.062 ms
Loss rate: 1.35%
-- Flow 3:
Average throughput: 33.54 Mbit/s
95th percentile per-packet one-way delay: 86.479 ms
Loss rate: 0.88%
Run 1: Report of QUIC Cubic — Data Link
Run 2: Statistics of QUIC Cubic

Start at: 2019-04-23 23:15:40
End at: 2019-04-23 23:16:10
Local clock offset: 0.068 ms
Remote clock offset: 0.005 ms

# Below is generated by plot.py at 2019-04-24 03:40:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 90.02 Mbit/s
95th percentile per-packet one-way delay: 86.391 ms
Loss rate: 1.46%
-- Flow 1:
Average throughput: 51.49 Mbit/s
95th percentile per-packet one-way delay: 86.406 ms
Loss rate: 0.79%
-- Flow 2:
Average throughput: 44.55 Mbit/s
95th percentile per-packet one-way delay: 86.105 ms
Loss rate: 1.35%
-- Flow 3:
Average throughput: 27.55 Mbit/s
95th percentile per-packet one-way delay: 86.102 ms
Loss rate: 5.48%
Run 2: Report of QUIC Cubic — Data Link

![Diagram of throughput and per-packet one-way delay](image)

- Flow 1 ingress (mean 51.60 Mbit/s)
- Flow 1 egress (mean 51.49 Mbit/s)
- Flow 2 ingress (mean 44.77 Mbit/s)
- Flow 2 egress (mean 44.55 Mbit/s)
- Flow 3 ingress (mean 28.64 Mbit/s)
- Flow 3 egress (mean 27.55 Mbit/s)
Run 3: Statistics of QUIC Cubic

Start at: 2019-04-23 23:53:02
End at: 2019-04-23 23:53:32
Local clock offset: 0.078 ms
Remote clock offset: -0.035 ms

# Below is generated by plot.py at 2019-04-24 03:40:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 57.47 Mbit/s
  95th percentile per-packet one-way delay: 86.394 ms
  Loss rate: 1.83%
-- Flow 1:
  Average throughput: 10.62 Mbit/s
  95th percentile per-packet one-way delay: 86.414 ms
  Loss rate: 0.94%
-- Flow 2:
  Average throughput: 55.27 Mbit/s
  95th percentile per-packet one-way delay: 86.396 ms
  Loss rate: 1.40%
-- Flow 3:
  Average throughput: 31.15 Mbit/s
  95th percentile per-packet one-way delay: 86.098 ms
  Loss rate: 4.21%
Run 4: Statistics of QUIC Cubic

Start at: 2019-04-24 00:30:14
End at: 2019-04-24 00:30:44
Local clock offset: 0.095 ms
Remote clock offset: 0.027 ms

# Below is generated by plot.py at 2019-04-24 03:40:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 89.36 Mbit/s
95th percentile per-packet one-way delay: 86.450 ms
Loss rate: 1.15%
-- Flow 1:
Average throughput: 53.41 Mbit/s
95th percentile per-packet one-way delay: 86.449 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 45.36 Mbit/s
95th percentile per-packet one-way delay: 86.461 ms
Loss rate: 1.81%
-- Flow 3:
Average throughput: 17.97 Mbit/s
95th percentile per-packet one-way delay: 86.067 ms
Loss rate: 0.87%
Run 5: Statistics of QUIC Cubic

Start at: 2019-04-24 01:08:02
End at: 2019-04-24 01:08:32
Local clock offset: -0.025 ms
Remote clock offset: -0.262 ms

# Below is generated by plot.py at 2019-04-24 03:40:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 91.56 Mbit/s
95th percentile per-packet one-way delay: 85.901 ms
Loss rate: 1.03%
-- Flow 1:
Average throughput: 56.97 Mbit/s
95th percentile per-packet one-way delay: 85.887 ms
Loss rate: 0.80%
-- Flow 2:
Average throughput: 31.78 Mbit/s
95th percentile per-packet one-way delay: 85.921 ms
Loss rate: 0.29%
-- Flow 3:
Average throughput: 41.36 Mbit/s
95th percentile per-packet one-way delay: 85.885 ms
Loss rate: 3.14%
Run 5: Report of QUIC Cubic — Data Link
Run 1: Statistics of SCReAM

End at: 2019-04-23 22:34:16
Local clock offset: -0.042 ms
Remote clock offset: 0.048 ms

# Below is generated by plot.py at 2019-04-24 03:40:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.44 Mbit/s
  95th percentile per-packet one-way delay: 86.377 ms
  Loss rate: 0.77%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 86.395 ms
  Loss rate: 0.51%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 85.925 ms
  Loss rate: 0.82%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 85.886 ms
  Loss rate: 1.46%
Run 1: Report of SCReAM — Data Link
Run 2: Statistics of SCReAM

Start at: 2019-04-23 23:10:58
End at: 2019-04-23 23:11:28
Local clock offset: -0.33 ms
Remote clock offset: 0.018 ms

# Below is generated by plot.py at 2019-04-24 03:40:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.44 Mbit/s
  95th percentile per-packet one-way delay: 86.207 ms
  Loss rate: 0.92%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 86.241 ms
  Loss rate: 0.64%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 85.943 ms
  Loss rate: 1.04%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 86.102 ms
  Loss rate: 1.50%
Run 2: Report of SCReAM — Data Link

![Graph 1: Throughput (Mbps) vs. Time (s)]

![Graph 2: Per-packet one-way delay (ms) vs. Time (s)]
Run 3: Statistics of SCReAM

Local clock offset: -0.091 ms
Remote clock offset: -0.027 ms

# Below is generated by plot.py at 2019-04-24 03:40:54
# Datalink statistics

-- Total of 3 flows:
Average throughput: 0.44 Mbit/s
95th percentile per-packet one-way delay: 86.405 ms
Loss rate: 0.91%

-- Flow 1:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.419 ms
Loss rate: 0.51%

-- Flow 2:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.383 ms
Loss rate: 1.04%

-- Flow 3:
Average throughput: 0.22 Mbit/s
95th percentile per-packet one-way delay: 86.032 ms
Loss rate: 1.85%
Run 3: Report of SCReAM — Data Link
Run 4: Statistics of SCReAM

Start at: 2019-04-24 00:25:25
End at: 2019-04-24 00:25:55
Local clock offset: ~0.38 ms
Remote clock offset: 0.02 ms

# Below is generated by plot.py at 2019-04-24 03:40:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.44 Mbit/s
  95th percentile per-packet one-way delay: 86.075 ms
  Loss rate: 0.91%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 86.099 ms
  Loss rate: 0.51%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 85.716 ms
  Loss rate: 1.04%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 85.669 ms
  Loss rate: 1.85%
Run 4: Report of SCReAM — Data Link

Throughput (Mbps)

Time (s)

Flow 1 ingress (mean 0.22 Mbps)  Flow 2 ingress (mean 0.22 Mbps)  Flow 3 ingress (mean 0.22 Mbps)
Flow 1 egress (mean 0.22 Mbps)  Flow 2 egress (mean 0.22 Mbps)  Flow 3 egress (mean 0.22 Mbps)

Per-packet one-way delay (ms)

Time (s)

Flow 1 (95th percentile 86.10 ms)  Flow 2 (95th percentile 85.72 ms)  Flow 3 (95th percentile 85.67 ms)
Run 5: Statistics of SCReAM

Start at: 2019-04-24 01:03:08
End at: 2019-04-24 01:03:38
Local clock offset: 0.015 ms
Remote clock offset: -0.197 ms

# Below is generated by plot.py at 2019-04-24 03:40:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.44 Mbit/s
  95th percentile per-packet one-way delay: 86.333 ms
  Loss rate: 0.91%
-- Flow 1:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 86.093 ms
  Loss rate: 0.51%
-- Flow 2:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 86.333 ms
  Loss rate: 1.04%
-- Flow 3:
  Average throughput: 0.22 Mbit/s
  95th percentile per-packet one-way delay: 86.381 ms
  Loss rate: 1.85%
Run 5: Report of SCReAM — Data Link

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

- 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)
Run 1: Statistics of Sprout

Start at: 2019-04-23 22:30:50
Local clock offset: 0.276 ms
Remote clock offset: 0.055 ms

# Below is generated by plot.py at 2019-04-24 03:40:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 8.87 Mbit/s
  95th percentile per-packet one-way delay: 86.818 ms
  Loss rate: 1.00%
-- Flow 1:
  Average throughput: 4.75 Mbit/s
  95th percentile per-packet one-way delay: 86.812 ms
  Loss rate: 0.64%
-- Flow 2:
  Average throughput: 4.28 Mbit/s
  95th percentile per-packet one-way delay: 86.735 ms
  Loss rate: 0.92%
-- Flow 3:
  Average throughput: 3.95 Mbit/s
  95th percentile per-packet one-way delay: 87.000 ms
  Loss rate: 2.42%
Run 1: Report of Sprout — Data Link
Run 2: Statistics of Sprout

End at: 2019-04-23 23:08:23
Local clock offset: -0.403 ms
Remote clock offset: 0.029 ms

# Below is generated by plot.py at 2019-04-24 03:40:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.89 Mbit/s
95th percentile per-packet one-way delay: 86.514 ms
Loss rate: 0.85%
-- Flow 1:
Average throughput: 4.69 Mbit/s
95th percentile per-packet one-way delay: 86.445 ms
Loss rate: 0.30%
-- Flow 2:
Average throughput: 4.37 Mbit/s
95th percentile per-packet one-way delay: 86.336 ms
Loss rate: 1.18%
-- Flow 3:
Average throughput: 4.00 Mbit/s
95th percentile per-packet one-way delay: 86.851 ms
Loss rate: 2.06%
Run 2: Report of Sprout — Data Link
Run 3: Statistics of Sprout

Start at: 2019-04-23 23:45:07
End at: 2019-04-23 23:45:37
Local clock offset: -0.099 ms
Remote clock offset: -0.026 ms

# Below is generated by plot.py at 2019-04-24 03:40:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.53 Mbit/s
95th percentile per-packet one-way delay: 86.745 ms
Loss rate: 1.11%
-- Flow 1:
Average throughput: 4.59 Mbit/s
95th percentile per-packet one-way delay: 86.528 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 4.18 Mbit/s
95th percentile per-packet one-way delay: 86.938 ms
Loss rate: 1.34%
-- Flow 3:
Average throughput: 3.58 Mbit/s
95th percentile per-packet one-way delay: 86.391 ms
Loss rate: 2.39%
Run 3: Report of Sprout — Data Link
Run 4: Statistics of Sprout

Start at: 2019-04-24 00:22:17
End at: 2019-04-24 00:22:47
Local clock offset: 0.316 ms
Remote clock offset: 0.024 ms

# Below is generated by plot.py at 2019-04-24 03:40:54
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 8.31 Mbit/s
  95th percentile per-packet one-way delay: 87.132 ms
  Loss rate: 1.07%
-- Flow 1:
  Average throughput: 4.57 Mbit/s
  95th percentile per-packet one-way delay: 87.235 ms
  Loss rate: 0.72%
-- Flow 2:
  Average throughput: 4.07 Mbit/s
  95th percentile per-packet one-way delay: 86.790 ms
  Loss rate: 0.71%
-- Flow 3:
  Average throughput: 3.21 Mbit/s
  95th percentile per-packet one-way delay: 86.803 ms
  Loss rate: 3.46%
Run 4: Report of Sprout — Data Link
Run 5: Statistics of Sprout

Start at: 2019-04-24 01:00:02
End at: 2019-04-24 01:00:32
Local clock offset: -0.196 ms
Remote clock offset: -0.179 ms

# Below is generated by plot.py at 2019-04-24 03:40:54
# Datalink statistics
-- Total of 3 flows:
Average throughput: 8.62 Mbit/s
95th percentile per-packet one-way delay: 86.225 ms
Loss rate: 1.00%
-- Flow 1:
Average throughput: 4.58 Mbit/s
95th percentile per-packet one-way delay: 86.224 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 4.18 Mbit/s
95th percentile per-packet one-way delay: 86.257 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 3.88 Mbit/s
95th percentile per-packet one-way delay: 86.168 ms
Loss rate: 2.00%
Run 5: Report of Sprout — Data Link

[Graphs showing throughput and packet delay over time for different flows.]
Run 1: Statistics of TaoVA-100x

Local clock offset: 0.303 ms
Remote clock offset: 0.052 ms

# Below is generated by plot.py at 2019-04-24 03:44:36
# Datalink statistics
-- Total of 3 flows:
Average throughput: 428.62 Mbit/s
95th percentile per-packet one-way delay: 88.143 ms
Loss rate: 0.75%
-- Flow 1:
Average throughput: 220.24 Mbit/s
95th percentile per-packet one-way delay: 88.119 ms
Loss rate: 0.50%
-- Flow 2:
Average throughput: 222.65 Mbit/s
95th percentile per-packet one-way delay: 87.822 ms
Loss rate: 0.69%
-- Flow 3:
Average throughput: 184.15 Mbit/s
95th percentile per-packet one-way delay: 88.636 ms
Loss rate: 1.84%
Run 1: Report of TaoVA-100x — Data Link
Run 2: Statistics of TaoVA-100x

Start at: 2019-04-23 23:05:55
End at: 2019-04-23 23:06:25
Local clock offset: 0.254 ms
Remote clock offset: 0.018 ms

# Below is generated by plot.py at 2019-04-24 03:44:39
# Datalink statistics
-- Total of 3 flows:
Average throughput: 428.56 Mbit/s
95th percentile per-packet one-way delay: 88.945 ms
Loss rate: 0.90%
-- Flow 1:
Average throughput: 217.40 Mbit/s
95th percentile per-packet one-way delay: 88.848 ms
Loss rate: 0.55%
-- Flow 2:
Average throughput: 215.21 Mbit/s
95th percentile per-packet one-way delay: 89.106 ms
Loss rate: 0.86%
-- Flow 3:
Average throughput: 207.89 Mbit/s
95th percentile per-packet one-way delay: 88.961 ms
Loss rate: 2.10%
Run 2: Report of TaoVA-100x — Data Link
Run 3: Statistics of TaoVA-100x

Start at: 2019-04-23 23:43:08
End at: 2019-04-23 23:43:38
Local clock offset: -0.159 ms
Remote clock offset: -0.003 ms

# Below is generated by plot.py at 2019-04-24 03:45:13
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 430.04 Mbit/s
  95th percentile per-packet one-way delay: 88.919 ms
  Loss rate: 0.92%
-- Flow 1:
  Average throughput: 217.39 Mbit/s
  95th percentile per-packet one-way delay: 88.944 ms
  Loss rate: 0.66%
-- Flow 2:
  Average throughput: 223.26 Mbit/s
  95th percentile per-packet one-way delay: 87.658 ms
  Loss rate: 0.97%
-- Flow 3:
  Average throughput: 195.85 Mbit/s
  95th percentile per-packet one-way delay: 89.582 ms
  Loss rate: 1.69%
Run 3: Report of TaoVA-100x — Data Link

![Graphs showing throughput and per-packet one-way delay over time for different flows. The graphs illustrate the performance metrics for each flow with distinct line styles and colors, indicating mean throughput values for ingress and egress.]
Run 4: Statistics of TaoVA-100x

Start at: 2019-04-24 00:20:21
End at: 2019-04-24 00:20:51
Local clock offset: -0.538 ms
Remote clock offset: 0.005 ms

# Below is generated by plot.py at 2019-04-24 03:45:13
# Datalink statistics
-- Total of 3 flows:
Average throughput: 408.23 Mbit/s
95th percentile per-packet one-way delay: 89.999 ms
Loss rate: 1.07%
-- Flow 1:
Average throughput: 204.63 Mbit/s
95th percentile per-packet one-way delay: 89.485 ms
Loss rate: 0.73%
-- Flow 2:
Average throughput: 207.64 Mbit/s
95th percentile per-packet one-way delay: 91.800 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 199.95 Mbit/s
95th percentile per-packet one-way delay: 87.303 ms
Loss rate: 2.23%
Run 4: Report of TaoVA-100x — Data Link
Run 5: Statistics of TaoVA-100x

Start at: 2019-04-24 00:58:02
End at: 2019-04-24 00:58:32
Local clock offset: ~0.002 ms
Remote clock offset: ~0.156 ms

# Below is generated by plot.py at 2019-04-24 03:46:33
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 435.12 Mbit/s
  95th percentile per-packet one-way delay: 87.821 ms
  Loss rate: 0.91%
-- Flow 1:
  Average throughput: 219.84 Mbit/s
  95th percentile per-packet one-way delay: 88.990 ms
  Loss rate: 0.58%
-- Flow 2:
  Average throughput: 221.75 Mbit/s
  95th percentile per-packet one-way delay: 86.530 ms
  Loss rate: 1.02%
-- Flow 3:
  Average throughput: 207.02 Mbit/s
  95th percentile per-packet one-way delay: 89.502 ms
  Loss rate: 1.76%
Run 5: Report of TaoVA-100x — Data Link

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

- **Flow 1 ingress (mean 219.86 Mbit/s)**
- **Flow 1 egress (mean 219.84 Mbit/s)**
- **Flow 2 ingress (mean 222.09 Mbit/s)**
- **Flow 2 egress (mean 221.75 Mbit/s)**
- **Flow 3 ingress (mean 207.51 Mbit/s)**
- **Flow 3 egress (mean 207.02 Mbit/s)**

![Graph 2: Per-packet one way delay vs Time](image)

- **Flow 1 (95th percentile 88.99 ms)**
- **Flow 2 (95th percentile 86.53 ms)**
- **Flow 3 (95th percentile 89.50 ms)**
Run 1: Statistics of TCP Vegas

Start at: 2019-04-23 22:25:02
Local clock offset: 0.504 ms
Remote clock offset: 0.121 ms

# Below is generated by plot.py at 2019-04-24 03:46:33
# Datalink statistics
-- Total of 3 flows:
Average throughput: 770.70 Mbit/s
95th percentile per-packet one-way delay: 109.894 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 475.95 Mbit/s
95th percentile per-packet one-way delay: 112.487 ms
Loss rate: 0.65%
-- Flow 2:
Average throughput: 309.96 Mbit/s
95th percentile per-packet one-way delay: 99.104 ms
Loss rate: 0.80%
-- Flow 3:
Average throughput: 270.63 Mbit/s
95th percentile per-packet one-way delay: 100.915 ms
Loss rate: 1.73%
Run 1: Report of TCP Vegas — Data Link

![Graph showing throughput and per-packet one-way delay over time for different flows.]

- Flow 1 ingress (mean 476.31 Mbit/s)
- Flow 1 egress (mean 475.95 Mbit/s)
- Flow 2 ingress (mean 309.76 Mbit/s)
- Flow 2 egress (mean 309.96 Mbit/s)
- Flow 3 ingress (mean 270.65 Mbit/s)
- Flow 3 egress (mean 270.63 Mbit/s)

- Flow 1 (95th percentile 112.49 ms)
- Flow 2 (95th percentile 99.10 ms)
- Flow 3 (95th percentile 100.92 ms)
Run 2: Statistics of TCP Vegas

Start at: 2019-04-23 23:02:11
End at: 2019-04-23 23:02:41
Local clock offset: 0.302 ms
Remote clock offset: 0.044 ms

# Below is generated by plot.py at 2019-04-24 03:56:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 842.56 Mbit/s
95th percentile per-packet one-way delay: 120.591 ms
Loss rate: 0.96%
-- Flow 1:
Average throughput: 460.51 Mbit/s
95th percentile per-packet one-way delay: 106.213 ms
Loss rate: 0.67%
-- Flow 2:
Average throughput: 433.91 Mbit/s
95th percentile per-packet one-way delay: 124.811 ms
Loss rate: 1.07%
-- Flow 3:
Average throughput: 285.40 Mbit/s
95th percentile per-packet one-way delay: 106.848 ms
Loss rate: 2.03%
Run 2: Report of TCP Vegas — Data Link
Run 3: Statistics of TCP Vegas

End at: 2019-04-23 23:39:50
Local clock offset: -0.539 ms
Remote clock offset: -0.006 ms

# Below is generated by plot.py at 2019-04-24 03:56:02
# Datalink statistics
-- Total of 3 flows:
Average throughput: 702.51 Mbit/s
95th percentile per-packet one-way delay: 144.702 ms
Loss rate: 0.74%
-- Flow 1:
Average throughput: 429.84 Mbit/s
95th percentile per-packet one-way delay: 127.461 ms
Loss rate: 0.64%
-- Flow 2:
Average throughput: 313.78 Mbit/s
95th percentile per-packet one-way delay: 162.508 ms
Loss rate: 0.65%
-- Flow 3:
Average throughput: 195.93 Mbit/s
95th percentile per-packet one-way delay: 88.596 ms
Loss rate: 1.64%
Run 3: Report of TCP Vegas — Data Link

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

- Flow 1 ingress (mean 430.13 Mbit/s) vs. egress (mean 429.84 Mbit/s)
- Flow 2 ingress (mean 313.15 Mbit/s) vs. egress (mean 313.78 Mbit/s)
- Flow 3 ingress (mean 195.75 Mbit/s) vs. egress (mean 195.93 Mbit/s)

![Graph showing per-packet network delay over time for different flows.]

- Flow 1 (95th percentile 127.46 ms)
- Flow 2 (95th percentile 162.51 ms)
- Flow 3 (95th percentile 88.60 ms)
Run 4: Statistics of TCP Vegas

Start at: 2019-04-24 00:16:30
End at: 2019-04-24 00:17:00
Local clock offset: 0.281 ms
Remote clock offset: -0.026 ms

# Below is generated by plot.py at 2019-04-24 03:58:48
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 785.09 Mbit/s
  95th percentile per-packet one-way delay: 118.165 ms
  Loss rate: 0.82%
  -- Flow 1:
    Average throughput: 404.30 Mbit/s
    95th percentile per-packet one-way delay: 90.393 ms
    Loss rate: 0.62%
  -- Flow 2:
    Average throughput: 403.84 Mbit/s
    95th percentile per-packet one-way delay: 128.568 ms
    Loss rate: 0.58%
  -- Flow 3:
    Average throughput: 342.59 Mbit/s
    95th percentile per-packet one-way delay: 92.809 ms
    Loss rate: 2.08%
Run 4: Report of TCP Vegas — Data Link
Run 5: Statistics of TCP Vegas

Start at: 2019-04-24 00:54:07
End at: 2019-04-24 00:54:37
Local clock offset: -0.02 ms
Remote clock offset: -0.154 ms

# Below is generated by plot.py at 2019-04-24 03:58:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 695.88 Mbit/s
95th percentile per-packet one-way delay: 118.615 ms
Loss rate: 0.88%
-- Flow 1:
Average throughput: 324.94 Mbit/s
95th percentile per-packet one-way delay: 90.928 ms
Loss rate: 0.62%
-- Flow 2:
Average throughput: 370.60 Mbit/s
95th percentile per-packet one-way delay: 120.008 ms
Loss rate: 0.61%
-- Flow 3:
Average throughput: 379.83 Mbit/s
95th percentile per-packet one-way delay: 129.455 ms
Loss rate: 2.07%
Run 5: Report of TCP Vegas — Data Link
Run 1: Statistics of Verus

Start at: 2019-04-23 22:35:01
End at: 2019-04-23 22:35:31
Local clock offset: -0.4 ms
Remote clock offset: 0.028 ms

# Below is generated by plot.py at 2019-04-24 03:58:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 206.16 Mbit/s
95th percentile per-packet one-way delay: 170.706 ms
Loss rate: 0.60%
-- Flow 1:
Average throughput: 125.21 Mbit/s
95th percentile per-packet one-way delay: 182.500 ms
Loss rate: 0.33%
-- Flow 2:
Average throughput: 109.33 Mbit/s
95th percentile per-packet one-way delay: 116.575 ms
Loss rate: 1.11%
-- Flow 3:
Average throughput: 26.45 Mbit/s
95th percentile per-packet one-way delay: 103.466 ms
Loss rate: 0.19%
Run 1: Report of Verus — Data Link

![Graph showing network performance metrics over time]

- Flow 1 ingress (mean 124.87 Mbit/s)
- Flow 1 egress (mean 125.21 Mbit/s)
- Flow 2 ingress (mean 109.60 Mbit/s)
- Flow 2 egress (mean 109.33 Mbit/s)
- Flow 3 ingress (mean 26.03 Mbit/s)
- Flow 3 egress (mean 26.45 Mbit/s)
Run 2: Statistics of Verus

Start at: 2019-04-23 23:12:12
End at: 2019-04-23 23:12:42
Local clock offset: 0.002 ms
Remote clock offset: 0.032 ms

# Below is generated by plot.py at 2019-04-24 03:58:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 209.25 Mbit/s
95th percentile per-packet one-way delay: 190.281 ms
Loss rate: 1.65%
-- Flow 1:
Average throughput: 137.74 Mbit/s
95th percentile per-packet one-way delay: 188.548 ms
Loss rate: 0.61%
-- Flow 2:
Average throughput: 60.74 Mbit/s
95th percentile per-packet one-way delay: 137.495 ms
Loss rate: 1.96%
-- Flow 3:
Average throughput: 96.94 Mbit/s
95th percentile per-packet one-way delay: 215.624 ms
Loss rate: 5.59%
Run 2: Report of Verus — Data Link
Run 3: Statistics of Verus

Start at: 2019-04-23 23:49:30
End at: 2019-04-23 23:50:00
Local clock offset: -0.139 ms
Remote clock offset: 0.001 ms

# Below is generated by plot.py at 2019-04-24 03:58:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 220.03 Mbit/s
95th percentile per-packet one-way delay: 226.408 ms
Loss rate: 2.21%
-- Flow 1:
Average throughput: 122.81 Mbit/s
95th percentile per-packet one-way delay: 191.588 ms
Loss rate: 2.03%
-- Flow 2:
Average throughput: 120.45 Mbit/s
95th percentile per-packet one-way delay: 293.904 ms
Loss rate: 2.99%
-- Flow 3:
Average throughput: 58.75 Mbit/s
95th percentile per-packet one-way delay: 165.919 ms
Loss rate: 0.01%
Run 3: Report of Verus — Data Link

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

**Throughput (Mbit/s)**
- Flow 1 ingress (mean 125.35 Mbit/s)
- Flow 1 egress (mean 122.81 Mbit/s)
- Flow 2 ingress (mean 122.56 Mbit/s)
- Flow 2 egress (mean 120.45 Mbit/s)
- Flow 3 ingress (mean 57.71 Mbit/s)
- Flow 3 egress (mean 58.75 Mbit/s)

**Per-packet one-way delay (ms)**
- Flow 1 (95th percentile 191.59 ms)
- Flow 2 (95th percentile 293.90 ms)
- Flow 3 (95th percentile 165.92 ms)
Run 4: Statistics of Verus

Start at: 2019-04-24 00:26:39
End at: 2019-04-24 00:27:09
Local clock offset: -0.496 ms
Remote clock offset: -0.002 ms

# Below is generated by plot.py at 2019-04-24 03:58:48
# Datalink statistics
-- Total of 3 flows:
Average throughput: 229.82 Mbit/s
95th percentile per-packet one-way delay: 173.438 ms
Loss rate: 0.81%
-- Flow 1:
Average throughput: 105.72 Mbit/s
95th percentile per-packet one-way delay: 174.571 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 154.00 Mbit/s
95th percentile per-packet one-way delay: 175.883 ms
Loss rate: 0.91%
-- Flow 3:
Average throughput: 71.86 Mbit/s
95th percentile per-packet one-way delay: 129.836 ms
Loss rate: 3.78%
Run 4: Report of Verus — Data Link
Run 5: Statistics of Verus

Start at: 2019-04-24 01:04:23
End at: 2019-04-24 01:04:53
Local clock offset: -0.392 ms
Remote clock offset: -0.21 ms

# Below is generated by plot.py at 2019-04-24 03:59:42
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 235.13 Mbit/s
  95th percentile per-packet one-way delay: 177.940 ms
  Loss rate: 1.52%
-- Flow 1:
  Average throughput: 149.38 Mbit/s
  95th percentile per-packet one-way delay: 182.716 ms
  Loss rate: 0.93%
-- Flow 2:
  Average throughput: 100.94 Mbit/s
  95th percentile per-packet one-way delay: 177.792 ms
  Loss rate: 2.66%
-- Flow 3:
  Average throughput: 60.49 Mbit/s
  95th percentile per-packet one-way delay: 106.105 ms
  Loss rate: 2.01%
Run 5: Report of Verus — Data Link

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

- **Flow 1 ingress (mean 148.88 Mbit/s)**
- **Flow 1 egress (mean 149.38 Mbit/s)**
- **Flow 2 ingress (mean 102.80 Mbit/s)**
- **Flow 2 egress (mean 100.94 Mbit/s)**
- **Flow 3 ingress (mean 60.66 Mbit/s)**
- **Flow 3 egress (mean 60.49 Mbit/s)**
Run 1: Statistics of PCC-Vivace

Local clock offset: 0.71 ms
Remote clock offset: 0.216 ms

# Below is generated by plot.py at 2019-04-24 03:59:42
# Datalink statistics
-- Total of 3 flows:
Average throughput: 383.55 Mbit/s
95th percentile per-packet one-way delay: 87.372 ms
Loss rate: 1.08%
-- Flow 1:
Average throughput: 215.45 Mbit/s
95th percentile per-packet one-way delay: 87.352 ms
Loss rate: 0.77%
-- Flow 2:
Average throughput: 180.95 Mbit/s
95th percentile per-packet one-way delay: 87.058 ms
Loss rate: 1.08%
-- Flow 3:
Average throughput: 147.90 Mbit/s
95th percentile per-packet one-way delay: 90.028 ms
Loss rate: 2.43%
Run 1: Report of PCC-Vivace — Data Link

![Graph 1: Throughput (Mbps) vs Time (s)]

- **Flow 1 ingress (mean 215.87 Mbps)**
- **Flow 1 egress (mean 215.45 Mbps)**
- **Flow 2 ingress (mean 181.34 Mbps)**
- **Flow 2 egress (mean 180.95 Mbps)**
- **Flow 3 ingress (mean 148.92 Mbps)**
- **Flow 3 egress (mean 147.90 Mbps)**

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

- **Flow 1 (95th percentile 87.35 ms)**
- **Flow 2 (95th percentile 87.06 ms)**
- **Flow 3 (95th percentile 90.03 ms)**
Run 2: Statistics of PCC-Vivace

Local clock offset: -0.192 ms
Remote clock offset: 0.048 ms

# Below is generated by plot.py at 2019-04-24 04:01:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 496.99 Mbit/s
95th percentile per-packet one-way delay: 94.890 ms
Loss rate: 0.84%
-- Flow 1:
Average throughput: 318.68 Mbit/s
95th percentile per-packet one-way delay: 111.236 ms
Loss rate: 0.46%
-- Flow 2:
Average throughput: 195.33 Mbit/s
95th percentile per-packet one-way delay: 88.909 ms
Loss rate: 1.06%
-- Flow 3:
Average throughput: 149.54 Mbit/s
95th percentile per-packet one-way delay: 87.721 ms
Loss rate: 2.64%
Run 2: Report of PCC-Vivace — Data Link
Run 3: Statistics of PCC-Vivace

End at: 2019-04-23 23:28:09
Local clock offset: 0.301 ms
Remote clock offset: -0.005 ms

# Below is generated by plot.py at 2019-04-24 04:01:20
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 398.34 Mbit/s
  95th percentile per-packet one-way delay: 101.913 ms
  Loss rate: 1.60%
-- Flow 1:
  Average throughput: 236.93 Mbit/s
  95th percentile per-packet one-way delay: 91.325 ms
  Loss rate: 0.56%
-- Flow 2:
  Average throughput: 135.14 Mbit/s
  95th percentile per-packet one-way delay: 227.404 ms
  Loss rate: 3.63%
-- Flow 3:
  Average throughput: 220.39 Mbit/s
  95th percentile per-packet one-way delay: 118.140 ms
  Loss rate: 2.40%
Run 3: Report of PCC-Vivace — Data Link
Run 4: Statistics of PCC-Vivace

Start at: 2019-04-24 00:04:53
End at: 2019-04-24 00:05:23
Local clock offset: 0.282 ms
Remote clock offset: -0.04 ms

# Below is generated by plot.py at 2019-04-24 04:01:20
# Datalink statistics
-- Total of 3 flows:
Average throughput: 432.45 Mbit/s
95th percentile per-packet one-way delay: 96.904 ms
Loss rate: 0.87%
-- Flow 1:
Average throughput: 235.07 Mbit/s
95th percentile per-packet one-way delay: 97.798 ms
Loss rate: 0.51%
-- Flow 2:
Average throughput: 180.37 Mbit/s
95th percentile per-packet one-way delay: 87.942 ms
Loss rate: 1.02%
-- Flow 3:
Average throughput: 238.98 Mbit/s
95th percentile per-packet one-way delay: 106.677 ms
Loss rate: 1.73%
Run 4: Report of PCC-Vivace — Data Link

![Graph 1: Throughput](image1)

- Flow 1 ingress (mean 234.91 Mbit/s)
- Flow 1 egress (mean 235.07 Mbit/s)
- Flow 2 ingress (mean 180.63 Mbit/s)
- Flow 2 egress (mean 180.37 Mbit/s)
- Flow 3 ingress (mean 236.93 Mbit/s)
- Flow 3 egress (mean 236.98 Mbit/s)

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

- Flow 1 (95th percentile 97.80 ms)
- Flow 2 (95th percentile 87.94 ms)
- Flow 3 (95th percentile 106.68 ms)
Run 5: Statistics of PCC-Vivace

Start at: 2019-04-24 00:42:15
End at: 2019-04-24 00:42:45
Local clock offset: -0.048 ms
Remote clock offset: -0.086 ms

# Below is generated by plot.py at 2019-04-24 04:01:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 480.80 Mbit/s
95th percentile per-packet one-way delay: 90.731 ms
Loss rate: 0.94%
-- Flow 1:
Average throughput: 303.30 Mbit/s
95th percentile per-packet one-way delay: 98.148 ms
Loss rate: 0.66%
-- Flow 2:
Average throughput: 197.58 Mbit/s
95th percentile per-packet one-way delay: 86.757 ms
Loss rate: 1.01%
-- Flow 3:
Average throughput: 142.58 Mbit/s
95th percentile per-packet one-way delay: 87.493 ms
Loss rate: 2.50%
Run 5: Report of PCC-Vivace — Data Link
Run 1: Statistics of WebRTC media

End at: 2019-04-23 22:12:44
Local clock offset: 0.263 ms
Remote clock offset: 0.195 ms

# Below is generated by plot.py at 2019-04-24 04:01:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 85.905 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.06 Mbit/s
95th percentile per-packet one-way delay: 85.912 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 85.910 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 85.514 ms
Loss rate: 0.00%
Run 1: Report of WebRTC media — Data Link
Run 2: Statistics of WebRTC media

Local clock offset: -0.372 ms
Remote clock offset: 0.024 ms

# Below is generated by plot.py at 2019-04-24 04:01:27
# Datalink statistics
-- Total of 3 flows:
  95th percentile per-packet one-way delay: 86.176 ms
  Loss rate: 0.00%
-- Flow 1:
  95th percentile per-packet one-way delay: 86.168 ms
  Loss rate: 0.00%
-- Flow 2:
  95th percentile per-packet one-way delay: 85.857 ms
  Loss rate: 0.00%
-- Flow 3:
  95th percentile per-packet one-way delay: 86.198 ms
  Loss rate: 0.00%
Run 2: Report of WebRTC media — Data Link

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**Throughput (Mbps)**

- **Flow 1 ingress (mean 0.05 Mbit/s)**
- **Flow 1 egress (mean 0.05 Mbit/s)**
- **Flow 2 ingress (mean 0.05 Mbit/s)**
- **Flow 2 egress (mean 0.05 Mbit/s)**
- **Flow 3 ingress (mean 0.05 Mbit/s)**
- **Flow 3 egress (mean 0.05 Mbit/s)**

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

- **Flow 1 (95th percentile 86.17 ms)**
- **Flow 2 (95th percentile 85.86 ms)**
- **Flow 3 (95th percentile 86.20 ms)**
Run 3: Statistics of WebRTC media

Start at: 2019-04-23 23:26:26
End at: 2019-04-23 23:26:56
Local clock offset: -0.134 ms
Remote clock offset: -0.002 ms

# Below is generated by plot.py at 2019-04-24 04:01:27
# Datalink statistics
-- Total of 3 flows:
Average throughput: 0.14 Mbit/s
95th percentile per-packet one-way delay: 86.326 ms
Loss rate: 0.00%
-- Flow 1:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 86.046 ms
Loss rate: 0.00%
-- Flow 2:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 86.374 ms
Loss rate: 0.00%
-- Flow 3:
Average throughput: 0.05 Mbit/s
95th percentile per-packet one-way delay: 86.092 ms
Loss rate: 0.00%
Run 3: Report of WebRTC media — Data Link
Run 4: Statistics of WebRTC media

Start at: 2019-04-24 00:03:39
End at: 2019-04-24 00:04:09
Local clock offset: ~0.185 ms
Remote clock offset: ~0.043 ms

# Below is generated by plot.py at 2019-04-24 04:01:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.14 Mbit/s
  95th percentile per-packet one-way delay: 86.019 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 86.034 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 85.936 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 86.026 ms
  Loss rate: 0.00%
Run 4: Report of WebRTC media — Data Link
Run 5: Statistics of WebRTC media

Start at: 2019-04-24 00:41:01
End at: 2019-04-24 00:41:31
Local clock offset: -0.453 ms
Remote clock offset: -0.085 ms

# Below is generated by plot.py at 2019-04-24 04:01:27
# Datalink statistics
-- Total of 3 flows:
  Average throughput: 0.14 Mbit/s
  95th percentile per-packet one-way delay: 85.694 ms
  Loss rate: 0.00%
-- Flow 1:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 85.732 ms
  Loss rate: 0.00%
-- Flow 2:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 85.627 ms
  Loss rate: 0.00%
-- Flow 3:
  Average throughput: 0.05 Mbit/s
  95th percentile per-packet one-way delay: 85.680 ms
  Loss rate: 0.00%
Run 5: Report of WebRTC media — Data Link

![Graph 1: Throughput (Mbit/s)]

- Flow 1 ingress (mean 0.05 Mbit/s)
- Flow 1 egress (mean 0.05 Mbit/s)
- Flow 2 ingress (mean 0.05 Mbit/s)
- Flow 2 egress (mean 0.05 Mbit/s)
- Flow 3 ingress (mean 0.05 Mbit/s)
- Flow 3 egress (mean 0.05 Mbit/s)

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

- Flow 1 (95th percentile 85.73 ms)
- Flow 2 (95th percentile 85.63 ms)
- Flow 3 (95th percentile 85.68 ms)

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